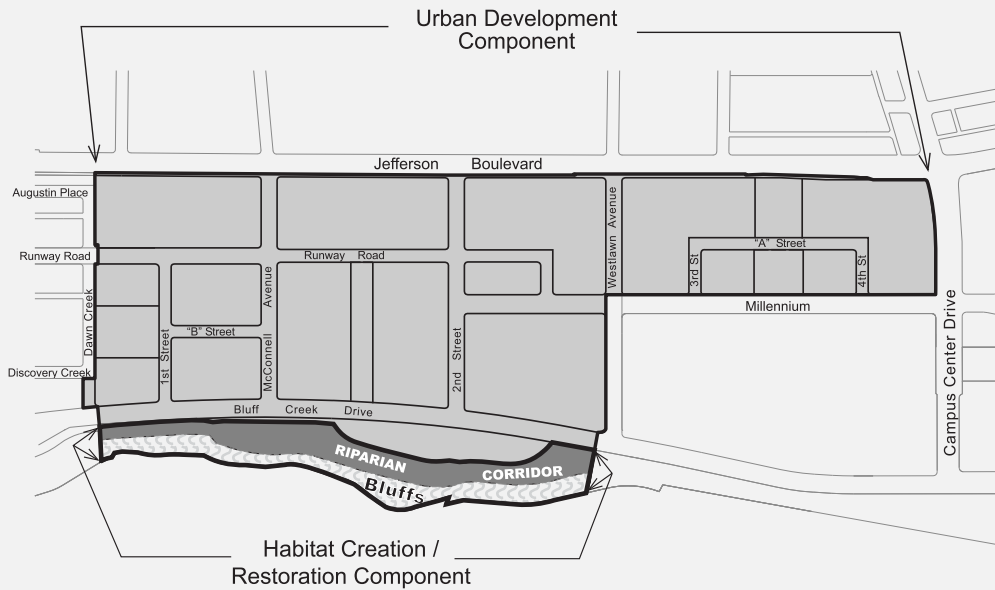


FINAL RECIRCULATED SECTIONS
OF
ENVIRONMENTAL IMPACT REPORT
(Final RS-EIR)

VILLAGE AT PLAYA VISTA



VOLUME III

APPENDIX F

(Cont.)

**FINAL RECIRCULATED SECTIONS -
ENVIRONMENTAL IMPACT REPORT
(FINAL RS-EIR)**

**VILLAGE AT PLAYA VISTA
APPENDICES
VOLUME III**

**APPENDIX F:
RS-DEIR COMMENT LETTERS (CONT.)**

City of Los Angeles
EIR No. ENV-2002-6129-EIR

State Clearinghouse
No. 2002111065

2009

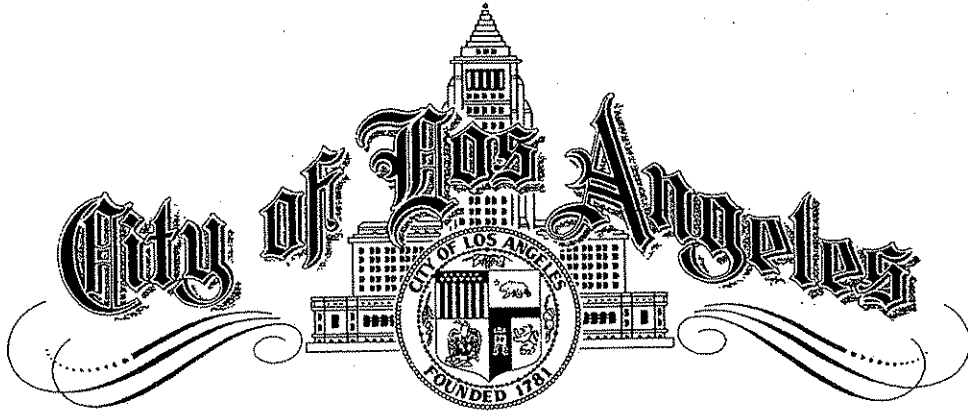
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VOLUME III

APPENDIX F: RS-DEIR COMMENT LETTERS (Cont.)

APPENDIX F:
RS-DEIR COMMENT LETTERS

EXHIBIT D - 3



OFFICE OF
CONTROLLER

LAURA N. CHICK
CONTROLLER

200 N. MAIN STREET, RM 300
LOS ANGELES 90012
(213) 978-7200
www.lacity.org/ctr

August 7, 2007

S. Gail Goldberg, Director of Planning
City Planning Department
Room 525, City Hall
200 N. Main Street
Los Angeles, CA 90012

**Subject: EVALUATION OF JOINT RESPONSE TO CONTROLLER'S REVIEW OF
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Recommendations

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Your response indicates that you will update previously established written agreements to better delineate responsibilities and clearly define methane mitigation requirements for both multi-family and single-family homes.

The clarity of the guidelines and respective departmental responsibilities are critical to the overall success of the Playa Vista project. I strongly encourage you to use this opportunity to learn from the ambiguity and differences of opinion that surrounded Playa Vista Phase I guidelines, and proactively establish clearly defined requirements and



S. Gail Goldberg
August 7, 2007
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2. *Ensure that guidelines do not conflict with any City ordinances, administrative codes or laws.*

Your response indicates that you will re-examine the methane guidelines to ensure there are no conflicts with any City ordinances, administrative codes or laws, which is appropriate. This recommendation, however, was made to address the new, revised guidelines that I believe are necessary to clarify City oversight responsibilities at Playa Vista.

3. *Request that the City Council adopt the guidelines.*

Your response indicates that Council codified the current citywide methane mitigation guidelines on February 4, 2004. This implies that Phase II would be subject to only this citywide ordinance, rather than any additional or revised guidelines as advised in Recommendation 1 of the report.

The Playa Vista Phase II EIR states that methane mitigation systems for each building will be based on *either* the Village at Playa Vista Building Methane Guidelines or the current City Methane Ordinance. At the initiation of the project, there should be a definitive agreement as to which of these guidelines, including additional clarification or specifications for this project, are to be used, along with concurrence by participating Departments and approval by the City Council and Mayor.

4. *The Mayor and City Council should designate a City Department which has the responsibility, expertise and authority to lead the Playa Vista Phase II project.*

Your response indicates that the Phase II EIR requires a Mitigation, Monitoring and Reporting Program (MMRP) that specifies the applicable project enforcement and monitoring agencies. You also state that an annual evaluation by the Department of Planning is required to determine compliance with the terms and conditions of the Phase II EIR.

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- 5. Mayor and Council should more clearly define the roles, responsibilities and jurisdictional authority of DBS and LAFD regarding the standards pertaining to the installation, inspection and testing of methane systems for all structures at Playa Vista.*

Your response indicates that DBS and LAFD are establishing clear written agreements for reviewing, approving and inspecting methane systems as well as defining roles, responsibilities and jurisdictional authority, which is appropriate.

Such inter-departmental procedural agreements must be based on clearly defined requirements that have been approved by the Mayor and Council, which was not the case for Phase I.

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Your response indicates that LAFD is implementing a methane acceptance testing certification program and that all active systems will be acceptance tested by LAFD inspectors or certified testers.

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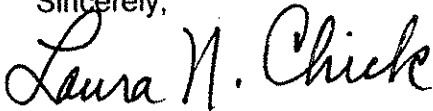
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S. Gail Goldberg
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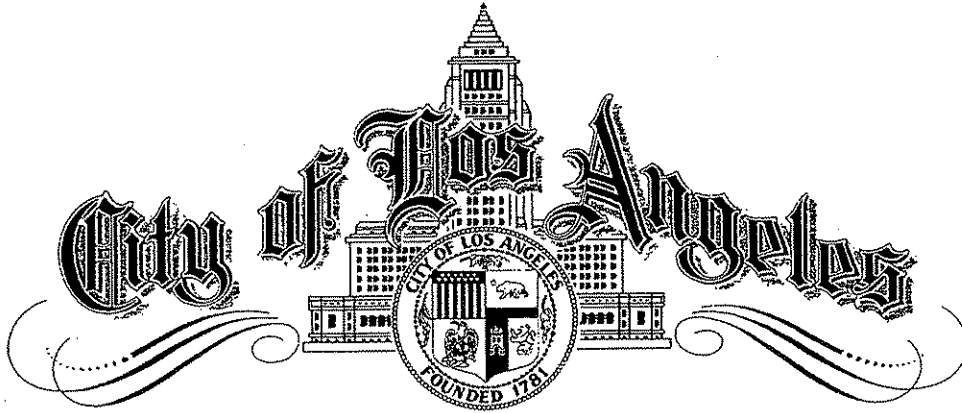
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Sincerely,



LAURA N. CHICK
City Controller

cc: Sally Choi, Deputy Mayor, Office of Mayor Antonio Villaraigosa
Jane Ellison Usher, President, City Planning Commission
Andrew A. Adelman, General Manager, Department of Building and Safety
Douglas L. Barry, Interim Fire Chief, Los Angeles Fire Department



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August 7, 2007

Douglas L. Barry, Interim Fire Chief
Los Angeles Fire Department
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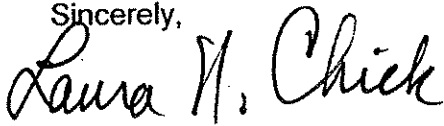
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LAURA N. CHICK
City Controller

cc: Sally Choi, Deputy Mayor, Office of Mayor Antonio Villaraigosa
Genethia Hudley-Hayes, President, Board of Fire Commissioners
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Department of Building and Safety
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Andrew A. Adelman
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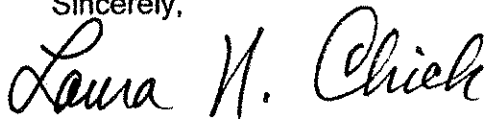
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LAURA N. CHICK
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cc: Sally Choi, Deputy Mayor, Office of Mayor Antonio Villaraigosa
Marsha L. Brown, President, Board of Building and Safety Commissioners
Douglas L. Barry, Interim Fire Chief, Los Angeles Fire Department
S. Gail Goldberg, Director, Department of City Planning

EXHIBIT E - 1



GREEN LA

An Action Plan to Lead the Nation
In Fighting Global Warming

MAY 2007



*The City of Los Angeles
Mayor Antonio R. Villaraigosa*

Honorable Members of the Los Angeles City Council:

On "Big Sunday '07" in April, we joined thousands of residents to clean up neighborhoods, plant trees, and restore our river. We were not just engaging in service to our communities, but reaffirming the founding principles of environmentalism: that everything is connected to everything else and that each of us must act locally to create global change.

As a city of 4 million people, Los Angeles is no different. That's why we have invested in energy efficient buildings, increased recycling, and purchased a fleet of alternative fuel cars, trucks, and transit vehicles.

We have made great strides in cleaning up our air and water, but today we face an even greater threat to our way of life in Southern California from global climate change. The world's top atmospheric scientists now predict that global temperatures are likely to rise between 3.0 and 5.5 degrees Fahrenheit—and sea levels are likely to rise 6–14 inches—by the end of the century if we continue burning fossil fuels at the current rate.

Here in Los Angeles, climate change will likely mean longer and hotter summers, longer droughts, more devastating wildfires, and shortages of water that threaten public health and our economy.

As city leaders, we have a responsibility to confront the gathering climate crisis. Los Angeles emits one-fifth of 1 percent of the world's carbon dioxide, the heat-trapping gas that is the leading cause of climate change. Although one-fifth of 1 percent may not sound like much, it is roughly equal to the carbon dioxide emissions of the entire country of Sweden. **I believe it's time to take bold action to reduce our contribution to global climate change.**

As the legislative body of this great city, the City Council has championed efforts to minimize our carbon footprint. From recycling, water conservation, and environmental technology to more eco-friendly building and land use practices, the City of Los Angeles continues to enact laws and sponsor programs that go further to protect our environment. The time has come to take even greater steps and set an example for cities around the world.

Today I present you with a plan to combat climate change that builds on the legacy of successful environmental initiatives and challenges us to coordinate our efforts to do more. **Our goal is to reduce greenhouse gas emissions 35% below 1990 levels by 2030.**

To achieve this ambitious target, we must improve energy conservation, transition to renewable power sources, and change the ways we commute to work and school. We'll cut smog. We'll save money on energy costs. We'll reduce our dependence on foreign oil and fossil fuels. And we will continue to grow the economy and create new jobs.

In the coming years, we must also redesign our city to increase parks and open space, use water more efficiently, set smart new standards for "green building" and land use planning, and further reduce municipal waste. Los Angeles has the opportunity to become a leader in green technology, generating well-paying jobs while protecting the environment.

The success of our efforts to create a sustainable Los Angeles will be measured by our children. It is with them in mind that we must act today. Together we will transform Los Angeles into the cleanest and greenest big city in America.

Very truly yours,



Antonio R. Villaraigosa
Mayor of Los Angeles

Executive Summary

The Challenge

Los Angeles is home to more than 4 million people in diverse communities that span 469 square miles. As part of the Southern California economy, the 14th largest in the world, Los Angeles is a center of global trade and entertainment.

Yet economic success has not prepared us for the environmental challenges of the 21st century. Indeed, our progress has contributed to one of history's greatest crises—global climate change. The longer we wait to reduce our carbon emissions, the tougher and more expensive it will be.

Although climate change is a global problem, mayors and city leaders recognize that it will directly affect their constituents. The City of Los Angeles is working with the Large Cities Climate Leadership Group, which includes 40 of the world's leading cities, and the Clinton Foundation Climate Initiative to share strategies for confronting climate change. Los Angeles is also a signatory to the U.S. Conference of Mayors Climate Protection Agreement.

We must take responsibility for our contribution to global climate change. This plan details innovative steps for city departments and agencies to reduce greenhouse gas (GHG) emissions and create a more sustainable environment. It also outlines a process to facilitate emissions reductions by private businesses and residents throughout Los Angeles. The actions are designed to achieve ambitious reductions by 2030.

The Impact of Climate Change On Angelenos and the Economy

The world's leading atmospheric scientists predict that climate change will have serious environmental, economic, and public health consequences in the coming decades. For Los Angeles, scientists predict that summers will be even hotter, with a doubling or more in the number of heat wave days per year. In addition, Los Angeles will see

a 75–85% increase in the number of days with poor air quality and high ground-level ozone concentrations. Hotter, smoggier days mean more stress on electricity and water supplies, more heat-related deaths, and more strain on those with respiratory and cardiovascular diseases.

Changing rainfall patterns will make severe droughts routine. Sea level rises could impact low-lying coastal neighborhoods. And under the most drastic scenario, rising tides could severely impact the Port of Los Angeles, severing the city's connection to international trade and tourism and devastating the port of entry for 43% of U.S. imports.

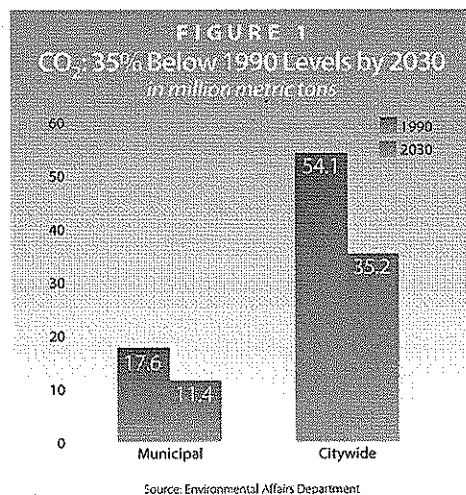
While the risks associated with climate change are high, the benefits of acting today are largely positive. Reductions in carbon emissions will improve air quality, create a more livable city, and invent cutting-edge green technology that can be marketed to the global community. Viewed properly, the threat of climate change is really an opportunity to transform Los Angeles into the greenest big city in America—a model of urban sustainability for the 21st century.

Los Angeles's Contribution to Climate Change

Los Angeles emits about 0.2% of worldwide carbon dioxide (CO₂) from fossil fuel consumption. Put another way, the city's carbon footprint is roughly equivalent to that of Sweden. Angelenos emitted approximately 51.6 million metric tons of CO₂ in 2004, down from 54.1 million metric tons

in 1990. Of that total, municipal government operations accounted for nearly one-third (16.9 million metric tons). Because the city owns and operates its own municipal utility, the vast majority of municipal emissions come from electricity use and generation. However, emissions from cars and trucks are the number one source of CO₂ in Los Angeles, making up nearly 50% of our carbon footprint.

As a share of citywide emissions, municipal facilities and operations have remained stable since 1990. In 1990, approximately 54.1 million metric tons of CO₂ were emitted



from all sources within Los Angeles. Of that figure, municipal operations contributed about 17.6 million metric tons, or 33% of the city's total carbon footprint. In 2004, municipal operations still represented roughly one-third of total citywide CO₂ emissions.

What the City of Los Angeles Is Already Doing

The path to a greener Los Angeles will be challenging, but with strong municipal leadership, Angelenos have always been at the forefront of the conservation movement, rising to meet ambitious environmental goals. These include:

- * Recycling 62% of solid waste, a figure that exceeds California's strict recycling goals and represents the highest diversion rate among the nation's top five big cities;
- * Investing in renewable energy to generate 20% of total power from clean sources by 2010 and reduce municipal CO₂ output by 17.5% below 1990 levels;
- * Holding water use steady through aggressive conservation despite overall population growth of 15% since 1990;
- * Reducing the number of smoggy days from more than 200 in 1978 to 30 in 2005;
- * Mandating green building standards for all new public buildings and providing incentives for private green development; and
- * Investing in a fleet of alternative fuel vehicles that includes nearly half of the city's refuse collection trucks and street sweepers, all 188 DASH buses, and nearly 1,000 hybrid passenger cars, saving more than 10 million gallons of fuel in 2006.

Los Angeles continues to be an environmental leader, but we can and must do more to address global climate change.

Our Goals

This plan presents a framework for confronting global climate change; engaging residents to create a cleaner, greener, sustainable Los Angeles; and growing the green economy.

Transforming the Los Angeles Department of Water and Power: 35% Renewable Energy by 2020

The Los Angeles Department of Water and Power (LADWP) is embarking on the most ambitious transformation of any utility in America. In 2005, Mayor Villaraigosa challenged the department to accelerate plans to generate 20% of its electricity from clean, renewable sources from 2017 to 2010. Since then, LADWP has more than doubled its portfolio of renewable energy by purchasing wind, solar, and geothermal power. Today, through aggressive planning, LADWP is on track to meet the 20% goal with new projects such as the Pine Tree Wind Farm, located in the Mojave Desert.

The department will play a critical role in reducing the city's overall GHG emissions. As part of the climate change action plan, LADWP will transition to 35% of total electricity being from renewable sources by 2020. To accomplish this groundbreaking goal, LADWP will rely on three strategies:

- 1. Increase energy conservation:** Conservation is the most cost-effective strategy for meeting energy demand. LADWP will strengthen its programs and incentives to encourage conservation by residential and commercial customers.
- 2. Upgrade existing power plants:** Several LADWP power plants are fueled by natural gas. Upgrading these plants with the latest technology will increase efficiency, reducing the amount of fuel necessary to generate an equal amount of power.
- 3. Invest in renewable energy:** As long-term contracts with coal-fired power plants expire, LADWP will invest in new sources of clean energy. Los Angeles's proximity to interior deserts and windy mountaintops makes large-scale solar and wind energy economically and practically feasible. Renewable energy sources are described below:
 - **Wind energy:** Wind turbines use strong, steady wind to create electricity. Wind power emits no pollution and has very little impact on the land. Wind energy can be produced anywhere the wind blows with consistent force.
 - **Hydropower:** Dams provide electricity by channeling water down a chute and over a turbine linked to a generator. Hydropower is considered renewable as long as it has no adverse impact on water quality or wildlife habitat.
 - **Geothermal energy:** Energy is generated by converting hot water or steam from deep beneath the Earth's surface into electricity. Geothermal plants emit very little air pollution and have minimal impact on the environment.
 - **Biomass energy:** Organic matter, called biomass, can be used to produce energy. Biomass can also be converted directly into a combustible gas, allowing for greater efficiency and cleaner performance.
 - **Solar Power:** Photovoltaic cells, which are made of silicon, convert the sun's energy into electricity, providing a clean form of energy to power homes and businesses.



Los Angeles will meet the goal of reducing CO₂ emissions 35% below 1990 levels by increasing the generation of renewable energy, improving energy conservation and efficiency, and changing transportation and land use patterns to reduce dependence on automobiles.

How We Are Going to Get There

The unique characteristics of municipal government in Los Angeles offer an unprecedented opportunity to greatly reduce GHG emissions. Ownership of the largest municipal utility in the country allows the city to directly affect a major source of GHGs—electricity production. Emissions from city government buildings and operations also generate substantial CO₂. Including LADWP, municipal operations account for one-third of all CO₂ emissions citywide, five times more than New York City's municipal CO₂ output.

By investing in energy efficiency and renewable power, the City of Los Angeles can significantly reduce its GHG emissions. Improving the efficiency of municipal operations, however, is only part of the solution.

The city must leverage change in the public and private sectors through land use regulation, building guidelines, and investments in transit. It also has the power to provide leadership, stimulate market demand, model innovative and profitable green businesses, promote private investment, create a business-friendly regulatory environment for green companies, and invest in workforce development programs that speed growth of the green economy while improving the income of residents in disadvantaged communities.

Achieving ambitious CO₂ reductions will require sustained advocacy, leadership, and collaboration with other municipal governments and regional regulatory agencies. It will require statewide leadership and international participation to address the challenges of this global issue.

Summary of Actions

Energy

Green the Power From the Largest Municipal Utility in the United States

- * Meet the goal to increase renewable energy from solar, wind, biomass, and geothermal sources to 20% by 2010;
- * Increase use of renewable energy to 35% by 2020;

- * Let contracts for power imports from coal-fired power plants expire;
- * Increase the efficiency of natural gas-fired power plants; and
- * Increase biogas co-firing of natural gas-fired power plants.

Make Los Angeles a Worldwide Leader In Green Buildings

- * By July 2007, present a comprehensive set of green building policies to guide and support private sector development.

Transform Los Angeles Into the Model Of an Energy Efficient City

- * Reduce energy use by all city departments to the maximum extent feasible;
- * Complete energy efficiency retrofits of all city-owned buildings to meet a 20% or more reduction in energy consumption;
- * Install the equivalent of 50 "cool roofs" per year by 2010 on new or remodeled city buildings;
- * Install solar heating for all city-owned swimming pools;
- * Improve energy efficiency at drinking water treatment and distribution facilities; and
- * Maximize energy efficiency of wastewater treatment equipment.

Help Angelenos Be "Energy Misers"

- * Distribute two compact fluorescent light (CFL) bulbs to each of the 1.4 million households in the city;
- * Increase the level and types of customer rebates for energy efficient appliances, windows, lighting, and heating and cooling systems;
- * Increase the distribution of energy efficient refrigerators to qualified customers; and
- * Create a fund to "acquire" energy savings as a resource from LADWP customers.



Water

Decrease Per Capita Water Use

- * Meet all additional demand for water resulting from growth through water conservation and recycling;
- * Reduce per capita water consumption by 20%; and
- * Implement the city's innovative water and wastewater integrated resources plan that will increase conservation, and maximize use of recycled water, including capture and reuse of stormwater.

Transportation

Lower the Environmental Impact And Carbon Intensity of Transportation

- * Require 85% of city fleet to be powered by alternative fuels;
- * Convert 100% of city refuse collection trucks and street sweepers to alternative fuels; and
- * Convert 100% of Metropolitan Transportation Authority (MTA) buses to alternative fuels.

Focus on Mobility for People, Not Cars

- * Complete the automated traffic signal synchronization and control system (ATSAC);
- * Expand flyaway shuttles serving Los Angeles International Airport (LAX) and other regional airports, and convert existing flyaway buses to alternative fuels;
- * Make transit information easily available, understandable, and translated into multiple languages;
- * Expand the city employee rideshare program;
- * Promote walking and biking to work, within neighborhoods, and to large events and venues; and
- * Expand the regional rail network.

Create a More Livable City

- * Promote high-density housing close to major transportation arteries;
- * Promote and implement transit-oriented development (TOD);

- * Make available underutilized city land for housing and mixed-use development;
- * Make available underutilized city land for parks and open space;
- * Clean up brownfields sites for community economic revitalization projects and open space; and
- * Make available underutilized city land within 1,500 feet of transit for housing and mixed-use development.

Waste

Shift From Waste Disposal to Resource Recovery

- * Recycle 70% of trash by 2015.

Port of Los Angeles

Green the Port

- * Fully implement the San Pedro Bay Ports Clean Air Action Plan (CAAP).
- * Complete strategic plan for the Port of Los Angeles, including sustainable and green growth options.
- * Complete economic development plan for the port, identifying opportunities to link the port's investment in green growth to new economic opportunities in the green sector.

Airport

Green the Airports

- * Fully employ the Sustainability Performance Improvement Management System as requested by the City Council and developed by Los Angeles World Airports (LAWA) to track and improve sustainability initiatives;
- * Develop and implement comprehensive policies to green Los Angeles airports to meet green building specifications, improve recycling, use alternate fuel sources, use recycled water, employ water conservation methods, reduce energy requirements, and reduce GHG emissions; and
- * Evaluate options to reduce aircraft-related GHG emissions.



Open Space and Greening

Unpave Paradise/Create New Paradises

- * Create 35 new parks by 2010;
- * Revitalize the Los Angeles River to create open space opportunities along the 32-mile corridor within the city of Los Angeles;
- * Plant 1 million trees throughout Los Angeles;
- * Identify opportunities to “daylight” streams;
- * Identify and develop promising locations for stormwater infiltration to recharge groundwater aquifers; and
- * Collaborate and partner with schools to create more parks in neighborhoods.

Green Economy

Create Demand and Catalyze Growth Of the Green Economic Sector

- * Leverage city policy, purchasing, and regulation, and deepen local university partnerships, to promote local research, development, and production of green technology and products;
- * Strengthen global economic relationships to promote investment in Los Angeles’s green sector and help local environmentally focused companies penetrate both local and foreign markets;
- * Identify and promote locations for green businesses;
- * Develop targeted programs to train residents of low and middle income communities for jobs in the green economy;
- * Collaborate with the private sector to offer effective incentives for the growth of local green businesses; and
- * Collaborate with local educational institutions such as universities, community colleges, and adult education programs to create more curricula that provide city residents with the skills and knowledge to work for competitive green businesses.

Adaptation

Climate Proof Los Angeles

- * Improve capacity to respond to an emergency through education and outreach;
- * Develop comprehensive plans to prepare for climate change effects on the city, including increased drought, wildfires, sea level rise, and public health impacts;
- * Review current zoning and building codes to minimize climate change impact; and
- * Reduce the heat island effect by planting 1 million trees throughout the city and increasing open space.

Finally, the plan outlines a public process to conduct community outreach and foster public-private partnerships to reduce CO₂ emissions beyond the city’s jurisdiction. Working together, Angelenos can reduce their personal carbon footprints while contributing to the overall reduction of the entire city’s CO₂ emissions.

Conclusion

Confronting the threat of global climate change is a challenge that will reorder city priorities for decades to come. It will require a long-term vision and the discipline to make and catalyze critical public and private investments in renewable energy, infrastructure, and environmental technology. It will change the way Los Angeles does business.

Through direct municipal action to mitigate emissions and through partnerships with the public and private sectors, Los Angeles can reduce GHG emissions by 35%. Reducing the city’s carbon footprint will bring multiple environmental benefits, with cleaner air, better public health, and more open space. It will stimulate an important new high-tech sector of the economy—the green economy—with opportunities for well-paying jobs for Angelenos.

Together, we will continue our proud history of environmental stewardship by taking bold steps to address global climate change.

I. Introduction

Los Angeles came of age in the 20th century—a city built along streetcar lines and imagined through real estate advertising. In 1900, barely 100,000 people lived in Los Angeles. At the time, compared with sophisticated San Francisco, it was considered a dusty backwater. Its only significant natural resource was oil, and the tar pools scattered around the city and along the shoreline were quickly exploited to fuel the city's early growth and create some of its first fortunes.

Little more than 100 years later, Los Angeles is home to more than 4 million people in diverse communities that span 469 square miles. As part of the Southern California economy, the 14th largest in the world, Los Angeles is a center of global trade and entertainment. Beyond the iconic entertainment industry, the Ports of Los Angeles and Long Beach are a gateway to more than 43% of all goods entering the United States. LADWP is the largest municipal utility in the country. LAX is the busiest airport on the West Coast, and three other city-owned airports serve passengers and cargo worldwide.

Yet economic success has not prepared us for the environmental challenges of the 21st century. Indeed, our progress has contributed to one of history's greatest crises—global climate change. **The longer we wait to reduce our carbon emissions, the tougher and more expensive it will be.**

Although climate change is a global problem, mayors and city leaders recognize that it will directly affect their constituents. The City of Los Angeles is working with the Large Cities Climate Leadership Group, which includes 40 of the world's leading cities, and the Clinton Foundation Climate Initiative to share strategies for confronting climate change.

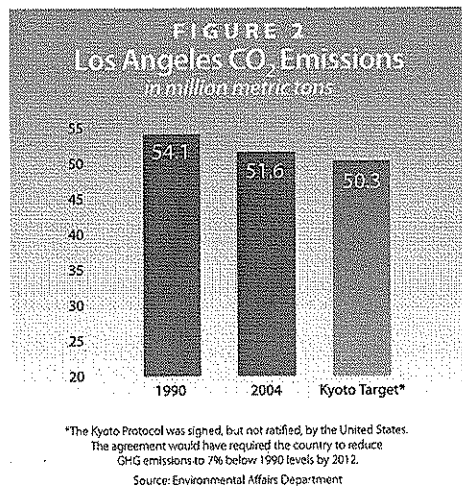
The city is also a signatory to the U.S. Conference of Mayors Climate Protection Agreement.

Confronting the threat of global climate change is a challenge that will reorder city priorities for decades to come. It will require a long-term vision and the discipline to make and catalyze critical public and private investments in renewable energy, infrastructure, and environmental technology. It will change the way Los Angeles does business.

It will change the way we pay for our growth, restore our environment, and address existing urban challenges such as poverty.

The path to a greener Los Angeles will be challenging, but with strong municipal leadership, Angelenos have always been at the forefront of the conservation movement, rising to meet ambitious environmental goals. These include:

- * Recycling 62% of solid waste, a figure that exceeds California's strict recycling goals and represents the highest diversion rate among the nation's top five big cities;
- * Investing in renewable energy to generate 20% of total power from clean sources by 2010 and reduce municipal CO₂ output by 17.5% below 1990 levels;
- * Holding water use steady through aggressive conservation despite overall population growth of 15% since 1990;
- * Reducing the number of smoggy days from more than 200 in 1978, to 30 in 2005;
- * Mandating green building standards for all new public buildings and providing incentives for private green development; and
- * Investing in a fleet of alternative fuel vehicles that includes nearly half of the city's refuse collection trucks and street sweepers, all 188 DASH buses, and nearly 1,000





hybrid passenger cars that saved over 10 million gallons of fuel in 2006.

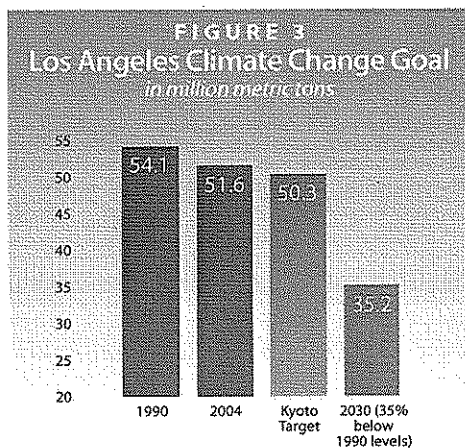
Indeed, energy conservation and investments in renewable power have already reduced total CO₂ output by 4% since 1990, despite population growth of nearly 400,000. **Today, Los Angeles is more than halfway toward meeting the U.S. emissions target outlined by the Kyoto Protocol. By 2010, with actions already underway, the city will meet or beat Kyoto goals.**

Further reductions in carbon emissions will improve air quality, create a more livable city, and invent cutting edge green technology that can be marketed to the global community. Viewed properly, the threat of climate change is really an opportunity to transform Los Angeles into the greenest big city in America—a model of urban sustainability for the 21st century.

II. Purpose and Scope of the Climate Action Plan

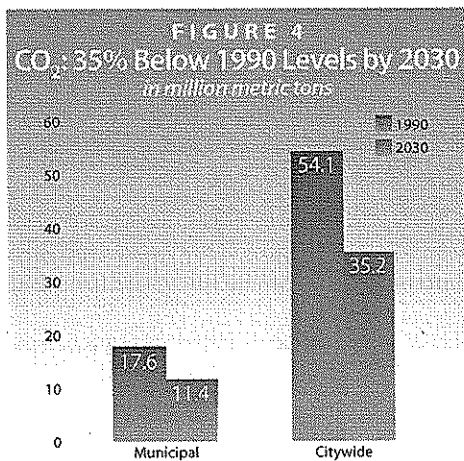
Purpose

The plan details innovative steps for city departments and agencies to reduce GHG emissions and create a more sustainable environment. It also outlines a process to facilitate emission reductions by private businesses and residents throughout Los Angeles. The actions are designed to achieve ambitious reductions by 2030. Progress toward these goals will be measured and monitored annually, and appropriate adjustments will be made along the way.



Source: Environmental Affairs Department

The plan proposes an ambitious goal of reducing the city's GHG emissions to 35% below 1990 levels by 2030, making Los Angeles the greenest big city in America.



Source: Environmental Affairs Department

Scope

This plan covers CO₂ emissions from public and private activities within the City of Los Angeles. It addresses emissions from major sources of CO₂, including the production and consumption of electricity, and transportation fuel and natural gas consumption. The plan presents mitigation and adaptation actions to reduce CO₂ emissions.

Context

A 35% reduction from 1990 levels represents a reduction of 6.2 million metric tons of CO₂ from municipal operations. From a citywide emissions perspective, this goal requires an 18.9 million metric ton reduction from 1990 levels of 54.1 million metric tons of CO₂.



III. Setting the Context

Vision for a Green Los Angeles

This plan represents a key element of the city's agenda for an environmentally sustainable Los Angeles.

While not all environmental initiatives reduce GHG emissions, many of the city's broader sustainability goals will help address climate change. For example, increasing access to parks for children, reducing poor air quality that contributes to public health problems, addressing the concentration of pollution sources—including large GHG emitters—in low-income communities of color, and preventing sewage contamination of beaches and waterways all have climate change mitigation benefits. Individual proposals will be prioritized by their ability to catalyze other social and economic goals.

Framework for a Green Los Angeles

Our vision is nothing less than the transformation of Los Angeles into the greenest big city in America. This plan comes at a time of increased civic engagement in the public and private sectors. Never before have so many major environmental organizations, community groups, environmental justice organizations, academics, and private businesses worked together to advance a progressive green agenda for Los Angeles. City departments and proprietary agencies need to ensure their activities work toward improving the environment and making Los Angeles a sustainable city. The objectives are:

1. Improve public health by enhancing the environment

Neighborhoods throughout Los Angeles are exposed to environmental hazards that adversely impact public health. Too many children suffer from asthma, respiratory illnesses, and cancer. Improved air and water quality will reduce exposure to toxic pollution. City actions will reflect the principle of precaution, avoiding creation of new public health threats. The decision-making process must focus on community needs and global interconnectedness while remaining transparent, democratic, and accountable.

2. Unpave paradise by increasing green space

With limited green space—where few children live within walking distance of a park—the city must create a more equitable distribution of open space, greenery, and recreational opportunities. The Million Trees Los Angeles initiative is aimed at increasing the tree canopy for the entire city, which is low compared to other communities nationwide, but emphasizes those neighborhoods where the ratio of trees to pavement is even worse.

3. Promote environmental stewardship for the city and its residents

The city must care for its natural environment and protect our scarce and fragile resources. All neighborhoods and sectors of the community must also be good stewards of the environment. We understand that there are long-term social impacts to the decisions we make.

4. Create a new urban form

Smart growth strategies will play a significant role in mitigating and adapting to climate change. Smart growth is about developing a livable city, and takes a holistic approach to planning, including transportation, water conservation, energy, social justice, economic development, environmental protection, and community development. We strive to promote social, economic, and geographic equality as the basis of environmental sustainability.

5. Build a new green economy in Los Angeles

Focusing on the green sector can result in new jobs, improved human health, and both a more sustainable environment and economy. Catalyzing the growth of green economic activity could serve as a foundation for fundamental change. Los Angeles has significant market influence through its proprietary agencies; its purchasing, procurement, and contracting processes; as well as its regulatory, planning, and land use powers that can be coordinated to “grow green” and promote a robust green economy. The city has the power to provide leadership, stimulate market demand, model innovative and profitable green businesses, promote private investment, create a business-friendly regulatory environment for green companies, and invest

in workforce development programs that facilitate growth of the green economy while improving the income of residents in disadvantaged communities.

The Threat to Los Angeles Of Climate Change

Global climate change refers to the ongoing changes in modern climate patterns, including the rise in average surface temperature, that the United Nations Intergovernmental Panel on Climate Change recently concluded is “very likely” to be caused by humans.

The effects of global climate change are being felt around the world, and they will intensify as CO₂ continues to accumulate in the atmosphere. Scientists predict that global temperatures are likely to rise between 3.0 and 5.5 degrees Fahrenheit—and sea levels are likely to rise 6 to 14 inches—by the end of the century if we continue burning fossil fuels at the current rate. Other effects—such as increased storm intensity, disruption of agriculture and forests, species extinction, and increased wildfires and longer droughts—are also expected.

The economic impact of these changes is predicted to be severe. The Stern Report on Climate Change released earlier this year estimates that the risks of climate change will be equivalent to losing 5% of global gross domestic product (GDP) per year—and could rise to as much as 20% in the worst-case scenario. In contrast, the costs of action—reducing GHG emissions to avoid the worst impacts of climate change—can be limited to around 1% of global GDP each year.

For Los Angeles, scientists predict that summers will be even hotter, with a doubling or more in the number of heat wave days per year. In addition, Los Angeles will see an increase of 75–85% in the number days with poor air quality and high ground-level ozone concentrations. Hotter, smoggier days mean more stress on electricity and water supplies, an increase in heat-related deaths, and greater strain on those with respiratory and cardiovascular diseases. Rainfall patterns may change and the snowpack in the Sierras may diminish by 70–90%, drying up much of our water supply.

Sea level rises could harm low-lying coastal neighborhoods and ground water resources. And under the most drastic


scenario, rising tides could severely impact the Port of Los Angeles, severing the city’s connection to international trade and tourism and devastating the port of entry for more than 43% of U.S. imports.

Most importantly, the effects of climate change are likely to fall hardest on poor and minority residents of Los Angeles, exacerbating existing economic and social inequalities.

City of Los Angeles: Unique Assets and Opportunities

The unique characteristics of municipal government in Los Angeles offer an unprecedented opportunity to significantly reduce GHG emissions. As the proprietor of the largest municipal utility in the United States, the city has a direct ability to affect generation and consumption of the largest source of GHGs—electricity production. Los Angeles also owns, in conjunction with Long Beach, the largest port complex on the West Coast and gateway to the Pacific Rim, allowing the city to affect emission sources from goods movement nationwide. And as owner of the fifth busiest airport in the world, environmental initiatives by the Los Angeles World Airports (LAWA) at all four of its airports (including LAX) can serve as national models. The demand for green products and services by these departments and the city as a whole can drive the green economy.

- ✱ **LADWP:** The department provides electricity to the city’s municipal facilities and operations, as well as all residents and businesses within the city’s boundaries. LADWP has power generation operations located in the Los Angeles basin and outside the state. It is a major purchaser of environmental products and services.
- ✱ **Los Angeles World Airports (LAWA):** LAWA manages four airports throughout Southern California, including one of the world’s busiest, LAX.
- ✱ **Port of Los Angeles:** As the largest port complex on the West Coast, the Port of Los Angeles, in partnership with the Port of Long Beach, has developed the first-ever joint Clean Air Action Plan. The plan is designed to reduce air emissions from all port sources, including oceangoing vessels, cargo-handling equipment, harbor craft, trucks, and locomotives by at least 45% in five years. This goal is significant. Activities at the Port of Los Angeles



contribute approximately 12% of diesel emissions in the Los Angeles area. One out of every 24 jobs in Southern California is related to port activities, and this number is expected to grow.

Environmental Leadership in the State Of California and City of Los Angeles

The state of California and City of Los Angeles have pioneered many of the most innovative environmental improvements in the country. In the 1950s, California established the nation's first air quality program, which led to the first comprehensive federal Clean Air Act. California acted to require vehicle emission controls, reduce air toxics, and control emissions from stationary sources before federal efforts in these areas. Similarly, water quality programs at the state level served as a framework for the federal Clean Water Act. And Los Angeles created the first combined curbside recycling program.

These decisions were guided by an environmental ethic that remains strong today. Both California and the City of Los Angeles have the most stringent building codes in the country to maximize energy and water conservation. The first Leadership in Energy and Environmental Design (LEED)

Los Angeles in 2030

More than 225 years ago, 44 Spanish settlers walked nine miles from the Mission San Gabriel to the Los Angeles River—a resting spot they called “Nuestra Señora, La Reina de Los Angeles de Porciuncula—Our Lady, Queen of Angels.” Those original pobladores found a flowing river flanked by willow trees and ringed by mountains. They found soil fertile for planting and a climate of near perpetual sunshine with gentle winters and cooling ocean breezes.

Imagine the Los Angeles of 2030—a paradise once lost, now found. Portions of the Los Angeles River are unpaved, returning it to the natural, life-giving stream it once was. Millions more trees shade and green streets, parks, and backyards throughout the city. Renewable sources of energy power homes and businesses. More people use public transportation than they do the automobile, and neighborhoods are known for their walkability. This is the Los Angeles we envision for 2030.

Platinum-rated public building in Southern California—the Lake View Terrace Public Library—recently opened in Los Angeles. On climate change, California and Los Angeles will act by building on past success and the lessons learned as environmental leaders.

IV. Emissions Profile

Before developing strategies to reduce CO₂ emissions, we must first understand the city's contribution to global warming. GHG emissions are the product of everyday activities, and they are directly related to certain forms of energy use. To analyze these emissions and identify actions to reduce them, we focused on three primary energy sources that move the city: transportation fuels, electricity, and natural gas.

The plan uses a baseline year of 1990—the same baseline in the Kyoto Protocol—to measure progress in reducing emissions. The city's current actual emissions level is represented by data collected for calendar year 2004. The plan concentrates on CO₂ emissions, by far the most prevalent GHG. Emissions information will be collected for 2005 and succeeding years to allow us to chart our progress. The plan will also be expanded to include information and reduction strategies for the other five primary GHGs.

The estimates of CO₂ emissions were generated separately for municipal operations and the city as a whole, using different methods:

- ✦ **Municipal facilities and operations:** For all city departments, data were collected on transportation fuel use, electricity generated by LADWP, and natural gas used by city facilities and operations.
- ✦ **Citywide emissions:** This estimate is based on data collected from LADWP for electricity generated for use within the city, and information on transporta-

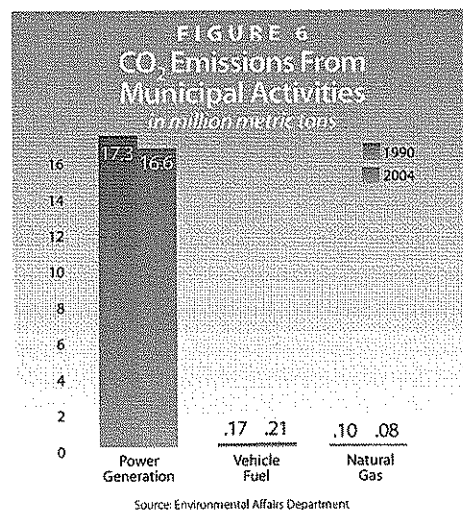
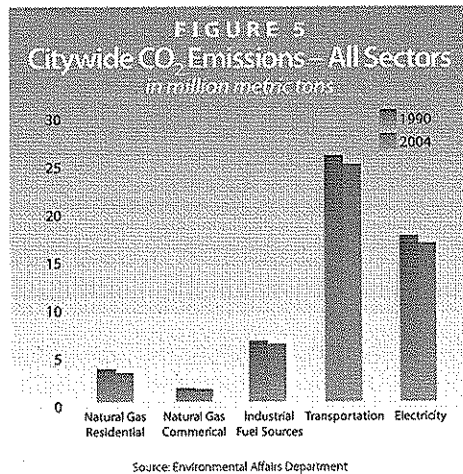
tion fuel, natural gas, and other fuels burned directly by all sectors, scaled down from statewide estimates.

Municipal Facilities and Operations

The municipal, or city government, emissions inventory includes sources of emissions that are directly controlled or operated by the City of Los Angeles. The inventory includes emissions from all city government operations, including those of the Port of Los Angeles, LAWA, and LADWP. It does not, however, include emissions from private activities that occur at the port and airports, such as aircraft emissions and ship emissions. These activities will be addressed in the community emissions profile.

Municipal emissions comprise about one-third of CO₂ output in the City of Los Angeles. Included in the municipal total are emissions from the production of all electricity used in the city. The city government takes responsibility for these emissions since it owns and operates LADWP. Emissions from the use of electricity for city operations, such as operating the lights in City Hall, are not shown separately in the inventory below to avoid counting both the production and use of the same units of electricity.

In 1990, municipal operations accounted for more than 17.5 million metric tons of CO₂. By 2004 their emissions had declined 4 percent, to 16.8 million metric tons. As noted in the chart below, power generation is by far the largest source of municipal CO₂ emissions, accounting for about 98 percent of the city's municipal carbon footprint. For comparison, emissions from the use of electricity for municipal operations and facilities was ap-



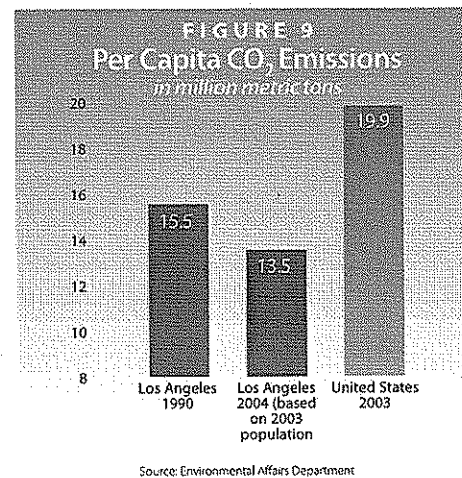
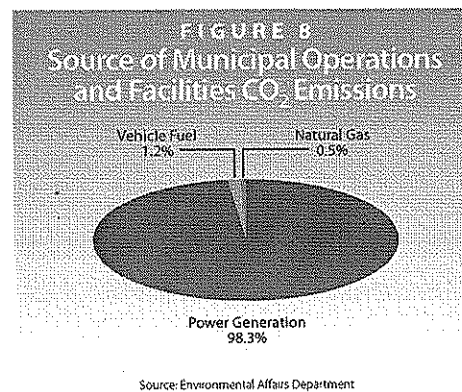
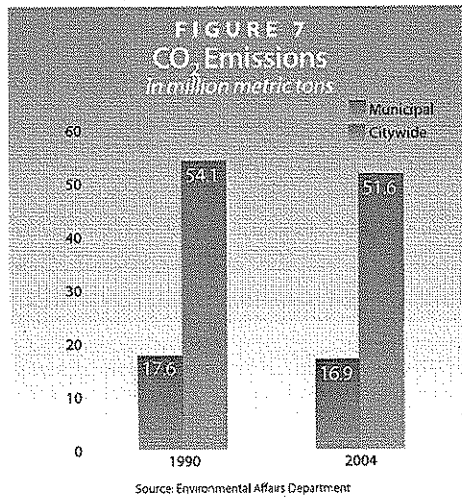
proximately 805,700 metric tons, less than 5% of the total power produced for the entire city.

Citywide Emissions

GHG emissions for all of Los Angeles result from vehicle transportation, residential and commercial electricity and natural gas consumption, and industrial fuel use. The citywide emissions profile also includes emissions from municipal operations.

Based on statewide data and specific information from LADWP, the citywide carbon footprint in 1990 was more than 54 million metric tons. By 2004, citywide emissions had declined to approximately 51.6 million metric tons, a decrease of about 4.6 percent. Nearly half of citywide emissions come from transportation sources, primarily cars and trucks. The chart below illustrates the primary sources and inventories of CO₂ emissions from Los Angeles.

As a share of citywide emissions, municipal facilities and operations have remained stable since 1990. Then, approximately 54.1 million metric tons of CO₂ were emitted



ted from all sources within Los Angeles. Of that figure, municipal operations contributed about 17.6 million metric tons, or 33%, of the city's total carbon footprint. In 2004, municipal operations still represented 33% of the city's CO₂ emissions.

Per Capita Emissions

Despite Los Angeles's reputation for sprawling development and freeways, its per capita CO₂ emissions are about two-thirds of the U.S. average. Thanks to our mild climate and stringent building and appliance codes, our residents, on average, have less energy-intensive lifestyles than their suburban and rural counterparts.

In 1990–2004, the population of Los Angeles grew by nearly 400,000. Per capita CO₂ emissions declined during that period from 15.5 metric tons to 13.5 metric tons, a 13% decrease.

LADWP Energy Projects

Project	Date In Service	Percentage of Total Power Generation
Powerex – hydroelectricity	2007	1.8%
PPM Energy – wind	2006	0.9%
Small hydroelectric projects	various	2.8%
Biomass	various	0.4%
Hyperion wastewater plant – digester gas	1998	0.6%
Rooftop solar projects – photovoltaics	various	0.1%

Los Angeles by the Numbers

- 47% of refuse collection vehicles fueled by natural gas
- 3.3 million gallons of diesel fuel displaced through alternative-fuel street sweepers and refuse collection trucks in 2006–2007
- 64% (880 of 1,378) of passenger fleet is hybrid vehicles
- 10.6 million gallons of gasoline saved through alternative-fuel/hybrid vehicles in 2006
- 100% of DASH vehicle fleet (188 buses) alternatively fueled
- Two of the largest alternative-fuel (liquefied natural gas) fueling stations in the country (based on storage capacity) —the East and West Valley Sanitation Yards

Los Angeles as Environmental Leader

Los Angeles pioneered many of the most innovative environmental improvements in the country. Southern California's notoriously poor air quality has forced local governments to invest in clean air technology. As proprietors of the largest port complex and municipal utility in the country, Los Angeles has also been able to institutionalize environmental improvements beyond city boundaries. Finally, there is an "environmental consensus" among civic leaders, community organizations, nonprofits, and the business community. Working as allies, this broad coalition has helped advance sustainability initiatives.

- **Fuel-cell vehicles:** Los Angeles is the first city in the country (second in the world) to incorporate hydrogen fuel-cell vehicles into its municipal fleet.
- **Ultra-low sulfur diesel (ULSD):** Los Angeles was the first large city to demonstrate ULSD (15 parts per million sulfur or less) in heavy-duty applications. The General Services Department (GSD) converted to ULSD for all diesel engines, including those in vehicles and stationary generators, three years before required by regulations.
- **Solid waste diversion/recycling rates:** Los Angeles established the nation's first curbside combined ("blue-bin") recycling program and has surpassed the state-mandated municipal solid waste diversion rate of 50%, currently boasting a 62% rate.
- **Alternative-fuel refuse trucks:** The city owns and operates the largest municipal alternative-fuel refuse truck fleet in the United States, with 262 vehicles operating on natural gas.

- **Green city buildings:** All new city buildings of more than 7,500 square feet must be built to standards under the LEED system. The city has constructed, or is in the process of constructing, 47 LEED-certified buildings. Including completion of the first LEED Platinum public building in the country, the Lakeview Terrace Public Library, Los Angeles has invested more than \$890 million in green building construction.
- **Solar roofs:** LADWP has provided more than \$50 million in customer incentives to install photovoltaics to generate electricity, representing about 10 megawatts of solar capacity.
- **Traffic signal controls:** Los Angeles boasts an extensive ATSAC system at 3,226 intersections, which provides real-time ability to monitor and modify signal timing according to current traffic conditions. Studies show the system reduces vehicle idling time, and associated pollutants, by 10%.
- **Green power purchases:** LAWA purchases 15% of its electrical power through LADWP's Green Power program, helping to fund the purchase and installation of renewable energy for the city.
- **Biogas to energy:** The Hyperion Treatment Plant, the largest wastewater plant on the West Coast, sends methane gas produced during the digester process to the city's Scattergood Generating Station, producing 80% of its electricity.
- **Building energy retrofits:** Los Angeles has completed energy efficiency retrofits on 63 city-owned buildings, generating savings of nearly 731,000 kilowatt-hours to date, or the equivalent reduction of 502 tons of CO₂.

V. Reducing the City's Carbon Footprint

Although climate change is a global problem, mayors and city leaders recognize that it will directly affect their constituents. Responsible for critical transportation, energy, and water infrastructure, cities are the first responders in the climate crisis and have a unique responsibility to reduce GHG emissions from municipal operations.

The City of Los Angeles is confronted with the reality that climate change can diminish the quality of life for everyone who lives and works here. **That's why Los Angeles is committed to combat global warming.** Each of us, including city government and its operations, has a responsibility to reduce the carbon footprint of the nation's second largest city.

Los Angeles has a special obligation to aggressively confront climate change because, as owner of LADWP, it can directly change the way we purchase and produce power. **Including LADWP, city operations account for one-third of all CO₂ emissions, a percentage five times greater than New York City's municipal CO₂ output.**

While creating great challenges, climate change offers the city and its residents great opportunities for improved quality of life and an increasingly competitive economy. Reducing CO₂ output will produce multiple benefits for Los Angeles, including reducing smog-forming emissions, saving money on fuel, reducing dependence on fossil fuels, and creating a more livable city.

The following section identifies a concrete set of objectives and actions designed to make Los Angeles a leader in confronting global climate change. These measures will reduce emissions directly from municipal facilities and operations and create a framework to address citywide GHG emissions. The actions build on the city's leadership in developing and implementing sustainable environmental policy.

FOCUS AREA: ENERGY

Goal: Green the Power From the Largest Municipal Utility in the United States

Background

LADWP is the largest municipally owned utility in the United States. Since 1916, LADWP has provided electricity

to all of Los Angeles and has been the engine for the city's remarkable economic growth during the 20th century. Today, with 7,200 megawatts of electricity generating capacity, LADWP serves 1.4 million households, businesses, and public institutions. In 2005, LADWP sold 22.8 million megawatt-hours of electricity.

Like most U.S. electric utilities, LADWP relies primarily on fossil fuels to generate electricity. About half of the electrical power supply comes from coal-burning power plants in Utah and Arizona that are under long-term contracts. LADWP receives another quarter of its power from natural gas power plants in the Los Angeles basin.

Burning fossil fuels to produce electricity accounts for 32% of the city's total carbon emissions and about 98% of the municipal carbon footprint. While burning natural gas emits only 40% of the CO₂ emitted from burning coal, both are a major source of smog and tiny particles (soot) that can harm the respiratory system. LADWP's resource mix is also vulnerable to supply scarcity. Increasing the use of renewable energy—wind, biomass, solar, and geothermal energy—will stabilize long-run prices and significantly reduce the city's CO₂ emissions.

What we've already done

LADWP is embarking on the most ambitious transformation of any utility in America. In June 2005, the City Council approved LADWP's Renewable Portfolio Standard policy that called for providing 20% of its energy sales to retail customers from renewable energy resources by 2017, with an interim goal of 13% by 2010. Mayor Villaraigosa challenged

LADWP Renewable Energy Projects Under Development

Project	Date Expected In Service	Percentage of Total Power Generation
Pine Tree Wind Farm	July 2009	1.4%
Various wind projects	2008–2010	11.2%
Concentrated solar	December 2010	1.1%
Solar trough	June 2010	1.0%
Renew LA		
Landfill waste-to-energy	July 2010	0.8%
Concentrated solar (3 projects)	October–December 2010	3.0%

LADWP to accelerate its efforts and meet the 20% goal by 2010. In December 2005, the Board of Water and Power Commissioners agreed, and moved the goal to 2010.

Since 2005, LADWP has more than doubled its portfolio of renewable energy by purchasing wind, solar, and geothermal power. Los Angeles's proximity to interior deserts and windy mountaintops makes large-scale solar and wind energy economically and practically feasible. Renewable energy sources are described below:

- * **Wind energy:** Wind turbines use strong, steady wind to create electricity. Wind power emits no pollution and has very little impact on the land. Wind energy can be produced anywhere the wind blows with consistent force.
- * **Hydropower:** Dams provide electricity by channeling water down a chute and over a turbine linked to a generator. Hydropower is considered renewable as long as it has no adverse impact on water quality and wildlife habitat.
- * **Geothermal energy:** Geothermal energy is generated by converting hot water or steam from deep beneath the Earth's surface into electricity. Geothermal plants emit very little air pollution and have minimal impact on the environment.
- * **Biomass energy:** Organic matter, called biomass, can be used to produce energy. Biomass can also be converted directly into a combustible gas, allowing for greater efficiency and cleaner performance.
- * **Solar Power:** Photovoltaic cells, which are made of silicon, convert the sun's energy into electricity, providing a clean form of energy to power homes and businesses. Large solar collections can feed electricity straight into the grid.

LADWP also produces or buys electricity generated using methane gas—another cause of climate change—recovered from landfills. Under the direction of the City Council's RENEW-LA plan, the city is evaluating proposals to build four state-of-the-art facilities to transform trash into electricity. The city's Hyperion Treatment Plant, the largest wastewater plant on the West Coast, sends methane gas produced during the digester process to the city's Scattergood Generating Station to produce 80% of its electricity needs.

Renewable Energy

Los Angeles generates most of its electricity from coal and natural gas, along with some hydroelectric and nuclear energy. In addition to contributing to GHG emissions, this resource mix is vulnerable to supply scarcity and national security issues, and is unsustainable in the long run. Increasing the use of renewable energy will stabilize long-term prices and significantly reduce the city's CO₂ emissions. Sources of renewable energy include wind, biomass, solar, and geothermal. The city has established an aggressive goal of generating 20% of its electricity from renewable sources by 2010 and 35% by 2030. Since July 2005, LADWP has already increased its renewable share from less than 3% to more than 8%. LADWP will meet the renewable energy targets by constructing its own projects, purchasing existing or newly built renewable facilities, entering joint ventures with neighboring municipal utilities, and, in limited circumstances, by using long-term power purchase agreements.

The city is constructing innovative renewable energy projects, including a ground-breaking pilot project called Terminal Island Renewable Energy (TIRE). The TIRE Project will inject biosolids, the soil-like byproduct of wastewater treatment, into depleted oil and gas reservoirs 5,000 feet below Terminal Island. The biosolids will be converted to clean energy through the natural conditions of high temperature and pressure existing below the earth's surface. The resulting biogas energy will be converted to electricity through a 1 megawatt fuel cell. The TIRE Project will also reduce air emissions and trucking costs currently associated with transporting biosolids to various land application sites, reduce GHGs by sequestering biosolids underground (up to 400 tons/day), and produce renewable electricity from biogas. The TIRE Project will also save millions of dollars in capital, operating, and maintenance costs that otherwise would have been spent on dewatering facilities.

LADWP recently restarted its rooftop solar incentive program that has invested millions of dollars to help homeowners and businesses lower the cost of installing photovoltaics to meet their energy needs. LADWP also buys back excess energy available from such systems.

In the last decade, LADWP has modernized two natural gas-fired power plants, increasing their efficiency and lowering smog-forming pollutants and CO₂ emissions. LADWP plans to complete the overhaul of the two remaining natural gas-fired power plants. To maintain reliable electricity service, LADWP must continue to use these natural gas power plants, but they need to be as efficient and low polluting as possible.



What more do we need to do?

- * Meet the goal to increase renewable energy from solar, wind, biomass, and geothermal sources to 20% by 2010;
- * Increase use of renewable energy to 35% by 2020;
- * Let contracts for power imports from coal-fired plants expire;
- * Increase the efficiency of Los Angeles basin natural gas-fired power plants; and
- * Increase use of biogas for natural gas-fired power plants.

Goal: Make Los Angeles a Worldwide Leader In Green Buildings

Background

A strong economy and growing population have created a building boom in Los Angeles. To accommodate an estimated 300,000 additional residents by 2030, thousands of buildings will be renovated and replaced. Buildings in the United States use one-third of total energy consumed in the country, two-thirds of the electricity consumed, and produce 30% of GHG emissions. Since the expected lifetime of a new building is about 100 years, actions taken today during this period of rapid expansion will have lasting repercussions on the ability to achieve long-term sustainability. Regulating land use, establishing and enforcing minimum building codes, and approving building construction are important city government functions that directly affect climate change. Other building-related activities—such as water use, solid waste management, and type of construction—can also produce CO₂ emissions. Improving energy and water efficiency in buildings and developing sustainable construction guidelines can significantly reduce the city’s carbon footprint.

What we’ve already done

California is an energy efficient state, ranking near the bottom in electricity use per capita, thanks to a mild, Mediterranean climate and stringent statewide and local building codes that have been in place for nearly a generation. Recent advances in green building standards, materials, equipment, and processes continue to increase efficiency.

Los Angeles has also become a hotbed for innovative designers and architects. In 2006, the City Council established

an incentive for green building designs meeting LEED Silver standards. LADWP also offers priority service planning for electrical and water service for these buildings.

Launched in December 2006, LADWP’s Green Building Incentive Program provides financial incentives for new construction and major rehabilitation projects that are LEED-certified. Payments are calculated using a simple cents/square foot basis, on the number of points earned in the LEED energy category. The incentive rate increases for each additional point earned (e.g., \$0.30/square foot for 1 point, \$0.40/square foot for 2 points, etc.) as projects save more energy. There is no cap per project, so, for example, a 1 million square foot development that earned four points in the energy category could receive \$600,000 from LADWP once certified. More than 20 public and private developments are already part of this program and are now under construction in Los Angeles.

What more do we need to do?

- * By July 2007, present a comprehensive set of green building policies to guide and support private sector development.

Goal: Transform Los Angeles Into The Model of an Energy Efficient City

Background

The city is a significant LADWP customer, with millions of square feet of office space owned or leased throughout Los Angeles. In total, the city owns a diverse array of 850 buildings, including libraries, police stations, fire stations, a zoo, and recreation and park facilities; a port and airports; as well as water distribution and treatment systems, and wastewater collection and treatment systems. The electricity used by these buildings and facilities accounts for 72% of the total GHG emissions associated with municipal operations.

What we’ve already done

In the public sector, the City of Los Angeles has been a green building leader. In 2004, the City Council required all new municipal facilities to meet green building standards. The city has constructed, or is in the process of constructing, 47 LEED-certified buildings. Including the first LEED Platinum-rated public building in the country—the Lake View Terrace Public Library—Los Angeles has invested a total of more than \$890 million in green building construction.



At the City Council's direction, the city prepared a resource guide to establishing "green roofs" on buildings. A green roof is a permanent planting system with live plants covering a significant portion of a building's roof. Green roofs can provide a range of environmental, economic, and social benefits.

The City of Los Angeles has completed energy efficiency retrofits on 63 buildings that it owns, generating savings of nearly 731,000-kilowatt hours to date, equivalent to a 502 ton reduction in CO₂.

What more do we need to do?

- * Reduce energy use by all city departments to the maximum extent feasible;
- * Complete energy efficiency retrofits in all city-owned buildings to meet a 20% or more reduction in energy consumption;
- * Install the equivalent of 50 green roofs per year by 2010 on new or remodeled city buildings;
- * Install solar heating for all city-owned swimming pools;
- * Improve energy efficiency at drinking water treatment and distribution facilities; and
- * Maximize energy efficiency of wastewater treatment equipment.

Goal: Help Angelenos Be "Energy Misers"

Background

As the city grows, additional residents and expanding businesses place a larger demand on LADWP power resources. New technologies are also increasing the demand for electricity. Many homes in Los Angeles are full of devices that did not exist a generation ago—such as computers and DVD players—as well as additional television sets, stereos, and air conditioners. As a result, energy consumption has outpaced forecasts. During a heat wave in 2006, Angelenos generated a peak-load record that was not expected to occur until 2017.

That's why conservation remains critically important even as LADWP invests in cleaner sources of power. The cleanest

and least expensive kilowatt-hour of electricity is the one LADWP does not have to produce. Conservation also saves residents and businesses' money and reduces the need for new power plants and transmission lines.

Residential customers account for 35% of electricity consumption, commercial customers 53%, and industrial customers 10%.

What we've already done

LADWP offers a variety of financial incentives and rebates to residential, commercial, and industrial customers who purchase energy efficient appliances or install other energy saving devices. Starting in 2007, LADWP will triple its investment in energy conservation from previous years. LADWP has also provided more than \$50 million in customer incentives for installation of solar photovoltaics to generate electricity, representing about 10 megawatts of solar capacity. Trees for a Green LA, a popular program, provides free shade trees to LADWP customers to save energy and improve local climates. Trees for a Green LA has now joined in partnership with the Million Trees LA initiative to plant 1 million trees around Los Angeles.

What more do we need to do?

- * Distribute two CFLs to each of the 1.4 million households in the city;
- * Increase the level and types of customer rebates for energy efficient appliances, windows, lighting, and heating and cooling systems;
- * Increase the distribution of energy efficient refrigerators to qualified customers; and
- * Create a fund to "acquire" energy savings as a resource from LADWP customers who generate excess electricity.

Installing 2.8 million CFLs will reduce CO₂ by more than 91,000 tons per year. Replacing a single incandescent bulb with a CFL reduces CO₂ emissions from electricity consumption by 65.2 pounds/year.

FOCUS AREA: WATER

Goal: Decrease Per Capita Water Use

Background

Angelenos live in a semi-arid climate. Southern California receives an average of 15 inches of rain per year. Relying solely on that small amount of rainfall is clearly not enough to sustain a city the size of present day Los Angeles. Since the turn of the 20th century, Los Angeles and the rest of Southern California have looked elsewhere for water, building dams and aqueducts and harnessing the flow of rivers hundreds of miles away—first in the Owens Valley, then the Colorado River, and finally the Sacramento and San Joaquin Rivers. Together, these imports provide Los Angeles with 85% of its water.

The conquest of these rivers is the stuff of legend. But the future of these rivers is fragile. Rerouting rivers has caused significant damage to natural ecosystems. Just as important, climate change threatens to dry up rivers by changing precipitation patterns and decreasing the Sierra Nevada snowpack that feeds them. Climate change could also cause more precipitation to fall as rain, overwhelming our waterways and reservoirs.

Over the next 24 years, LADWP estimates it will need an additional 125,000 acre-feet of water to serve 300,000 residents. One of the most cost-effective ways to meet the future demands for water is to conserve. Water supply diversity is also important and alternative supplies, including recycled water and storm water capture, should be pursued.

In addition, conserving water reduces statewide energy consumption. An estimated 19% of California's total electricity demand is associated with water pumping and treatment. Water conservation efforts, therefore, can reduce the city's wastewater treatment costs, improve air quality, and reduce GHG emissions.

What we've already done

The City of Los Angeles and its Southern California neighbors have a remarkable history of water conservation. Water usage in the region is the same today as it was 25 years ago, despite an increase in population of nearly 1 million people. Through LADWP programs, 1.3 million ultra-low

flush toilets and showerheads and 39,000 high efficiency clothes washers were installed in city homes and buildings. Water conservation efforts save the city \$70 million per year, or around \$1 billion over the past 15 years. Los Angeles has reduced wastewater by 56 million gallons per day, equivalent to all the wastewater treated daily in Las Vegas.

What more do we need to do?

- * Meet all additional water demand resulting from population growth through water conservation and recycling;
- * Reduce per capita water consumption by 20%; and
- * Implement the city's innovative water and wastewater integrated resources plan that will promote increased water conservation and maximize the use of recycled water, including capture and reuse of stormwater.

FOCUS AREA: TRANSPORTATION

Goal: Lower the Environmental Impact And Carbon Intensity of Transportation

Background

Los Angeles has been defined by automobile dependence. While we treasure the mobility our cars provide, our love affair with the car has serious consequences for our environment and quality of life. Southern California has long held the dubious distinction of having the worst air quality in the United States. Pollution from cars, trucks, buses, and other mobile sources is the major contributor to the formation of smog, a health concern for all residents. Communities close to freeways, the port, and other transportation infrastructure are disproportionately exposed to toxic air pollutants. While emissions from a single newer car are generally very low, emissions from millions of vehicles on the road add up. Driving a car is probably a typical Angeleno's most-polluting daily activity.

Federal fuel economy standards have remained unchanged for many years, and average fuel efficiency is declining because of the popularity of large vehicles that get poor gas mileage. And we are driving more every year. Transportation-related emissions accounted for about 50% of total CO₂ emissions in Los Angeles in 2004, the single largest source of GHG emissions in our community.



What we've already done

Los Angeles and all Southern California cities have been leaders in transitioning to alternatives to gasoline and diesel. The city's 188 DASH buses run on clean, alternative fuels. The regional transit authority, the Metropolitan Transportation Agency, has replaced most of its diesel buses with clean fuel buses. The City of Los Angeles has 1,000 passenger cars that run on alternative fuels or are gasoline-electric hybrids. Los Angeles is the first city in the country (second in the world) to incorporate hydrogen fuel-cell vehicles into its municipal fleet and now has seven fuel-cell vehicles operating. Los Angeles was the first large city to demonstrate the use of ULSD in heavy-duty applications. GSD converted to ULSD for all diesel engines, including those in vehicles and stationary generators, three years before regulations required. The City of Los Angeles owns and operates the largest municipal alternative-fuel refuse truck fleet in the United States, with 262 vehicles operating on natural gas.

What more do we need to do?

- * Require 85% of the city fleet to be powered by alternative fuels;
- * Convert 100% of city refuse collection trucks and street sweepers to alternative fuels; and
- * Convert 100% of MTA buses to alternative fuels.

Goal: Focus on Mobility for People, Not Cars

Angelenos spend too much time—more than 90 hours per year—stuck in traffic. Traffic congestion diminishes our quality of life and saps productivity. Traffic affects everyone—from truckers carrying goods to and from the port, to students riding buses to school, to adults on their way to work, to tourists trying to see the sights.

Traffic congestion also contributes to climate change. Idling vehicles burn more gasoline or diesel, releasing CO₂ and other pollutants into the atmosphere. Relieving congestion and reducing vehicle miles traveled are sound strategies for reducing GHG emissions.

What we've already done

In the last 20 years, Southern California has spent billions of dollars to improve transit. Los Angeles now has an extensive and heavily used bus, light rail, and heavy rail network that moves passengers throughout the region. MTA has increased the number of buses on the street by one-third and

added 25% more bus service hours. Los Angeles County went from zero miles of rail in 1989 to 73 miles in 2003. To relieve congestion, the City of Los Angeles has installed an extensive ATSAC system at most signalized intersections, which provides real-time ability to monitor and modify signal timing according to current traffic conditions. Studies show the system reduces vehicle idling time and associated pollutants by 10% at ATSAC intersections.

What more do we need to do?

- * Complete the ATSAC system;
- * Expand flyaway shuttles serving LAX and other regional airports and convert existing flyaway buses to alternative fuels;
- * Make transit information easily available, understandable, and translated into multiple languages;
- * Expand the city employee rideshare program;
- * Promote walking and biking to work, within neighborhoods, and to large events and venues; and
- * Expand the regional rail network.

FOCUS AREA: LAND USE

Goal: Create a More Livable City

Background

Land use regulations that proscribe the type, size, and density of buildings influence the environment and livability of a community. The pattern of development that is created by zoning can also contribute to GHG emissions by encouraging automobile use.

With 469 square miles, Los Angeles is a vast and sprawling city. Yet many neighborhoods are walkable, with stores and services clustered near dense residential housing. As the city continues to redevelop and grow, there is an unprecedented opportunity to rethink the urban environment. Accommodating continued growth will require taking advantage of infill opportunities and increasing density along transit corridors.

By aligning planning regulations to encourage walkable, mixed-use neighborhoods, the city can create vibrant communities that reduce CO₂ emissions by decreasing automobile use.

What we've already done

A livable community is the foundation of the sustainable city. Through existing planning, zoning, and redevelopment processes, Los Angeles can encourage green practices to reduce the city's carbon footprint. Transit-oriented developments (TOD) are well-designed, higher density, mixed-use residential and business communities created near transit stations. The city is planning TODs near transit stations to create urban villages that discourage using personal vehicles.

What more do we need to do?

- * Promote high-density housing close to major transportation arteries;
- * Promote and implement TOD;
- * Make available underutilized city land for housing and mixed-use development;
- * Make available underutilized city land for parks and open space;
- * Clean up brownfields sites for community economic revitalization projects and open space; and
- * Make available underutilized city land within 1,500 feet of transit for housing and mixed-use development.

FOCUS AREA: WASTE

Goal: Shift From Waste Disposal To Resource Recovery

Background

Los Angeles collects refuse, recyclables, and yard waste from 750,000 households, averaging 6,600 tons per day. Household refuse is trucked to transfer stations and then to landfills to be buried on top of tons of trash that have been buried over years. In the 1980s, California realized it was running out of landfill space and passed the nation's most aggressive recycling requirements for municipalities. Landfills are major sources of methane, a GHG produced by decomposing trash.

What we've already done

Los Angeles established the nation's first curbside co-mingled ("blue-bin") recycling program. The city has surpassed the California-mandated municipal solid waste diversion rate

Transit-Oriented Development

TODs are well-designed, higher density, mixed-use residential and business communities created near transit stations. Properly designed TODs attract riders to public transit, stimulate economic development, and reduce the need to use personal vehicles. Los Angeles is planning TODs near 60 rail and bus stations to create urban villages that encourage walking, cycling, and transit use instead of driving. Generally, each TOD consists of the area within a quarter mile of these transit stations. Since each Los Angeles neighborhood is unique, different types of TODs will be developed across the city. Station Area Plans will be developed for each transit station in the city, either as a stand-alone plan or as part of the city's Community Plan Update Process. Walkability guidelines and an Urban Design Studio have been created as part of the city's TOD planning efforts.

of 50% and currently recycles 62% of all garbage, more than any large American city. The City Council's RENEW LA plan is a blueprint to lead the city to a "zero waste" goal. To meet that goal, Los Angeles is expanding recycling to multifamily dwellings, commercial establishments, and restaurants. Under the RENEW LA Plan, the city is also developing facilities that will convert refuse to energy without incineration.

What more do we need to do?

- * Recycle 70% of trash by 2015.

FOCUS AREA: PORT

Goal: Green the Port

Background

The Port of Los Angeles is a critical component of the global, national, and regional goods movement system encompassing highways, distribution centers, ports and rail yards. Together with the adjacent Port of Long Beach, the combined facilities—known as the San Pedro Bay Ports—are the busiest container port in the United States and the fifth busiest in the world. The Port of Los Angeles has 30 major cargo terminals, covers 43 miles of waterfront, and includes 7,500 acres of land and water. More than 43% of all imports into the United States enter through the Ports of Los Angeles and Long Beach; more than 60% of this cargo is destined for locations outside of Southern California. In 2005, the ports were responsible for more than 3.3 million jobs nationally and 886,000 jobs in California. As a regional, statewide, and national economic engine and job creator, the role of the Port of Los Angeles continues to grow.

However, communities near and around the port have suffered serious environmental and public health impacts from port-related air pollution. Port operations are responsible for approximately 12% of the city's diesel emissions, including those from ocean-going vessels and the 16,000 trucks traveling to and from the ports. The railroads contribute to localized and regional pollution. The burning of diesel fuel, heavy fuel used in ships, and gasoline all contribute to GHG emissions.

What we've already done

The new San Pedro Bay Ports Clean Air Action Plan (CAAP) is the first of its kind in the country to link the emissions reduction efforts of the two largest ports in the United States with the efforts of the regulatory agencies responsible for ensuring compliance with air quality standards. The plan calls for the following air pollution reduction goals from oceangoing vessels, cargo-handling vehicles, and heavy-duty vehicles: 47% reduction in diesel particulate matter; 45% reduction in nitrogen oxides (NO_x), and 52% reduction in sulfur oxides (SO_x). A series of initiatives over the next five years will address the sources of port-related air pollution, including installing alternative marine power, also known as cold-ironing, at more than 10 berths at the Port of Los Angeles. This will allow ships to use electricity to power their engines while at berth.

What more do we need to do?

* Fully implement the CAAP:

Heavy-duty vehicles: By the end of 2011, all trucks calling at the ports will meet or exceed the U.S. Environmental Protection Agency's (EPA) 2007 emissions standards for on-road particulate matter.

Oceangoing vessels: 100% compliance with the Vessel Speed Reduction Program, use of low-sulfur fuel, increase use of alternative marine power (cold-ironing).

Cargo-handling equipment: All yard tractors will meet at a minimum the EPA 2007 on-road or Tier IV engine standards.

Harbor craft: All craft will meet EPA Tier II standards or equivalent reductions (Tier III when available).

Railroad locomotives: For Pacific Harbor Line switch engines, use of Tier II engines and emulsified or other equivalently clean alternative diesel fuels available. Diesel-powered Class 1 locomotives entering port facilities will be 90% controlled for particulate matter and NO_x.

Complete the strategic plan for the Port of Los Angeles, including sustainable and green growth options.

Complete the economic development plan for the port, identifying opportunities to link the port's investment in green growth to new economic opportunities in the green sector.

FOCUS AREA: AIRPORT

Goal: Green the Airports

Background

LAWA operates four airports in Southern California, including LAX and Ontario Airport, which are major commercial airports. A large airport is like a small city, with buildings, streets, and vehicles of all sizes. Most airport activities generate GHGs. Airports consume electricity for their buildings and equipment. Fossil fuels are used in shuttle buses and maintenance vehicles. Traffic coming to and from the airport produces pollution. And, of course, planes taking off and landing at airports emit pollutants.

What we've already done

The Los Angeles Board of Airport Commissioners adopted a sustainable green building policy that commits LAWA to incorporate LEED standards in all future construction projects. The Tom Bradley International Terminal renovation project is the first at LAX that will meet green building standards. LAWA purchases 15% of its electricity through the LADWP Green Power Program, helping to fund the purchase and installation of renewable energy.

The Green Airport

The Tom Bradley International Terminal renovation project is the first at LAX to incorporate LEED standards developed by the U.S. Green Building Council. The standards promote a whole-building approach to sustainability by recognizing performance in human and environmental health, including sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. The terminal's new heating/ventilation/air conditioning system and more efficient electrical and lighting systems will reduce energy consumption, while a new plumbing system will increase water conservation. More than 75% of the construction and demolition waste will be recycled or salvaged, and the design features various local and sustainable building materials and finishes.



What more do we need to do?

- * Fully employ the Sustainability Performance Improvement Management System as requested by the City Council and developed by LAWA to track and improve sustainability initiatives;
- * Develop and implement comprehensive policies to green Los Angeles airports to meet green building (LEED) specifications, improve recycling, use alternate fuel sources, use recycled water, practice water conservation, reduce energy requirements, and reduce GHG emissions; and
- * Evaluate options to reduce aircraft-related GHG emissions.

FOCUS AREA: OPEN SPACE AND GREENING

Goal: Unpave Paradise/Create New Paradises

Background

Generations have come to Los Angeles because of its natural environment. The mild climate, coast, beaches, and mountains have been an irresistible lure to people looking for a better life. Yet, in our rush to grow our economy and provide places for everyone to live, we paved over this paradise. We lost many of the green places that provide an oasis from our hectic lives. Green spaces allow the city and its people to breathe, relax, play, and to find a connection to nature. Our rivers—even the Los Angeles River where the city was founded—creeks, and streams, have become concrete flood control channels. Green spaces are important as respite but they also have tangible environmental benefits. An urban ecosystem approach recognizes and accounts for the intrinsic ability of ecosystems—through biological processes—to improve environmental quality and livability. These processes can mitigate climate change impacts and reduce GHG emissions. For example, soil and vegetation filters air pollution and absorbs CO₂, prevents flooding and replenishes groundwater, and provides public health benefits and opportunities for recreation. Neighborhoods and streets should include vegetated buffers (bioswales) for stormwater purification and shade trees to promote cooling.

What we've already done

In 2007 alone, the city will open 14 new parks for Angelenos to enjoy. In partnership with the state, we have convert-

ed more than 40 acres in downtown to park space. Under the leadership of the Ad Hoc Committee on the Revitalization of the Los Angeles River, the City Council adopted a comprehensive and ambitious plan to restore the river by making it a river again and connecting it to the community.

What more do we need to do?

- * Create 35 new city parks by 2010;
- * Revitalize the Los Angeles River to create open space along the 32-mile corridor within the city;
- * Plant 1 million trees throughout Los Angeles;
- * Identify opportunities to "daylight" streams;
- * Identify and develop opportune locations for stormwater infiltration to recharge groundwater aquifers; and
- * Collaborate and partner with schools to create more parks in neighborhoods.

FOCUS AREA: GREEN ECONOMY

Goal: Create the Demand and Catalyze The growth of the Green Economic Sector

Background

Los Angeles has an opportunity to become a national and global green leader, while generating new jobs, improving public health, and creating both a more sustainable environment and competitive economy. The forward-looking policies and actions outlined in this document are catalytic, creating demand for less-polluting technologies, goods, and services. By its sheer size, Los Angeles will stimulate market demand for locally made, environmentally friendly products and services. City resources can also be leveraged to promote private investment and clusters of green businesses. And by investing in workforce development programs, the city can help prepare Angelenos to take advantage of the job opportunities that the green sector offers, especially to residents of the most disadvantaged communities.

What we've already done:

- * Convened experts from private, public and academic sectors to develop an innovative Green Sector Economic Strategy for the city;

Sun Valley Watershed Management And Replenishment Project

The Sun Valley watershed is located in the northeastern San Fernando Valley. It is a 2,700-acre, nine-mile-long community with a substantial flooding problem caused by a lack of storm drains and too much soil sealed by urban development (buildings, roads, parking lots, etc.). Every time it rains in Los Angeles, flooding in Sun Valley endangers human safety, damages the local economy, and threatens human health. Rain water flushes toxins off of industrial sites into neighborhood streets, schools, and parks, as it makes its way to the Los Angeles River and the ocean. The city has designated Sun Valley as an Environmental Justice Improvement Zone because of the high incidence of cancer, respiratory illnesses and asthma, and exposure to toxics-emitting facilities. To address the chronic flooding, Los Angeles County and City of Los Angeles flood control officials planned to install a nine-mile-long storm drain to transport stormwater. However, through collaboration with the public and other stakeholders, management of the area as an urban forest watershed became the preferred solution. The concept has resulted in a project that is currently under construction at a cost of nearly \$200 million.

- * Prioritized the green sector in the city's overall economic development and workforce strategies; and
- * Collaborated with community-based organizations to develop workforce training programs to ensure that residents of low-income communities develop the skills to obtain living-wage jobs in the greening economy.

What more do we need to do?

- * Leverage city policy, purchasing practices, and regulation, and deepen local university partnerships, to promote local research, development, and production of green technology and products;
- * Strengthen global economic relationships to promote investment in Los Angeles's green sector and help local, environmentally focused companies penetrate both local and foreign markets;
- * Identify and promote locations for green businesses;
- * Develop targeted programs to train residents of low and middle income communities for jobs in the greening economy;
- * Collaborate with the private sector to offer effective incentives for the growth of local green businesses; and

- * Collaborate with local educational institutions such as universities, community colleges, and adult education programs to create more curricula that provide city residents with the skills and knowledge to create and work for competitive green businesses.

FOCUS AREA: ADAPTATION

Goal: Climate Proof Los Angeles

Background:

Adaptation is increasingly recognized as a critical component of a comprehensive climate change policy. Although the city will strive to reduce emissions as a means of preventing future climate change, climate impacts expected in the next 25 years will be substantially influenced by past emissions of GHGs. Indeed, the effects of past emissions are already being felt.

Recognizing the importance of adaptation, the city is committed to ensuring that changes to our local climate are incorporated into planning and building decisions.

What we've already done

While the city's Million Trees LA initiative increases the tree canopy, it also provides an important adaptive benefit to climate change by providing shade and cooling temperatures, thus reducing the urban heat island effect. The City Planning Commission has adopted a 14-point plan for sustainable planning with significant adaptation elements.

What more do we need to do?

- * Improve capacity to respond to climate-related emergencies through education and outreach;
- * Develop comprehensive plans to prepare for climate change impacts affecting Los Angeles, including increased drought, wildfires, sea level rise, and public health impacts;
- * Review current zoning and building codes to minimize climate change impact; and
- * Reduce the heat island effect by planting 1 million trees throughout the city and increasing open space.

VI. Implementation and Monitoring

We all share the responsibility to reduce GHG emissions because no community is too isolated to avoid the impact of climate change. Shrinking our carbon footprint will cut smog, save money on energy, and reduce dependence on fossil fuel. Ultimately, confronting climate change will help transform Los Angeles into a more livable city.

Yet city government can't do it alone. Regional government partnerships and local community involvement will be critical to the success of this plan. Above all, the city must engage with residents, businesses, environmental and environmental justice leadership, labor, and academic institutions.

Los Angeles can provide strong and decisive leadership through regional planning authorities, such as MTA, the Metropolitan Water District, Southern California Association of Governments, and conservancies. Also, joint use and joint power authorities, partnerships, integrated planning and joint planning, and policy initiatives can be leveraged to further reduce GHG emissions. The city has the responsibility to exert leadership and work collaboratively with other agencies, such as the Los Angeles Unified School District, County of Los Angeles, South Coast Air Quality Management District (SCAQMD) and Regional Water Quality Control Board to explore cooperative programs to reduce overall GHG emissions.

This plan outlines a set of goals to achieve a 35% reduction in GHGs by 2030. Reaching that goal will require the following:

1. City departmental action plans

The City of Los Angeles has a wide array of tools available to implement actions outlined in this framework. The city, through the Mayor and City Council, city departments, and proprietary agencies, can act by virtue of executive directives, ordinances, and policies with both incentives and requirements to implement the actions laid out in this framework. Opportunities where the city can use its direct authority to reduce its GHG emissions will be fully explored and prioritized.

Next Steps:

- * By July 2007, the Environmental Affairs Department (EAD) will convene an interagency working group to develop an action plan for non-proprietary municipal departments that identifies and implements immediate opportunities for the city actions outlined in this framework.
- * By September 2007, the working group will have developed a prioritized set of city actions.
- * By December 2007, LADWP, the largest municipal source of CO₂, will develop specific actions related to its contribution to GHG reduction goals, including renewable energy production, energy efficiency, and water conservation.
- * By December 2007, LAWA and the Port of Los Angeles will develop individual climate action plans consistent with goals outlined in this plan to examine opportunities to reduce GHG emissions from their operations.

2. Citywide climate change education program

In 1990–2004, the city achieved a remarkable 4.6% reduction in CO₂ emissions—more than 2.5 million metric tons of CO₂, which is equivalent to removing more than 470,000 cars from the road. Meeting the goal of reducing emissions by 35%, however, will require a shift in behavior. To effectively combat global warming, the city must lead by example and signal a call for action. Through a robust public participation process that solicits input from all stakeholders, including residents, businesses and industries, academic institutions, environmental organizations, and environmental justice groups, the city can develop a strategic and bold plan to sustain long-term GHG reductions. The City of Los Angeles will partner with community organizations, environmental justice groups, and environmental groups to develop educational materials and reach out to Angelenos with steps they can take to reduce their own emissions. This effort will be led by EAD and the Environmental Affairs Commission.



Next Steps:

- * Beginning in September 2007, EAD, in coordination with the Environmental Affairs Commission, will conduct multi-lingual, community-based outreach to all neighborhoods, specifically communities with environmental justice challenges, to inform them of the development of the actions.
- * Convene a series of at least 20 community workshops to engage public input into the climate plan.
- * By December 2007, the city will have developed a program to challenge all Angelenos to reduce their individual/household carbon footprint.

3. Continued research and data collection on GHG emissions

Innovations in how we deal with the threat of global warming and emerging methods to collect emissions data are continuing to evolve and improve. While we find ways to mitigate our GHG emissions, economic opportunities in new technologies and jobs will emerge. Los Angeles, with its hub of world-class research institutions, is positioned to take full advantage of this opportunity.

Next Steps:

- * By spring 2008, the city, in partnership with research institutions, will work to refine our knowledge of community-wide GHG emissions and carbon footprint.
- * Collaborate with the California Climate Action Registry to develop a local government protocol for GHG emissions inventory.
- * Publish results from this inventory annually to foster accountability and further action.

4. Advocating stronger regional, state, and federal policies and legislation

Partnerships at all levels of government are necessary to reduce carbon emissions. While California has begun to address climate change, local governments must also develop aggressive strategies to protect residents and business from its impacts.

Next Steps:

- * The city will collaborate with the Large Cities Climate Leadership Group (C40) and the Clinton Foundation Climate Initiative (CCI) to share emergent best practices and develop a common municipal agenda to address global warming.
- * The city will collaborate with local government associations, including the U.S. Conference of Mayors, to develop and share climate change strategies.
- * The city will partner with the SCAQMD to develop meaningful strategies to reduce GHG emissions.
- * The city will provide leadership for implementation of AB 32, the Global Warming Solutions Act, and advocate at the federal level for stronger GHG reduction standards.
- * The city will leverage partnerships with Los Angeles's international sister cities to combat global climate change.

"The blunt truth about the politics of climate change is that no country will want to sacrifice its economy in order to meet this challenge, but all economies know that the only sensible, long-term way of developing is to do it on a sustainable basis."

– British Prime Minister Tony Blair



Appendix A

Background Information On Climate Change

Cities around the world are responding to climate change by participating in international discussions.

Kyoto Protocol

* The well-known Kyoto Protocol, which was adopted in 1997 and entered into force in February 2005, is an agreement made under the United Nations Framework Convention on Climate Change. The protocol is composed of a range of GHG reductions, with 8 percent reductions for the European Union and some others, 7 percent for the United States, 6 percent for Japan, and zero for Russia. Nearly 170 countries have signed the protocol. Although the United States has signed the protocol, the Senate has not ratified it.

U.S. Conference of Mayors

* The U.S. Conference of Mayors passed the Mayors Climate Protection Act unanimously in June 2005. As of August 2006, 279 mayors (representing more than 48.5 million constituents), including Los Angeles Mayor Villaraigosa, have signed the agreement, which pledges to meet or exceed the Kyoto Protocol standards identified for the United States.

Large Cities Climate Leadership Group

* The C40 (the 40 largest cities in the world, coordinated by the City of London) is a group of the world's largest cities committed to tackling climate change.

Clinton Foundation Climate Initiative

* CCI is a Clinton Foundation project dedicated to making a difference in the fight against climate change in practical and measurable ways, initiating programs that directly result in substantial reductions in heat-trapping GHG emissions.

AB 32 – Global Warming Solutions Act

* AB 32 codified a statewide target of reducing emissions to 1990 levels by 2010 and to 2000 levels by 2020. The city is seeking to go beyond AB 32 and reduce emissions to 35% below 1990 levels by 2030.

Sister City Program

* The City of Los Angeles has more than 20 sister cities across the world. As part of our coordination with these cities, we will promote the understanding and awareness of climate change issues and seek to provide technical assistance to those cities seeking to reduce their GHG emissions.

EXHIBIT E - 2

EDMUND G. BROWN JR.
Attorney General

State of California
DEPARTMENT OF JUSTICE



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April 14, 2008

By Overnight and facsimile
Nancy Fong, AICP
Community Development Director
City of Diamond Bar
21825 Copley Drive
Diamond Bar, CA 91765-4178

RE: Notice of Preparation of Draft Program Environmental Impact Report for Aera Master Planned Community

Dear Ms. Fong:

The Attorney General submits these comments pursuant to the California Environmental Quality Act ("CEQA") on the Notice of Preparation ("NOP") of the Draft Environmental Impact Report ("DEIR") for the Aera Master Plan, dated May 2, 2007.¹

The Aera Master Planned Community (Project or Aera Project) is a residential and commercial development project, approximately 1,940 acres of which would be annexed to the City of Diamond Bar. The Diamond Bar portion of the Project will include 2,800 residential units with 200,000 square feet of commercial space, public parks and recreation uses, and public open spaces and related public facilities. Smaller portions of the project will be located in Los Angeles and Orange Counties.

It is our understanding that the land proposed for the Project constitutes 3,000 acres of ecologically sensitive open space that is now being used as an oil production field and for light cattle grazing. According to information submitted to the City by the Hillside Open Space Education Coalition ("HOSEC"), the project includes portions of the Puente-Chino Hills Wildlife Corridor, an area that has been designated as one of the world's 20 "Hot Spots of

¹The Attorney General provides these comments pursuant to his independent power and duty to protect the natural resources of the State from pollution, impairment, or destruction in furtherance of the public interest. (See Cal. Const., art. V, § 13; Cal. Govt. Code, §§ 12511, 12600-12; *D'Amico v. Board of Medical Examiners*, 11 Cal.3d 1, 14-15 (1974).) These comments are made on behalf of the Attorney General and not on behalf of any other California agency or office.

April 15, 2008

Page 2

Biodiversity.” The Project was originally proposed for permitting by Los Angeles County. Because a portion of the Project area is designated as a significant ecological area, in March 2006, the County Significant Ecological Area Technical Advisory Committee (“SEATAC”) recommended a substantial redesign of the Project to avoid harming the sensitive habitat, rather than relying on offsite mitigations:

SEATAC recommends substantial redesign of the Project that preserves as open space areas of the site that are currently most ecologically functional, rather than a design that proposes restoration and habitat creation as mitigation for the destruction of the site’s most valuable resources.

(Draft Minutes of SEATAC Meeting of March 27, 2006.)

Aera then withdrew the application and resubmitted the Project to the City of Diamond BAR, which has issued an initial study and NOP of an EIR.

While the NOP and Initial Study address air quality among the environmental impacts, they do not address emission of greenhouse gasses (GHG), which contribute to global warming. We understand, however, from discussion with you, that the DEIR will address GHG emissions and global warming. Any such discussion should inventory all of the sources of GHG emissions, both direct and indirect,² that will result from the project during all of its phases,³ as well as the cumulative effect of the Project’s emissions.

If the City determines that the impacts from GHG emissions are significant, it must impose requirements to mitigate the impacts of those emissions to the extent feasible.⁴ The mitigation measures must be enforceable and the benefits quantifiable.⁵ There are numerous sources for such mitigation measures.⁶

²Guidelines § 15358, subd. (a)(1), (2) (effects include direct or primary effects and indirect or secondary effects).

³Guidelines § 15125 (“All phases of a project must be considered when evaluating its impact on the environment: planning, acquisition, development, and operation.”)

⁴CEQA requires that “[e]ach public agency shall mitigate or avoid the significant effects on the environment of projects that it carries out or approves whenever it is feasible to do so.” Pub. Res. Code §§ 21002.1(b); *City of Marina Board of Trustees* (2006) 39 Cal.4th 341, 360.

⁵See Pub. Res. Code § 21081.6(b); *Federation of Hillside and Canyon Associations v. City of Los Angeles* (2000) 83 Cal.App.4th 1252, 1261 [agency must take steps to ensure mitigation measures “are fully enforceable through permit conditions, agreements, or other measures.” (quoting Pub. Res. Code § 21081.6(b))].

⁶ See, e.g., <http://ag.ca.gov/globalwarming/ceqa.php> [list of mitigation measures on Attorney General’s website]; www.gosolarcalifornia.ca.gov/nshp [discussing the California

Further, the DEIR must discuss a “range of reasonable alternatives to the project or to the location of the project which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives.”⁷ Because the SEATAC has reviewed the project and noted that it should be significantly redesigned in order to preserve as open space areas of the site that are currently most ecologically functional, rather than relying on restoration and habitat creation as mitigation for the destruction of the site’s resources, the redesigned project should be one of the alternatives considered in the EIR. All alternatives must be adequately described, and the environmental effects from each of the alternatives must be quantified and discussed in detail.

We would be happy to discuss these or any other issues with representatives of the City and look forward to working with you to ensure that the environmental review for the Aera Project fully complies with the requirements of the law.

Sincerely,

/S/

SUSAN S. FIERING
Deputy Attorney General

For EDMUND G. BROWN JR.
Attorney General

Energy Commissions’ New Solar Homes Partnership which provides rebates to developers of six units or more who offer solar power on 50% of the new units]
www.energy.ca.gov/efficiency/lighting/outdoor_reduction.html and
www.newbuildings.org/lighting.htm [energy efficient lighting];
www.energy.ca.gov/title24/2005standards/ [feasible green building measures identified by the California Energy Commission’s Compliance Manuals]; www.vtpi.org/park_man.pdf
[discussion of parking management programs that provide environmental benefits].

⁷ Guidelines § 15126.6(a).

EXHIBIT E - 3

EDMUND G. BROWN JR.
Attorney General

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November 5, 2008

Tom Pace
City of Sacramento Planning Department
New City Hall
915 I Street, 3rd Floor
Sacramento, CA 95814

RE: Draft Update to General Plan

Dear Tom:

We appreciate the opportunities we have had to meet with you, members of the Sacramento planning staff, and the City Manager and his staff on the Draft General Plan Update and Draft MEIR. In addition, it was very instructive to attend the Planning Commission meeting and hear the staff's presentation of the provisions in the Plan that are intended to address GHG and climate change. As we've discussed, however, we continue to disagree with the staff on several major issues and we would like to reiterate those for your consideration. We also would like to elaborate on some of our observations on infill that we were only able to briefly mention at our meeting.

GHG Emissions

We had raised several questions about the GHG emission figures, and just received an e-mail response from Erik de Kok on behalf of the City. We appreciate your addressing our questions, although it is difficult for us to fully understand the response without seeing the Final EIR. Our first question was: "Revised Table 8-3 in the City's draft response to our comment letter now indicates that total GHG emissions will go down from 2005 to 2030, despite the fact that population will increase by 195,000, there will be 136,000 new jobs, and 97,000 new housing units. Intuitively, that would suggest that GHG emissions would also increase. In any case, it is not clear how you reached the conclusion that GHG will decrease." Erik has responded that revisions to Table 8-3 now show an increase in GHG emissions, which will be reflected and explained in the Final EIR.

Our second question was: "The information in Table 8-3 seems to conflict with the VMT data in the City's draft response to the comment letter from the SMAQMD. The response to the SMAQMD has a table on page 5 that shows Daily VMT in 2005 as 18,318,977 and Daily VMT

Tom Pace
November 5, 2008
Page 2

under the 2030 General Plan as 25,363,131, an increase of about 7 million VMT per day. That same table also predicts a per capita VMT increase from 36.8 in 2005 to 37.5 in 2030. That seems at odds with the GHG emission numbers in Table 8-3 and the projection that GHG will decrease.” Erik has responded that this discrepancy has also been resolved.

Our third question was: “We are confused about how you are calculating that there will be a 13% VMT reduction under the 2030 General Plan. You stated to the Planning Commission that the 2030 Plan reduces VMT per capita by 13%. The table on page 5 of the City’s draft response to the SMAQMD also shows a -13.2% change in Daily VMT per capita. Since that same table shows an increase in per capita VMT from 2005 to 2030, we are wondering if the decrease in per capita VMT comes when you compare the 2030 General Plan to the buildout of the 1988 Plan. As I recall, I believe you told the Planning Commission that the 13% reduction occurred when the 2030 General Plan is compared to the no project numbers. As we pointed out in our comment letter, CEQA requires that the impacts of the 2030 General Plan must be compared to the existing environment, not what could have been built under a previous plan. We thought the City, in response to our comment letter, had decided to use 2005 as the baseline, and that Table 8-3 uses 2005 as the baseline. It appears, however, that the 1988 buildout numbers are used as the baseline in the table in the response to the SMAQMD and in your presentation to the Planning Commission. We would appreciate a clarification of these numbers and conclusions.” Erik responded that revisions to the analysis now show the baseline as 2005. He also confirmed that the decrease of 13% VMT is a comparison to the No Project scenario.

We will review the Final EIR, once it is published, to see if it clears up the issues we raised in our questions.

Lack of Significance Finding

The City has told us that it does not believe it has the tools to determine whether the GHG emissions will have a potentially significant impact. The City takes the position that because there are no published state guidelines, thresholds, or methodologies for making a significance determination, it would be speculative to attempt such a determination. It is true that no state agency has set any thresholds. As we have stated to many other jurisdictions, however, this lack of official thresholds does not relieve the City of its obligation under CEQA to determine if the project has a potentially significant cumulative impact on climate change. Our position is supported by agency guidance that has been published to date, case law, and the fact that many local agencies and project proponents have been able to make a significance determination.

As you are probably aware, the Air Resources Board has just published a preliminary proposal on significance thresholds. That proposal states, at page 1, that climate change is an

environmental effect subject to CEQA, citing Senate Bill 97, and also states that “Lead agencies therefore are obligated to determine whether a project’s climate change-related effects may be significant.”¹ The Office of Planning and Research also has directed lead agencies to determine the significance of the impact from GHG emissions in its Technical Advisory (p. 6).

As we have pointed out, the City’s failure to make a significance determination conflicts with several recent trial court decisions. For example, we sent you a copy of the case in which ECOS sued Caltrans on its proposed Highway 50 lane expansion. In that case, a Sacramento trial court judge explicitly rejected Caltrans’ argument that addressing GHG emissions was too speculative because there was no accepted methodology for analyzing GHG emissions and climate change. The court stated, “Caltrans must meaningfully attempt to quantify the Project’s potential impacts on GHG emissions and determine their significance, or at the very least explain what steps it has taken to show such impacts are too speculative for evaluation.” (p. 11.)

In contrast to the City’s assertion that it cannot make a significance determination, a number of other jurisdictions have analyzed the significance of GHG in EIR’s for their general plans or other large-scale planning documents and were able to make a significance determination. We submitted three examples to you: the Napa County General Plan, the San Diego General Plan, and the San Diego Association of Governments’ Regional Transportation Plan. Thus the City’s arguments that it need not and cannot make a significance determination are contradicted by both trial court decisions and real-world experience.

It is important to stress that making a determination of significance is not merely an exercise in wordplay. A failure to make a significance determination has serious and practical consequences. Under CEQA, a project proponent is required to mitigate all significant impacts to the extent feasible. If an EIR fails to find that impacts from GHG emissions are significant, the EIR is not required to propose any enforceable mitigation measures for those impacts. The City argues that it has addressed climate change impacts in the Plan Update by proposing to adopt policies and programs. Many of these policies, however, only aim to “encourage,” “support,” or “study the feasibility” of making changes. While hortatory GHG policies are positive, they do not count as adequate mitigation because there is no certainty that the policies will be implemented. The City needs to go further and commit to specific, enforceable measures.

¹<http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/prelimdraftproposal102408.pdf>

Tom Pace
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Page 4

Moreover, even if the City's policies and programs were adequate to address climate change, the City's failure to make a significance determination sends the signal to other project applicants that the City will accept a project EIR that contains no significance finding on, or enforceable mitigation measures for, GHG emissions. We see an example of that problem in the draft EIR for Delta Shores. That draft EIR states, "[T]he City has determined that until such time as a sufficient scientific basis exists to ascertain the incremental impact of an individual project on global climate change, and to accurately project future climate trends associated with that increment of change, and guidance is provided by regulatory agencies on the control of GHG emissions and thresholds of significance, the significance of an individual project's contribution to global GHG emissions is too speculative to be determined." (pg 5.10-18)

The draft EIR includes a table (pg 5.10-26 to 27) of "GHG emissions reduction measures/design strategies." It also says the project "will adhere to several of the mitigation measures recommended by the CA AG to address global warming." The draft EIR is careful, however, not to call these "strategies" mitigation measures because it has not made a significance determination, and none of the "strategies" are included in the Delta Shores Mitigation Monitoring Report.

The City's failure to adequately address GHG emissions in its General Plan MEIR, therefore, has important and detrimental consequences for the environment as other projects follow suit and refuse to mitigate GHG emissions.

Infill Policies

Unfortunately, we did not get an opportunity to elaborate on our infill concerns at our meeting or fully discuss your responses to our questions concerning the Plan's approach to infill versus outlying area development. First, let us acknowledge that the City has had a number of exemplary infill projects and we applaud these projects as good models. Our concerns are based on our desire that the City continue to ensure that infill is a priority in future growth and that General Plan policies and programs clearly support that priority.

The City staff and Plan Update indicate there are five total Special Study Areas – two that are greenfield in character (Natomas Joint Vision and Fruitridge Florin Study Areas), two that are largely developed (Arden Arcade and Town of Freeport Study Areas), and one that is a brownfield/former mining area (East Study Area). The City acknowledged at our meeting that there is more than enough capacity within existing infill areas to accommodate the growth that is anticipated or needed through 2030. That raises the question of why the Plan Update allows planning for and, potentially, development in two greenfield areas and three other Special Study Areas. The City has told us that if the City does not plan for and develop these areas, the County will, and that the City cannot afford not to call for development of these areas. The City also

noted that they are in the SACOG Blueprint as appropriate for development.

First, we note that the SACOG Blueprint has a 2050 planning horizon, so an area that may be suitable for development in 2050 may not be suitable for development in 2030. Second, the Draft General Plan Update states only that the City will “[phase] city expansion into Special Study Areas where appropriate.” [LLU 1.1.9]. It would be helpful to explain how the City intends to “phase” expansion, because there are no criteria spelled out for when expansion into Special Study Areas is considered “appropriate.” Neither are there policies defining the circumstances under which the City could or should expand into those outlying areas within the planning horizon of the Plan Update. We believe the General Plan needs to include specific policies setting forth the criteria for planning and developing these areas. We realize that the City intends to update its 2002 Infill Strategy, but infill policies governing growth should be in this General Plan Update.

Our second concern is that, in light of the City’s acknowledgement that it has sufficient growth capacity in infill areas, the City needs to provide an explanation of why the Reduced Footprint Alternative is not feasible. This alternative provides for future growth within the existing development footprint, and is the environmentally superior alternative in the Draft MEIR.

Green Building Ordinance

Finally, we are disappointed that the City of Sacramento, in contrast to many jurisdictions throughout the State, is proposing a green building ordinance that is merely voluntary. This decision has apparently been based on economic grounds, on the concern that if all the regional jurisdictions do not adopt a mandatory ordinance, Sacramento will be at a competitive disadvantage in attracting development.

We do not believe these objections are well-grounded, especially for commercial and residential buildings; while initial development costs may be slightly higher (although some studies suggest they are roughly the same), these costs are more than offset by energy and water savings within a few years. In addition, green buildings are becoming more and more attractive to consumers. In San Jose this spring, for example, one developer reported that new homes powered with solar electric power systems were selling more than twice as fast, on average, as new homes without solar. Numerous jurisdictions in California have adopted green building ordinances, (over two dozen, with others like Stockton committing to do so in the future), and the Air Resources Board’s Scoping Plan strongly endorsed green building measures as a way to reduce GHG emissions at the local level.

Tom Pace
November 5, 2008
Page 6

Thank you for taking the time to consider our comments. We would be happy to discuss these if you have any concerns or questions.

Sincerely,

/S/

LISA TRANKLEY
Deputy Attorney General

For EDMUND G. BROWN JR.
Attorney General

cc: Ray Kerridge, City Manager
Sabina Gilbert, Senior Deputy City Attorney
Erik de Kok., Senior Planner

EXHIBIT E - 4

THE IMPACTS OF SEA-LEVEL RISE ON THE CALIFORNIA COAST

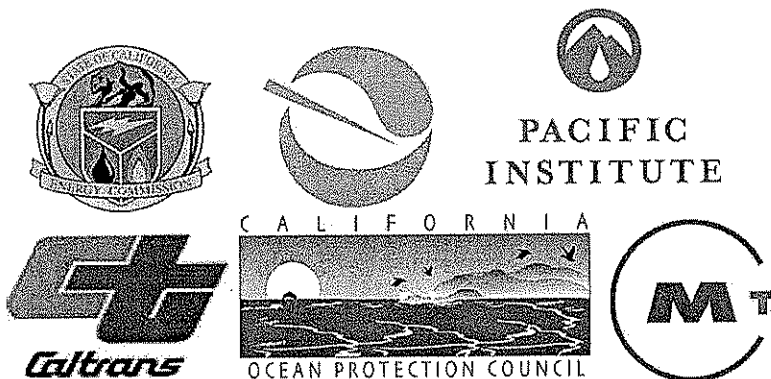
A Paper From:
California Climate Change Center

Prepared By:
**Matthew Heberger, Heather Cooley,
Pablo Herrera, Peter H. Gleick, and Eli
Moore of the Pacific Institute**

DISCLAIMER

This paper was prepared as the result of work funded by the California Energy Commission, the California Environmental Protection Agency, Metropolitan Transportation Commission, California Department of Transportation, and the California Ocean Protection Council (collectively "the funding agencies"). It does not necessarily represent the views of the funding agencies, their respective officers, agents and employees, or the State of California. The funding agencies, the State of California, and their respective officers, employees, agents, contractors, and subcontractors make no warrant, express or implied, and assume no responsibility or liability for the results of any actions taken or other information developed based on this paper; nor does any party represent that the uses of this information will not infringe upon privately owned rights. This paper is being made available for informational purposes only and has not been approved or disapproved by the funding agencies, nor have the funding agencies passed upon the accuracy, currency, completeness, or adequacy of the information in this paper. Users of this paper agree by their use to hold blameless each of the funding agencies for any liability associated with its use in any form. This work shall not be used to assess actual coastal hazards, insurance requirements or property values, and specifically shall not be used in lieu of Flood Insurance Studies and Flood Insurance Rate Maps issued by the Federal Emergency Management Agency (FEMA).

DRAFT PAPER



Arnold Schwarzenegger, Governor

March 2009
CEC-500-2009-024-D

Abstract

Over the past century, sea level has risen nearly eight inches along the California coast, and general circulation model scenarios suggest very substantial increases in sea level as a significant impact of climate change over the coming century. This study includes a detailed analysis of the current population, infrastructure, and property at risk from projected sea-level rise if no actions are taken to protect the coast. The sea-level rise scenario was developed by the State of California from medium to high greenhouse gas emissions scenarios from the Intergovernmental Panel on Climate Change (IPCC) but does not reflect the worst-case sea-level rise that could occur. We also evaluate the cost of building structural measures to reduce that risk. If development continues in the areas at risk, all of these estimates will rise. No matter what policies are implemented in the future, sea-level rise will inevitably change the character of the California coast.

We estimate that a 1.4 meter sea-level rise will put 480,000 people at risk of a 100-year flood event, given today's population. Among those affected are large numbers of low-income people and communities of color, which are especially vulnerable. A wide range of critical infrastructure, such as roads, hospitals, schools, emergency facilities, wastewater treatment plants, power plants, and more will also be at increased risk of inundation, as are vast areas of wetlands and other natural ecosystems. In addition, the cost of replacing property at risk of coastal flooding under this sea-level rise scenario is estimated to be nearly \$100 billion (in year 2000 dollars). A number of structural and non-structural policies and actions could be implemented to reduce these risks. For example, we estimate that protecting some vulnerable areas from flooding by building seawalls and levees will cost at least \$14 billion (in year 2000 dollars), with added maintenance costs of another \$1.4 billion per year. Continued development in vulnerable areas will put additional areas at risk and raise protection costs.

Large sections of the Pacific coast are not vulnerable to flooding, but are highly susceptible to erosion. We estimate that a 1.4 meter sea-level rise will accelerate erosion, resulting in a loss of 41 square miles (over 26,000 acres) of California's coast by 2100. A total of 14,000 people currently live in the area at risk of future erosion. Additionally, significant transportation-related infrastructure and property are vulnerable to erosion. Statewide flood risk exceeds erosion risk, but in some counties and localities, coastal erosion poses a greater risk. This report also provides a comprehensive set of recommendations and strategies for adapting to sea-level rise.

Keywords: sea-level rise, climate change, California, San Francisco Bay, flood, erosion, climate adaptation, climate impacts, levees, seawalls, greenhouse effect

1.0 Introduction

California's coastline, which includes more than 2,000 miles of open coast and enclosed bays, is vulnerable to a range of natural hazards, including storms, extreme high tides, and rising sea levels resulting from global climate change. Development along California's coast is extensive. In 2000, 26 million Californians lived in coastal counties, and by 2003, this number had grown to nearly 31 million (U.S. Census Bureau 2000; NOAA 2004). Indeed, six of the ten fastest growing coastal counties in the United States between 1980 and 2003 were in California (NOAA 2004). Major transportation corridors and other critical infrastructure are found along the California coast, including oil, natural gas, and nuclear energy facilities, as well as major ports, harbors, and water and wastewater plants. The California coast is also an extraordinary cultural and ecological resource and offers extensive tourism and recreational opportunities.

Flooding and erosion pose a threat to communities along the California coast and there is compelling evidence that these risks will increase in the future. Based on a set of climate scenarios prepared for the California Energy Commission's Public Interest Energy Research (PIER) Climate Change Research Program, Cayan et al. (2008) project that, under medium to medium-high emissions scenarios, mean sea level along the California coast will rise from 1.0 to 1.4 meters (m) by the year 2100.¹ Rising seas put new areas at risk of flooding and increase the likelihood and intensity of floods in areas that are already at risk. In areas where the coast erodes easily, sea-level rise will likely accelerate shoreline recession due to erosion. Erosion of some barrier dunes may expose previously protected areas to flooding.

National studies on the economic cost of sea-level rise suggest that while adapting to climate change will be expensive, so are the costs of doing nothing, as substantial investments are already at risk and vulnerable.² Because the economic costs of flooding are highly site-specific, regional analyses are critical for guiding land-use decisions and evaluating adaptive strategies.

The Pacific Institute published one of the earliest comprehensive regional assessments of sea-level rise (Gleick and Maurer 1990), concluding that a one-meter sea-level rise would threaten existing commercial, residential, and industrial structures around San Francisco Bay valued at \$48 billion (in year 1990 dollars). Building or strengthening levees and seawalls simply to protect existing high-value development was estimated to require an immediate capital investment of approximately \$1 billion (in year 1990 dollars) and would require an additional \$100 million per year in ongoing maintenance.³ The report also noted that substantial areas of the San Francisco Bay, especially wetlands and marshes, could not be protected and would likely be damaged or lost.

¹ It is important to note that most climate models fail to include ice-melt contributions from the Greenland and Antarctic ice sheets, and as a result, the potential increase in mean sea level may be much higher.

² See, for example, Titus et al. (1992) and Yohe et al. (1996).

³ This estimate does not include the cost of protecting and restoring wetlands, groundwater aquifers, etc.

This assessment updates and expands our 1990 analysis using more comprehensive data, new climate scenarios, and modern computerized analytical tools. We made extensive use of geographic information system (GIS) software and updated sea-level rise scenarios from the Scripps Institution of Oceanography to estimate the population, infrastructure, ecosystems, and property at risk. We also estimate the cost of armoring the coast, one potential adaptation strategy to reduce that risk. This work is part of a larger set of research projects by the California Climate Action Team to understand the impacts of climate change to Californians, funded by the California Energy Commission's Public Interest Energy Research (PIER) program. The Pacific Institute also received significant financial support from two other state agencies: the Ocean Protection Council and the Metropolitan Transportation Commission, part of the Department of Transportation.

1.1. Key Findings

Over the past century, sea level has risen nearly eight inches along the California coast, and general circulation model scenarios suggest very substantial increases in sea level as a significant impact of climate change over the coming century. This study includes a detailed analysis of the current population, infrastructure, and property at risk from projected sea-level rise if no actions are taken to protect the coast, and the cost of building structural measures to reduce that risk. We find the following:

- Under medium to medium-high greenhouse-gas emissions scenarios, mean sea level along the California coast is projected to rise from 1.0 to 1.4 meters (m) by the year 2100. A series of maps for the entire coast of California demonstrating the extent of the areas at risk are posted at www.pacinst.org/reports/sea_level_rise.⁴
- A 1.4 meter sea-level rise will put 480,000 people at risk of a 100-year flood event, given today's population. Populations in San Mateo and Orange Counties are especially vulnerable. In each, at least 110,000 people are at risk. Large numbers of residents (66,000) in Alameda County are also at risk.
- A demographic analysis identified large numbers of people at risk with heightened vulnerability, including low-income households and communities of color. Additionally, adapting to sea-level rise will require tremendous financial investment. Given the high cost and the likelihood that we will not protect everything, adaptation raises additional environmental justice concerns.
- A wide range of critical infrastructure, such as roads, hospitals, schools, emergency facilities, wastewater treatment plants, power plants, and more will also be at increased risk of inundation in a 100-year flood event. This infrastructure at risk includes:

⁴ These maps are not the result of detailed site studies and were created to quantify risk over a large geographic area. They should not be used to assess actual coastal hazards, insurance requirements or property values, and specifically shall not be used in lieu of Flood Insurance Studies and Flood Insurance Rate Maps issued by the Federal Emergency Management Agency (FEMA). Local governments or regional planning agencies should conduct detailed studies to better understand the potential impacts of sea-level rise in their communities.

- nearly 140 schools;
 - 34 police and fire stations;
 - more than 330 U.S. Environmental Protection Agency (U.S. EPA)-regulated hazardous waste facilities or sites, with large numbers in Alameda, Santa Clara, San Mateo, and Los Angeles counties;
 - an estimated 3,500 miles of roads and highways and 280 miles of railways;
 - 30 coastal power plants, with a combined capacity of more than 10,000 megawatts;
 - 29 wastewater treatment plants, 22 on the San Francisco Bay and 7 on the Pacific coast, with a combined capacity of 530 million gallons per day; and
 - the San Francisco and Oakland airports.
- Vast areas of wetlands and other natural ecosystems are vulnerable to sea-level rise. An estimated 670 square miles, or 430,000 acres, of wetlands exist along the California coast, but additional work is needed to evaluate the extent to which these wetlands would be destroyed, degraded, or modified over time. A sea-level rise of 1.4 m would flood approximately 150 square miles of land immediately adjacent to current wetlands, potentially creating new wetland habitat if those lands are protected from further development.
 - We estimate that nearly \$100 billion (in year 2000 dollars) worth of property, measured as the current replacement value of buildings and contents, is at risk of flooding from a 100-year event with a 1.4 m sea level rise if no adaptation actions are taken. An overwhelming two-thirds of that property is concentrated on San Francisco Bay. The majority of this property is residential.
 - Coastal armoring is one potential adaptation strategy. Approximately 1,100 miles of new or modified coastal protection structures are needed on the Pacific Coast and San Francisco Bay to protect against coastal flooding. The total cost of building new or upgrading existing structures is estimated at about \$14 billion (in year 2000 dollars). We estimate that operating and maintaining the protection structures would cost approximately 10% of the initial capital investment, or around another \$1.4 billion per year (in year 2000 dollars).
 - Large sections of the Pacific coast are not vulnerable to flooding, but are highly susceptible to erosion. We estimate that a 1.4 m sea-level rise will accelerate erosion, resulting in a loss of 41 square miles of California's coast by 2100. A total of 14,000 people live in areas at risk of erosion. In addition, significant transportation-related infrastructure and property are also at risk. Throughout most of the state, flood risk exceeds erosion risk, but in some counties, coastal erosion poses a greater risk.

- Continued development in vulnerable areas will put additional areas at risk and raise protection costs.

2.0 Methods

Numerous studies have attempted to quantify the cost of sea-level rise and have been based primarily on a framework developed in Yohe (1989) and refined in Yohe et al. (1996) and Yohe and Schlesinger (1998). That framework employs a cost-benefit model to evaluate the property at risk and the cost of protecting or abandoning that property. Property is protected if the value of the property exceeds the protection cost at the time of inundation, and the protection cost is equal to the construction cost of the protective structure. If the value of the property does not exceed the cost of protection, then the property is abandoned, with the cost equal to the value of the land and structure at the time of inundation. The total economic cost is then the sum of the protection cost plus the value of the lost property.

To determine the value of lost property, the Yohe approach considers land and structure values separately. In most locations, coastal land commands a premium price, with the price declining as one moves inland. With inundation, the Yohe method assumes that land values will simply migrate inland, and thus, the economic value of lost land is equal to the economic value of interior land. The value of structures is calculated under two conditions: with and without foresight. With perfect foresight, the economic value of structures is assumed to depreciate over time as the "impending inundation and abandonment become known" (Yohe and Schlesinger 1998), approaching \$0 at the time of inundation. Without foresight, the structure value does not depreciate.

Despite its wide application, the Yohe method has a number of limitations, many of which are discussed in Hanemann (2008):

- First, it ignores any transfers among property owners and looks only at the net social cost. In reality, there will be winners (those who had inland property that is now closer to the coast and thus more valuable) and losers (those who have lost their property), and the gross social cost "could be enormous" (Yohe et al. 1996).
- Second, it assumes that coastal protection will be constructed just in time to avoid damage from flooding. This is unlikely. If coastal protection is constructed too late, then the property would incur some damage, thereby increasing the cost. If constructed too early, then the discounted net present value of the cost of building the structure would be higher (Hanemann 2008).
- Third, it only examines changes in mean sea level (eustatic change), thereby ignoring damage from storm surge and extreme events.
- Fourth, by focusing on property values, it ignores other potentially expensive costs. For example, the flooding of transportation infrastructure essential for moving people or goods, e.g., highways and ports, could cause major interruptions to the local economy. Flooding also causes impacts on the health and well-being of the affected individuals and environmental damage, including erosion, oils spills, and discharge of pollution

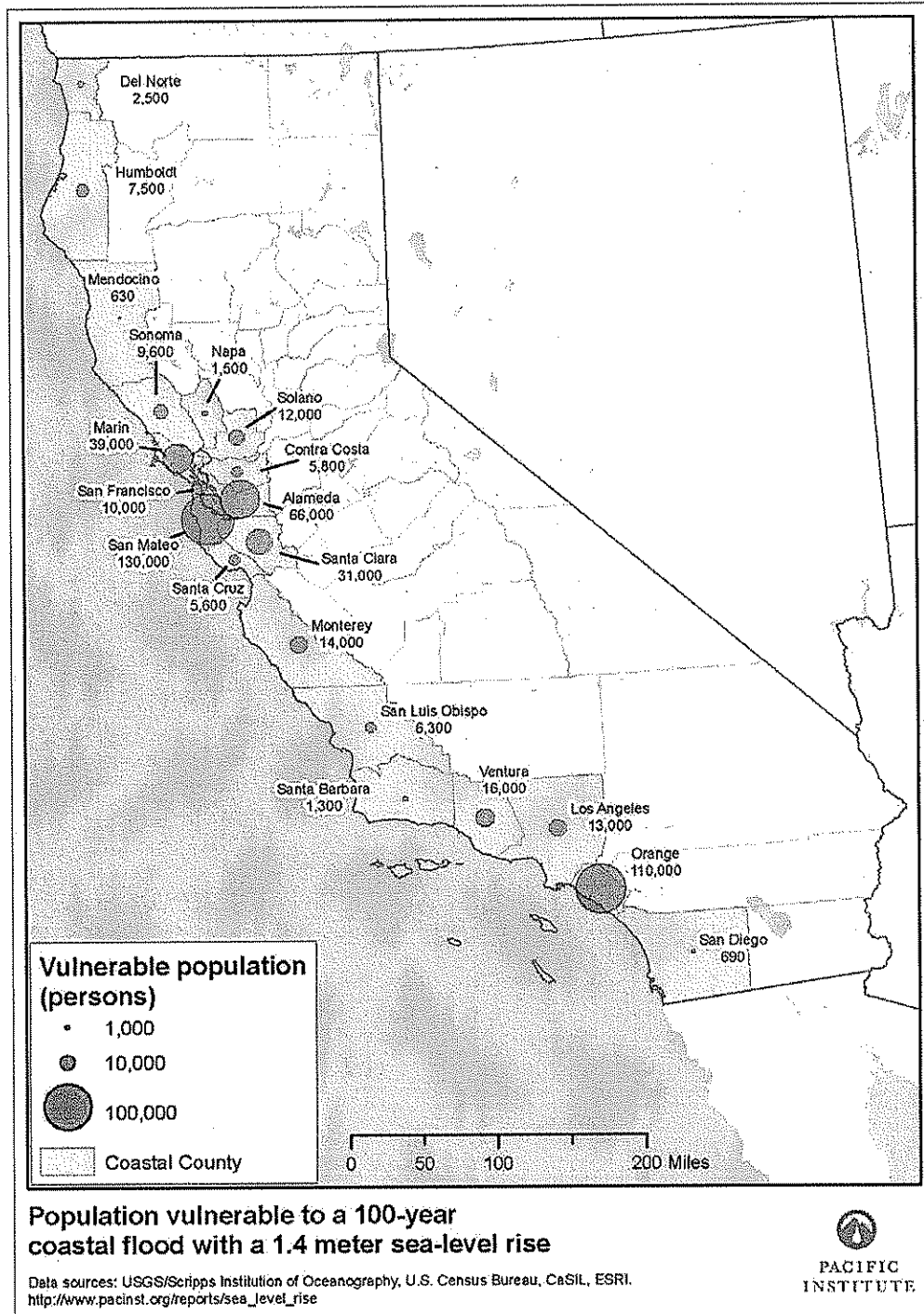


Figure 16. Population vulnerable to a 100-year coastal flood with a 1.4 m sea-level rise, by county

3.1.6. Property at Risk

Significant property is at risk of flooding from 100-year flood events as a result of a 1.4 m sea-level rise (Cayan et al. 2008). In total, we estimate that the replacement value of this property totals nearly \$100 billion (Figure 31). An overwhelming two-thirds of that property is concentrated on San Francisco Bay, indicating that this region is particularly vulnerable to impacts associated with sea-level rise due to extensive development on the margins of the Bay (Figure 32).

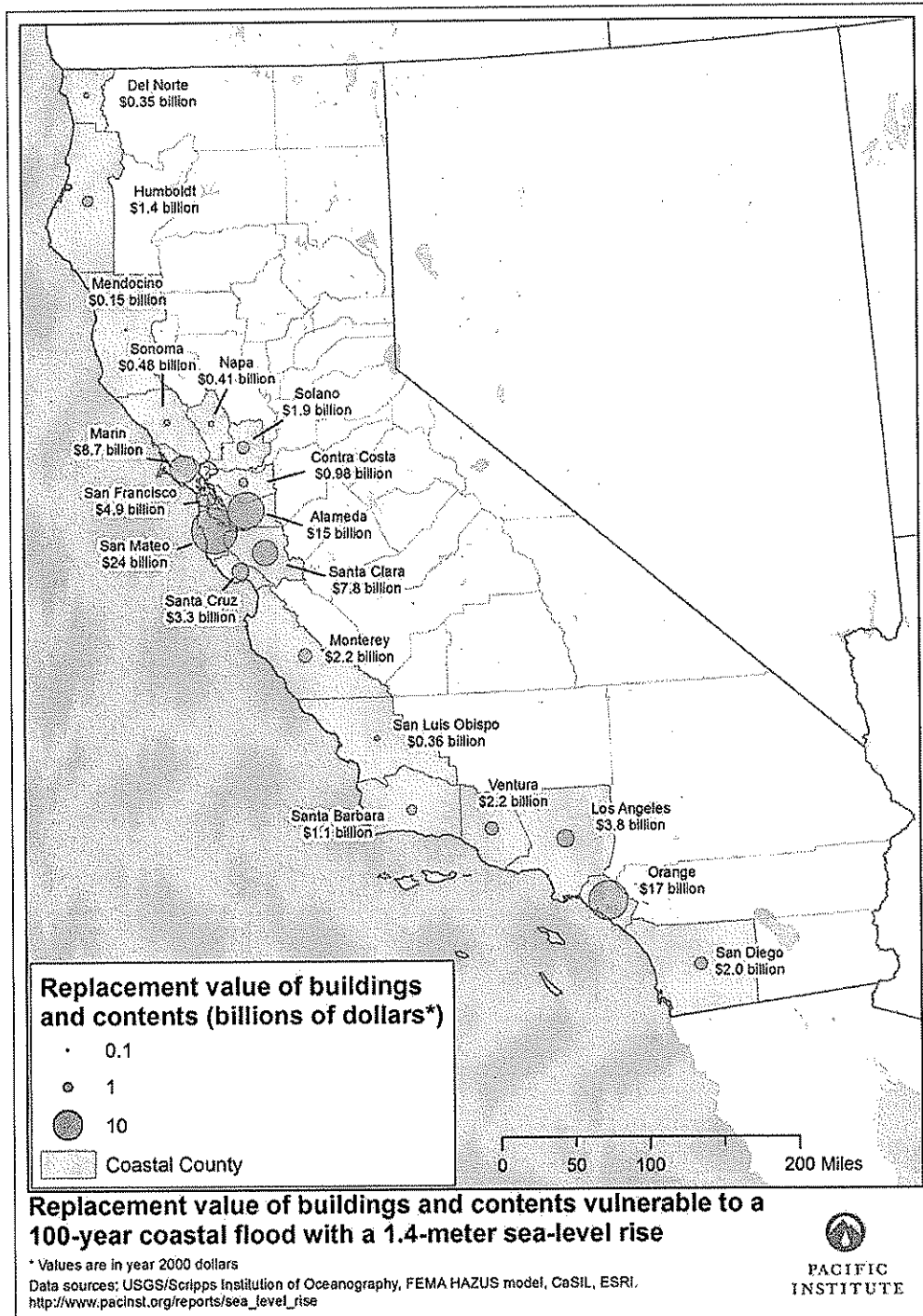


Figure 31. Replacement value of buildings and contents vulnerable to a 100-year coastal flood with a 1.4 m sea-level rise

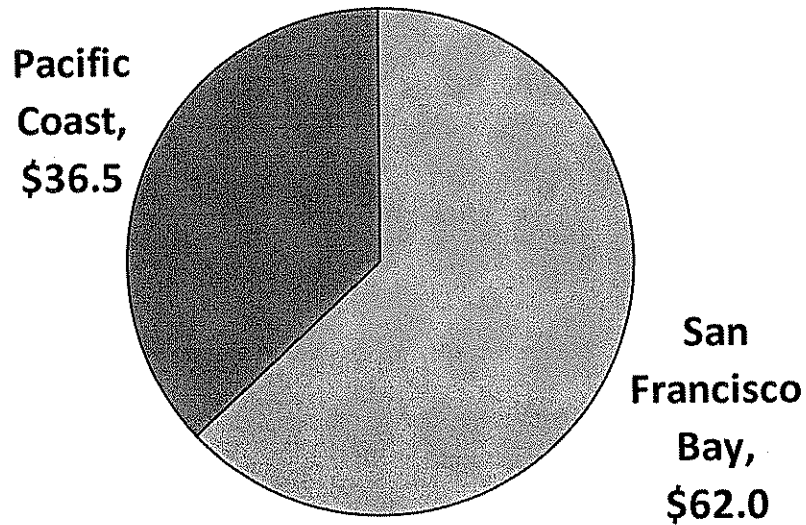


Figure 32. Replacement value (in billions of year 2000 dollars) of buildings and contents at risk of a 100-year flood event with a 1.4 m sea-level rise, by region

Note: Counties with borders on the Pacific coast and San Francisco Bay (e.g., San Mateo) were separated based on the shoreline affected.

Pacific Coast

Within each region, vulnerability to sea-level rise is highly variable. Table 21 shows the replacement value of buildings and their contents at risk of a 100-year flood event with a 1.4 m sea-level rise for the Pacific coast by county. Property at risk during a 100-year flood increases from about \$21 billion in 2000 to \$37 billion (in year 2000 dollars) with a 1.4 m sea-level rise. About \$17 billion of property, or about 50% of the total property at risk, is in Orange County. Los Angeles, Santa Cruz, Monterey, and Ventura Counties also have significant assets at risk, totaling in excess of \$2 billion each.

Table 21. Replacement value of buildings and contents (millions of year 2000 dollars) at risk of a 100-year flood event along the Pacific coast, by county

County	Current risk	Risk with 1.4 m sea-level rise	Percent increase
Del Norte	240	350	43
Humboldt	680	1,400	110
Los Angeles	1,400	3,800	180
Marin	220	260	16
Mendocino	120	150	22
Monterey	1,700	2,200	36
Orange	11,000	17,000	63
San Diego	690	2,000	190
San Francisco	670	890	33
San Luis Obispo	220	360	67
San Mateo	730	910	26
Santa Barbara	460	1,100	140
Santa Cruz	2,400	3,300	34
Sonoma	170	200	20
Ventura	980	2,200	120
Total	21,000	37,000	71

Note: All values are shown in millions of year 2000 dollars. Counties with borders on the Pacific coast and San Francisco Bay (e.g., San Mateo) were separated based on the shoreline affected.

All economic sectors are vulnerable to impacts associated with sea-level rise. Figure 33 shows the breakdown of the buildings and contents at risk of 100-year flood by major economic sector for the Pacific coast (specific sectors, such as transportation, are discussed in Section 3.2). More than 70% of the assets at risk are residential. The commercial sector, accounting for nearly 20% of the value at risk, will also likely encounter significant costs. Agriculture, education, religion, and government each account for about 1% of the assets at risk, thus, their exposure to risk is relatively small.

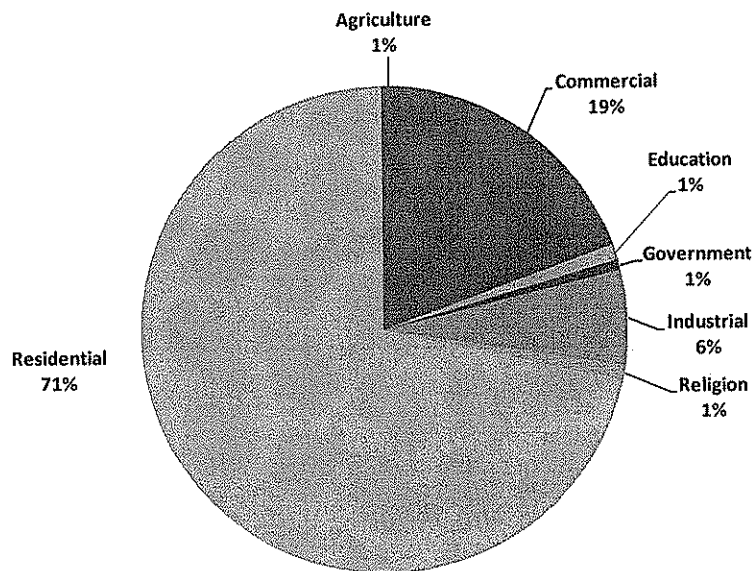


Figure 33. Value of buildings and contents at risk of 100-year flood event with a 1.4 m sea-level rise along the Pacific coast, by major economic sector

San Francisco Bay

The value of assets at risk on San Francisco Bay is substantially higher than along the Pacific coast. Table 22 shows the replacement value of buildings and their contents vulnerable to a 100-year flood event with a 0.5 m, 1.0 m, and 1.4 m sea-level rise. Note that the model used to develop inundation maps for San Francisco Bay allows us to determine the property at risk from any flood intensity. Assets at risk during a 100-year flood increase from about \$29 billion in 2000 to \$36 billion, \$49 billion, and \$62 billion (in year 2000 dollars) with a 0.5 m, 1.0 m, and 1.4 m sea-level rise, respectively.

The assets at risk are not evenly distributed among the counties on San Francisco Bay (Table 22). San Mateo and Alameda counties have the greatest assets at risk, accounting for about 60% of the total assets at risk with sea-level rise. Marin, Santa Clara, and San Francisco counties are also exposed to a high degree of risk; exposure to risk in these counties is higher than in all other counties along the Pacific coast, with the exception of Orange County. Exposure to risk in Sonoma and Napa counties is relatively modest.

Table 22. Value of buildings and contents at risk of a 100-year flood on San Francisco Bay, by county (in millions of year 2000 dollars)

County	Risk with sea-level rise			Percent Increase (1.4 m)
	0.5 m	1.0 m	1.4 m	
Alameda	5,300	10,000	15,000	370
Contra Costa	330	620	980	430
Marin	5,900	7,400	8,500	79
Napa	260	320	410	89
San Francisco	370	1,400	4,000	3400
San Mateo	18,000	21,000	23,000	41
Santa Clara	4,700	6,400	7,800	110
Solano	940	1,400	1,900	210
Sonoma	180	240	280	82
Total	36,000	49,000	62,000	110

Note: Counties with borders on the Pacific coast and San Francisco Bay (e.g., San Mateo) were separated based on the shoreline affected.

As it is along the Pacific coast, the residential sector on San Francisco Bay faces the greatest risk. Figure 34 shows the buildings and contents at risk of a 100-year flood by major economic sector on San Francisco Bay (specific sectors, such as transportation, are discussed in Section 3.1.4). Of the \$62 billion of property at risk with a 1.4 m sea-level rise, about 50% of the assets at risk are residential, substantially smaller than along the Pacific coast. The commercial and industrial sectors face much greater risk on San Francisco Bay than on the Pacific coast. Agriculture, education, religion, and government each account for about 1% of the assets at risk, thus their exposure to risk is fairly small.

4.0 Conclusions and Recommendations

4.1. Conclusions

Rising sea levels will be among the most significant impacts of climate change to California. Sea level will rise as a result of thermal expansion of the oceans and an increase in ocean volume as land ice melts and runs off. Over the past century, sea level has risen nearly eight inches along the California coast and general circulation model scenarios suggest very substantial increases in sea level due to climate change over the coming century. This study evaluates the current population, infrastructure, and property at risk from projected sea-level rise if no actions are taken to protect the coast. The sea-level rise scenario was developed by the State of California from medium to medium-high greenhouse gas emissions scenarios from the Intergovernmental Panel on Climate Change (IPCC) but does not reflect the worst case sea-level rise that could occur.

We estimate that a 1.4 m sea-level rise will put 480,000 people at risk of a 100-year flood event. Among those affected are large numbers of low-income people and communities of color, which are especially vulnerable. A wide range of critical infrastructure, such as roads, hospitals, schools, emergency facilities, wastewater treatment plants, power plants, and wetlands is also vulnerable. In addition, \$100 billion (in year 2000 dollars) worth of property is at risk of coastal flooding. A number of structural and non-structural policies and actions could be implemented to reduce these risks. For example, we estimate that protecting vulnerable areas from flooding by building seawalls and levees will cost \$14 billion (in year 2000 dollars), along with an additional \$1.4 billion per year (in year 2000 dollars) in maintenance costs. Continued development in vulnerable areas will put additional assets at risk and raise protection costs. Determining what to protect, how to pay for it, and how those choices are made raises concerns over equity and environmental justice.

Large sections of the Pacific coast are not vulnerable to flooding, but are highly susceptible to erosion. We estimate that a 1.4 m sea-level rise will accelerate erosion, resulting in a loss of 41 square miles of California's coast by 2100. A total of 14,000 people live in areas at risk of erosion. In addition, significant transportation-related infrastructure and property are also at risk. Throughout most of the state, flood risk exceeds erosion risk, but in some counties, coastal erosion poses a greater risk. We also provide, below, a set of recommendations for actions and policies that can reduce future risks and vulnerabilities.

4.2. Recommendations

Climate changes are inevitable, and adaptation to unavoidable impacts must be evaluated, tested, and implemented. Sea levels have risen observably in the past century, and scientists forecast that sea-level rise will continue for centuries, even if we stop emitting greenhouse gases immediately. As a result, coastal areas will be subject to increasing risk of inundation and erosion. Below, we provide a series of recommendations and principles to guide the adaptation process.

4.2.1. Principles for Adaptation

The decisions about what to protect, how to protect it, and who will have to pay will be both challenging and controversial. Given the complexity of these issues, it is important to develop an open and transparent process involving all affected stakeholders. Below, we provide some general principles to guide this process:

- Human life must be protected.
- Critical ecological systems should be preserved.
- Development and protection of the coast should be governed by the principles of sustainability. Simply stated, this means “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (WCED 1987).
- Equal and full participation must be a central element of any decision-making process. No social or economic group should be excluded from decision-making that will affect its well-being.
- Communities must determine the resources and features they value, e.g., beaches, public access, fisheries, etc., and develop plans to protect those resources.
- Consideration should be given to equitable distribution and apportionment of costs and benefits of adaptation measures.
- Adaptation strategies should account for the distinct vulnerabilities of potentially affected subpopulations.
- Local and regional planning processes must begin early to incorporate estimates of sea-level rise and strategies for adaptation.

4.2.2. Recommended Practices and Policies

Climate change must be integrated into the design of all coastal structures.

Current efforts to build, maintain, or modify structures in coastal areas at risk of sea-level rise must now be based on estimates of that rise. The costs of modifying structures in the design phase are often far lower than the costs of later reconstruction or flood damage.

The federal government and the insurance industry should develop and implement a methodology for integrating climate change into insurance policies and strategies.

Properly designed insurance policies are vital for helping landowners choose whether to protect or abandon risky property. The design, availability, and cost of flood insurance will be a key instrument in implementing floodplain policy. For example, the government should not continue to subsidize flood insurance for properties that have suffered repetitive losses. Nor should insurance be available for properties highly likely to be inundated under future conditions.

Federal flood insurance maps should include information on future flood risks due to sea-level rise.

The Federal Emergency Management Agency's official flood insurance studies show hazard zones that reflect past or present flood risks. Because these are the *de facto* planning documents used by most local governments, they should be updated to show the *future* hazard areas and include the current science on climate change and sea-level rise.

Wetlands and the potential migratory paths should be protected.

Development should be prohibited on natural lands that are immediately adjacent to wetlands at risk. These buffer areas may be the only areas suitable for future wetland restorations projects.

Future development should be limited in areas that are at risk from rising seas.

In regions at risk that are not yet heavily developed, local communities and coastal planning agencies have the opportunity to limit development and reduce future threats to life and property. Policies that maintain such low-lying areas will help to accommodate rising seas. In addition to insurance policies, discussed above, such policies may include local ordinances, statewide coastal development policies, and explicit purchases of land for conservation purposes. This is often the least expensive option for currently undeveloped areas.

While limiting coastal development is the most effective way to reduce risk, this approach can incur costs today. Development permits designed to provide flexibility for future generations to address sea-level rise will reduce today's cost. For example, permits might allow development but stipulate that the area reverts to nature if seas rise by a specified amount.

Local planning processes need to involve communities most vulnerable to harm when developing appropriate preparation and adaptation strategies.

The particular needs of vulnerable communities, and appropriate adaptation policies, are best identified and developed through processes in which the affected communities are at the center of decision making. The vulnerabilities to sea-level rise created by access to transportation, legal residency, income, and language abilities can only be fully understood and protected when members of these communities are directly involved in the process.

Consider phased abandonment of low- and medium-density areas at high risk.

In some low- and medium- density areas, the monetary and environmental cost of holding back the sea may become unacceptably high. The lowest-cost option may be to allow natural

processes take place. Policies that prevent flood-damaged homes or businesses from rebuilding may help ease this transition.

Protect vital societal resources, especially those that are “coastal-dependent.”

In many cases, the value of an area’s infrastructure far exceeds the cost to raise structures or build protective barriers. For example, the San Francisco airport and the Port of Long Beach are extremely important to the state and national economy. In choosing what to protect, we should favor infrastructure that necessarily belongs on the coast, such as ports, bridges, and marinas.

Cost-benefit analyses should explicitly evaluate the social and environmental costs of building coastal protection structures.

Armoring the coastline can save lives and property, but it also comes at a cost. The natural dynamics that occur between water and land are disrupted. Beaches and wetlands disappear and habitat is lost. Traditional cost-benefit analyses, such as those required for all US Army Corps of Engineers projects, do not adequately account for these inherent tradeoffs.

Coastal emergencies are inevitable. Coastal communities should improve disaster response and recovery.

In this analysis, we have focused on increased risk of coastal flooding and erosion as a result of sea-level rise. California is also subject to tsunamis, earthquakes, wildfires, terrorist attack, and other hazards. Improving community preparedness provides benefits for responding to any type of emergency. Before a disaster strikes, communities must plan for evacuation routes, emergency action plans, and shelters, and take into account the specific needs of vulnerable populations. In addition, roles and responsibilities must be clearly defined among local, state, and federal agencies.

Coastal managers should consider adopting the principles of “No Adverse Impact” when designing and permitting flood protection, beach nourishment, and other coastal protection projects.

Current coastal protection projects are often done with no regard for how they will affect adjacent portions of the coast. According to the Association of State Floodplain Managers: “Over the past 50 years a system has developed through which local and individual accountability has been supplanted by federal programs for flood control, disaster assistance, and tax incentives that encourage and subsidize floodplain occupation and development.” We recommend that coastal managers consider adopting a policy similar to “No Adverse Impact” where the “actions of one property owner are not allowed to adversely affect the rights of other property owners” (ASFM 2008).

EXHIBIT E - 5



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California panel urges 'immediate action' to protect against rising sea levels

Global warming is projected to cause ocean levels to rise up to 55 inches this century. Report urges considering abandonment of some coastal areas and halting insurance subsidies in flood-prone areas.

By Margot Roosevelt
March 12, 2009

As California officials see it, global warming is happening so there's no time to waste in figuring out what to do.

FOR THE RECORD: The headline on an earlier version of this article said a state report projected that ocean levels could rise 55 inches or more by the end of the century. The report actually projected ocean levels to rise as much as 55 inches. The headline also said the report recommended moving state infrastructure inland. The report did not recommend that, but it detailed coastal roads, schools, sewage and power plants that would be in danger of flooding.



Climate change peril

- » Discuss on our Greenspace blog
- » Bubbles of warming, beneath the ice

California's interagency Climate Action Team on Wednesday issued the first of 40 reports on impacts and adaptation, outlining what the state's residents must do to deal with the floods, erosion and other effects expected from rising sea levels.

Hundreds of thousands of people and billions of dollars of Golden State infrastructure and property would be at risk if ocean levels rose 55 inches by the end of the century, as computer models suggest, according to the report.

The group floated several radical proposals: limit coastal development in areas at risk from sea rise; consider phased abandonment of certain areas; halt federally subsidized insurance for property likely to be inundated; and require coastal structures to be built to adapt to climate change.

"Immediate action is needed," said Linda Adams, secretary for environmental protection. "It will cost significantly less to combat climate change than it will to maintain a business-as-usual approach."

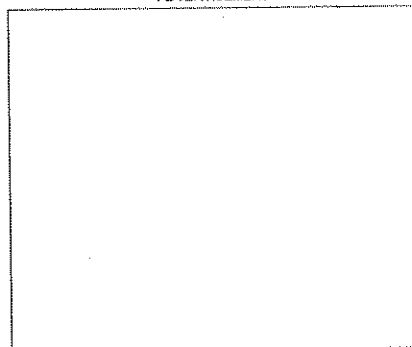
Few topics are likely to be more contentious than coastal development. But along the state's 2,000-mile shoreline the effects would be acute, particularly in San Mateo and Orange counties, where more than 100,000 people would be affected, according to the 99-page state-commissioned report by the Oakland-based Pacific Institute.

Detailed maps of the coastline, published on the institute's website, show that residential neighborhoods in Venice and Marina del Rey could find themselves in a flood zone. Water could cover airports in San Francisco and Oakland, parts of the ports of Los Angeles and Long Beach, and large swaths of Huntington Beach and Newport Beach.

Roads, schools, hospitals, sewage plants and power plants may have to be relocated. More than 330 hazardous waste sites are at risk from floods.

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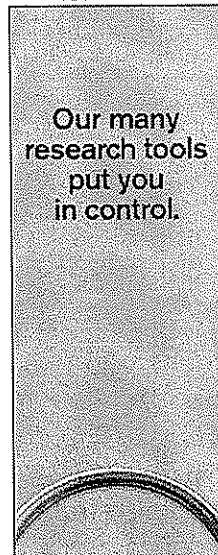
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"The rising sea level could be California's version of Hurricane Katrina," said Michael Woo, a Los Angeles planning commissioner and urban planning professor at USC. "Taxpayers and insurance ratepayers might question their responsibility to help homeowners and businesses which knowingly build in high-risk coastal areas."

California's far-reaching adaptation initiative reflects an emerging global consensus: Scientists can argue over how fast the Earth is heating up and diplomats can wrangle over emissions caps, but politicians must begin planning for the certainty of climate change.

Dozens of world-class scientists and economists, many from the University of California and state research institutes, are examining potential effects of warming on snowpacks, wildfires, crops and electricity demand.

Further reports will examine climate effects on hospital admissions, mortality rates, pollution and the habitats of the state's animals and plants. Dutch experts have been consulted on how to armor the coast with improved dikes and sea walls -- controversial measures that some experts contend will only increase erosion.

Detailed studies, now undergoing peer review, are to be released over the next month. Then the Climate Action Team is to send a comprehensive report to Gov. Arnold Schwarzenegger.

Sea levels along California have risen an average of about 8 inches in the past century. According to the Pacific Institute report, 260,000 Californians already live in flood zones, but are assumed to be protected by existing levees and sea walls. A rise of 1.4 meters (55 inches) would increase the population at risk to 480,000. Currently, 1,900 miles of roads and highways are at risk of flooding, which would grow to 3,500 miles under the sea level rise projections.

The report estimated that one adaptation strategy, armoring the coast with 1,100 miles of new or modified sea walls and levees, would cost at least \$14 billion to construct, and another \$1.4 billion a year to maintain.

The report's estimate of 1 to 1.4 meters of sea level rise by the end of the century was calculated using two scenarios envisioned by the United Nations' Intergovernmental Panel on Climate Change, a gathering of the world's top climate scientists. One scenario assumes countries will cut their emissions of planet-heating greenhouse gases, and another assumes a business-as-usual release level.

Despite more than a decade of warnings from scientists, global emissions continue to rise, fueled by rapid population growth and economic development in such nations as China and India. Unless greenhouse gases are cut significantly, Earth's temperature is expected to increase between 4 and 6 degrees Celsius by the end of the century, according to the U.N. panel.

As water warms due to rising air temperatures, it expands, causing the sea level to rise. But another major factor, the melting of the Greenland and Antarctic ice sheets, was unaccounted for in the U.N. panel's models because of uncertainty over effects and timing. Those models were designed in the mid-1990s.

Ice sheet melting has since accelerated. Dan Cayan, a researcher at the Scripps Institution of Oceanography and a lead scientist on the state's action plan, said the 55-inch estimate in the report is "probably conservative. . . . As temperature climbs, melting is going to proceed at a greater pace. It is not necessarily going to proceed linearly, in the same proportion as it did in the past, because melting begets more melting."

Low-income people will be disproportionately vulnerable to sea level rise, according to the report.

In Alameda County, 66,000 residents would be affected by flooding, of whom 60% are African American, Latino and Asian, the report said.

Mary Nichols, chairwoman of the state's Air Resources Board, which is charged with implementing a statewide plan to cut greenhouse gas emissions, called the sea level report "blunt but realistic."

"The recommendations are sensible: Defend what is worth protecting, move what can reasonably be moved, try to avoid doing further harm, consult affected communities, prepare to respond to emergencies."

Environmentalists hailed the report as a call to action.

"We can't pretend that the future will behave like the past," said Matt Vander Sluis of the Planning and Conservation League. "The ostrich has to take its head out of the sand or, in this case, it's going to be underwater."

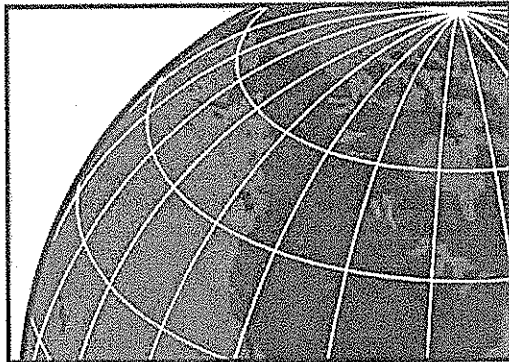
margot.roosevelt @latimes.com

EXHIBIT E - 6

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

**Climate Action Team Report to
Governor Schwarzenegger and the Legislature**

C A L I F O R N I A

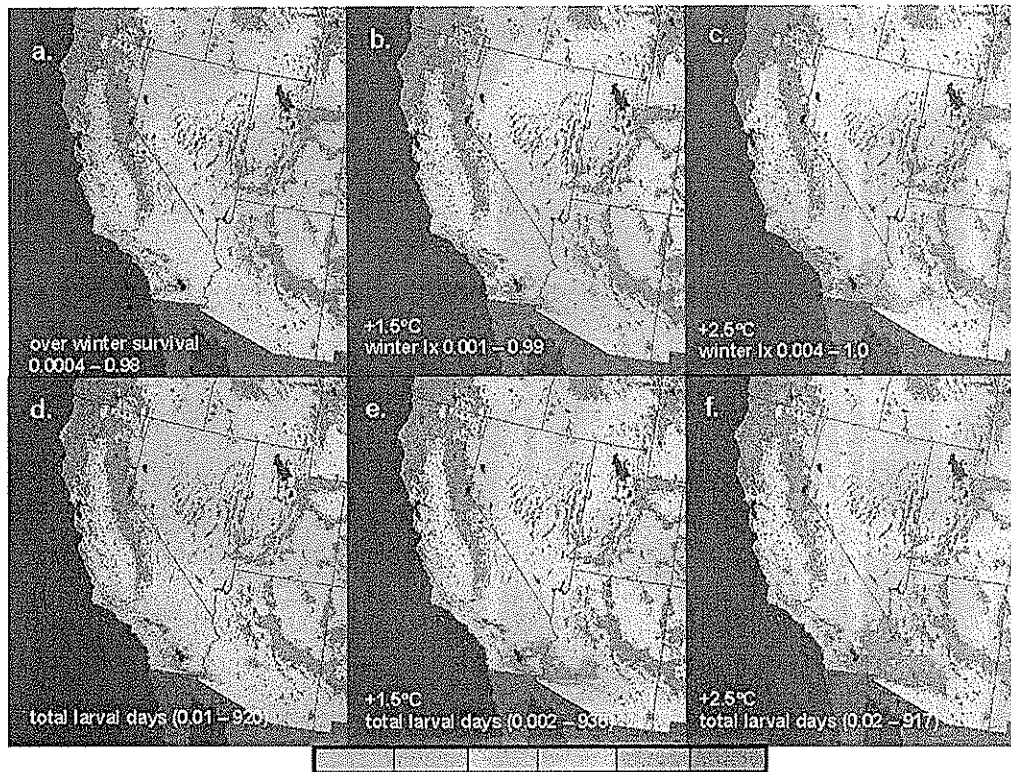


Climate

ACTION TEAM

March 2006

Figure 4-6. Cotton/pink bollworm (PBW): Predicting areas favored by PBW



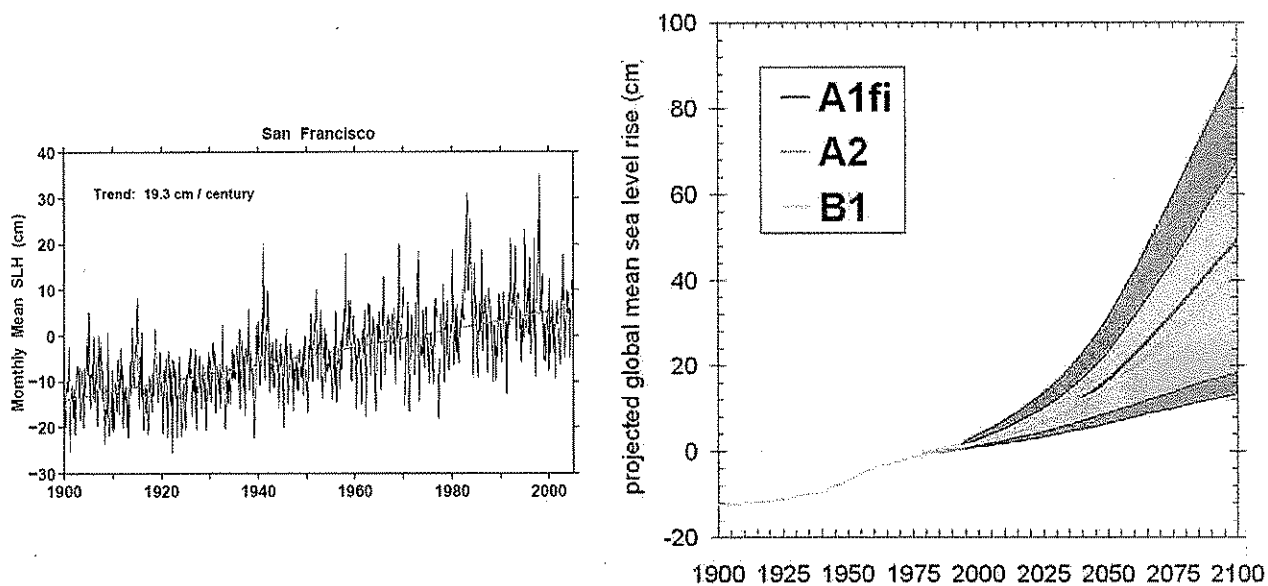
The effects on winter survival (a-c) and total seasonal pest PBW larval densities (larval days, d-e) under current weather (a,d) and with 1.5°C (b,e) and 2.5°C (c,f) increases in daily temperatures respectively (Gutierrez et al. in press).

4.5 Coastal Sea Level Impacts¹⁵

California's coastal observations and global model projections indicate that California's open coast and estuaries will experience increasing sea levels during the next century. These changes could amplify the sea level rise which has historically affected much of the coast of California, including the Southern California coast, the Central California open coast, and the San Francisco Bay and upper estuary. These trends, quantified from a small set of long-duration California tide gages, show rises of about 2 mm/year (Figure 4-6). They are very similar to trends estimated for global sea level.

In addition to long-term trends, sea levels along the California coast undergo shorter period variability above or below predicted tide levels. Highest sea levels have usually occurred when winter storms and Pacific climate disturbances such as El Niño² have coincided with high astronomical tides. So far, there is little evidence that the rate of global sea level rise has accelerated (the rate of rise at California tide gages has actually flattened during the last several years), but climate models suggest strongly that this may change.

Figure 4-7. Observed Change in Sea Level in San Francisco during the last century and Projections of Global Mean Sea Level during next century.



Source: Cayan et al., 2006

Global sea level rise is projected to range from 4 to 33 inches during the 2000 to 2100 period. This compares to a rate of approximately 7.6 inches (19 cm) per

² El Niño: A phenomenon in the equatorial Pacific Ocean characterized by a positive sea surface temperature departure from normal. Water in the eastern Pacific Ocean close to the equator gets warmer than normal, which results in changes in weather patterns. In some cases, El Niño results in significant increases in precipitation in California. For example the 1982-1983 El Niño event.)

century observed at San Francisco and San Diego during the last 100 years. Superimposed on these rising seal levels will be astronomically-driven tides, and fluctuations from weather, El Niño and other influences, so that, the occurrence of extreme events will increase as sea level rises.

The frequency that sea level exceeds a stationary threshold, as projected over future decades for locations such as the San Francisco tide gage, increases markedly as the mean sea level increases. Thus, historical coastal structure design criteria may be exceeded, the duration of events will increase, and these events will become increasingly frequent as sea level rise continues. On the open coast, impacts during these events will continue to be exacerbated by high surf from wind, waves, and, in the Sacramento/San Joaquin Delta of the San Francisco Bay estuary, by floods that may further jeopardize levees and other structures.

4.6 Forests and Natural Landscapes Impacts¹⁶

Climate changes and increased CO₂ concentrations are expected to alter the extent and character of forest and other ecosystems. The distribution of species is expected to shift, the risk of climate-related disturbance such as wildfires, disease, and drought is expected to rise, and forest productivity is projected to increase or decrease depending on species and region. The ecosystems most susceptible to temperature rise are the alpine and sub-alpine forest cover. In addition, changes in fire frequency are expected to lead to an increase in grasslands, largely at the expense of woodland and shrub-land ecosystems.

Wildfires¹⁷

The changing climate may modify the natural fire regimes in ways that could have social, economic and ecological consequences. The most recent analysis, which is a conservative estimate that does not include the effects of extreme fire weather, indicates that wildfire will increase, especially as warming intensifies. These projections suggest that the risk of large wildfires statewide may rise almost 35 percent by mid-century, 55 percent by the end of the century under a medium-high emissions scenario, and almost twice that expected under lower emissions scenarios.

EXHIBIT E - 7

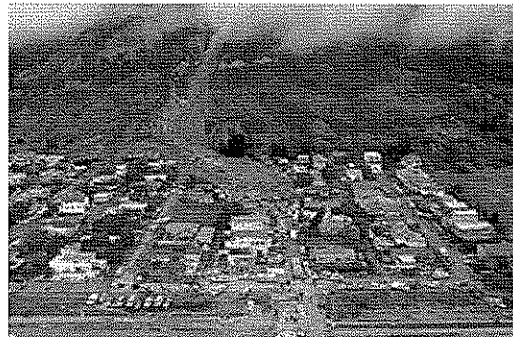
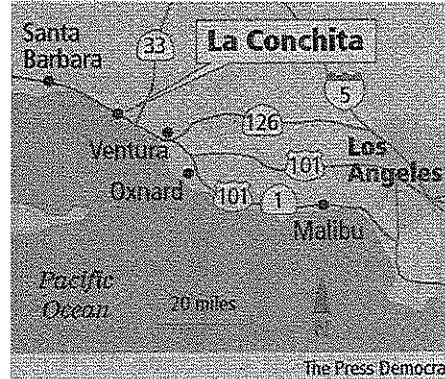
La Conchita Landslide

President of GT International Consultants
Naohiko Noguchi

INTRODUCTION

A record breaking winter storm drenched southern California causing flooding and triggering numerous slope failures and landslides. The most tragic event was a landslide (mudslide) at La Conchita, a coastal community about 112 km west of Los Angeles.

At 2:05 pm on Monday January 10, 2005, a steep slope behind the housing development at La Conchita, failed cascading approximately 400,000 tones of debris, and killed 10 people, buried 13 homes and damaged 18.



HISTORY OF INSTABILITY

The stretch of coast from Ventura to Carpinteria has a history of hillside instability. Topography shows a typical landslide morphology indicating most of the bluff is of landslide origin. In this area, the height of the bluff is about 180 m. La Conchita was built on ground that had been graded by the Southern Pacific Railroad after a 1909 landslide slid into the railroad tracks and killed four people. The land was intended to be a buffer zone between the retreating and eroding cliff and the Pacific Ocean. However, it was subdivided into smaller residential lots in 1924. The narrow strip of land directly below a towering cliff and the Pacific Ocean became a weekend retreat community, and eventually turned into a permanent home for many.

In 1975, La Conchita Ranch Co. started to farm the plateau, a marine terrace above the community, for citrus and avocado. The operation required heavy irrigation.

During a storm in March 1995 a failure occurred at almost same location as the current failure, destroying nine homes. Early signs of landslide movement were first reported during the summer of 1994 as evidenced by surface cracks in the upper portion of the landslide (O'Tousa, 1995). Smaller failures had occurred between the summer of 1994 and the main failure of March 4, 1995. These failures occurred in a canyon which existed prior to the failure, located along the left flank of the landslide. Slope inclinometers were installed and monitored up to within a few weeks of the March 4 failure by the owners of the avocado orchard on the bluff top (O'Tousa, 1995). Rainfall data at Sea Cliff (3.2 km south of La Conchita) indicates a total of 633 mm of rainfall in the first three months of 1995 (1/1 through 3/21, 1995). The 27 year average annual rainfall at Sea Cliff is 385 mm. The record indicates that the January 1995 rainfall alone exceeded the average annual rainfall.

Residents signed waivers after the 1995 slide releasing Ventura County from liability in future slides.

The homeowners sued the bluff-top rancher blaming the rancher for over watering avocado trees thereby weakening the bluff. Fearing a much larger judgment against the rancher if the case should go to a trial, La Conchita Ranch Co. settled one suit two years later for tens of millions of dollars.

The slide led to years of recriminations between the property owners and Ventura County. Each blamed others for wrong-doing. Homeowners blamed the county for allowing the construction of homes and failing to safeguard the community. The County blamed the homeowners for building in the path of an unstable hillside. The county eventually constructed a 20 foot long \$450,000 retaining wall, which slid with the current slide of January 10. The county quickly made a statement that the retaining wall had been intended to stop debris, not to stop another landslide.

GEOLOGY

The upper plateau where the avocado orchard exists is underlain by marine terrace deposits consisting of unconsolidated silt, sand and gravel. Along the bluff face above La Conchita where the 1995 and 2005 landslide occurred, the upper portion of the bluff is underlain by the Monterey Formation while the lower portion of the bluff is underlain by Pico Formation (O'Tous, 1995). The Monterey Formation is marine, early to late Miocene in age, and consists of white-weathering, thin bedded, hard, platy to brittle siliceous shale, siltstone and sandstone to soft, fissile clay shale with interbeds of hard siliceous shale and thin limestone beds (Dibblee, 1988). The Pico Formation is marine, early Pleistocene to possibly late Pliocene age, and consists of massive gray mudstone which includes light gray sandstone and conglomerate with pebbles of hard sandstone and white siliceous shale (Dibblee, 1988).

The two formations are separated by an active Red Mountain Fault as mapped by the California Geological Survey (formally, California division of Mines and Geology), and designated as an Alquist-Priolo Earthquake Fault Zone in accordance with the Alquist-Priolo Act of 1972 (Chapter 7.5 of division 2 of the California Public Resources Code)(www.consrv.ca.gov/). The Red Mountain Fault, a thrust fault is responsible for placing the older Monterey Formation on top of the younger Pico Formation.

RAINFALL DATA

The climate in California is typical of Mediterranean climate with dry and hot summers, and cool to cold and wet winters. In winter, storms originating in the Gulf of Alaska move down to

California and bring precipitation. As storms move southward and eastward moisture falls in the form of rain and snow. Furthermore, as the air mass rises along the mountain ranges, it drops more moisture (orographic precipitation). Consequently, in general, the western part of the state receives more precipitation than the eastern, and the higher elevations receive more than the lower elevations.

However, if there is tropical moisture from Hawaii in the west, the storms originating in Alaska could drag the tropical moisture (Pineapple Express) along with the Alaskan storms. This condition will bring very heavy rainfall to southern California. Furthermore, if the Pineapple Express should approach the land perpendicular to the mountain ranges, coupled with the orographic precipitation, the effect is severe. Most of the historical flooding and sedimentation disasters have occurred under such conditions.

The storm which caused the La Conchita Mudslide was no exception. Meteorologists detected the moist tropical air masses in the west and predicted heavy precipitation in southern California. Elsewhere in southern California rainfall records were broken. For example, in the five day period (1/7 to 1/11), Nordhoff Ridge in the Ventura County Mountains received more than 660 mm; Opids Camp in the San Gabriel Mountains received 701 mm; San Marcos Pass in Santa Barbara County Mountains received 602 mm. The average 30 years annual rainfall in downtown Los Angeles is 358 mm. The total rainfall for this season to the morning of January 10 is 559 mm (rain season starts on October 1). No official rainfall data at or near La Conchita is available yet. However, according to Ventura County Star, a cumulative rainfall two weeks prior to the January 10 mudslide near La Conchita is reported to be about 356 mm while the average 30 years annual rainfall in Ventura is 390 mm.

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 Ventura County Star

Judge approves cost of La Conchita erosion study

By Raul Hernandez
Saturday, October 11, 2008

A Ventura County judge on Friday authorized the expenditure of \$75,000 for an engineering study in preparation for a November court hearing over residents' demands for erosion-control work at the site of the deadly 2005 landslide at La Conchita.

The landslide killed 10 people and destroyed homes in the beachfront community north of Ventura.

It also resulted in a lawsuit against La Conchita Ranch Co., which was accused of failing to build an adequate drainage system.

The lawsuit ended in September with a settlement giving the victims and their families \$5 million and ownership of the 700-acre ranch property and its equipment. A court-appointed receiver has been working to meet a Dec. 1 target date to sell the ranch, which produces avocados and lemons.

If the ranch is not sold by then, it will be given to the plaintiffs, who would form an entity to decide what to do with the property and equipment, according to the plaintiffs' lawyer Daniel Friedman.

On Friday, the plaintiffs and the receiver were in Ventura County Superior Court to ask for erosion-control work to begin on the property before the onset of the rainy season later this year.

The receiver's lawyer, David Zaro of Los Angeles, told the judge that he needs to "get the ball rolling" on the winterization project "as quickly as possible to avoid (another) catastrophe."

Friedman told the judge that the ranch company should pay for the proposed winterization plan with money from the sale of crops.

The ranch company's lawyer, Frank T. Sabaitis, told the court that there are no provisions in last month's negotiated settlement that obligate the company to pay for the winterization plan.

Winterization plan

Also, he told the judge that no evidence has yet been presented to indicate what work needs to be done and how much it will cost.

The judge asked Sabaitis whether a winterization plan was discussed under the negotiation agreement.

"Absolutely not," said Sabaitis, adding that this proposed project is "after the fact." Under the terms of the settlement, payment for an "extraordinary" measure such as erosion control isn't spelled out, Sabaitis told the judge.

"There hasn't been winterization since the 2005 landslide," he noted.

Zaro also asked the court to consider limiting the liability of the receiver. "It's unfair that the receiver is going to be held responsible for some landslide that occurs," he said.

Outside the courtroom, attorney Robert Cecon, who is representing Ventura County, said county officials have told the plaintiffs what needs to be done to bring the winterization project in line with building codes.

"We hope they implement the plan to make the slide area safer," he said.

'I wish the plaintiffs luck'

Cecon said the county has no estimate of the cost of such a project, which would alter the drainage from the top of the mesa and on the slope. However, Cecon said there could be problems.

"The drainage will flow different than it does now, and any time someone wants to change drainage, we have to look at that carefully to make sure it doesn't impact other landowners," he said.

In an interview, Sabaitis said the ranch company's owners are very happy to rid themselves of the property, which they have been trying to sell for 15 years, he said.

"I wish the plaintiffs luck in trying to sell this piece of property," he said, noting the history of landslides there.

"It is a geologic hazard area. It's uninsurable. ... So to the extent that they were able to give this ranch to the plaintiffs with all those problems and walk away from future problems, they are actually very happy," Sabaitis said.



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EXHIBIT F - 1

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed



Prepared by the Ballona Wetlands Land Trust

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Introduction

The Ballona Watershed encompasses a 128 square mile area, stretching from the ridgeline of the Santa Monica Mountains to Inglewood, from the eastern edge of Silverlake to Marina del Rey. Storm and dry-weather urban runoff accumulated in this large urbanized area drains from subsidiary streams into Ballona Creek and thence into the Pacific Ocean. Because this runoff is untreated, Ballona Creek has become the largest source of pollution in Santa Monica Bay. Anticipated growth and continued development in the watershed will continue to exacerbate this problem in the foreseeable future.

Under the auspices of the Federal Clean Water Act, local agencies including the City and County of Los Angeles have been directed by California's Regional Water Quality Control Board ("Regional Board") to make drastic near-term improvements in the quality of runoff entering the bay. Failure to comply will be grounds for severe financial liabilities. Impairments in water quality are numerous and include heavy metals, toxic chemical pollutants, and pathogens such as fecal coliform bacteria. Abatement of these pollutants will be difficult given the limited open space available in the lower watershed. The proposed Integrated Resource Plan provides a source reduction approach consisting of cisterns and permeability improvements at parks, schools and government facilities. This approach is costly and unlikely to provide the abatements necessary for Clean Water Act compliance. A second approach is the construction of end-of-pipe mechanical treatment plants. This approach is also costly, energy-intensive, and hobbled by a lack of viable sites.

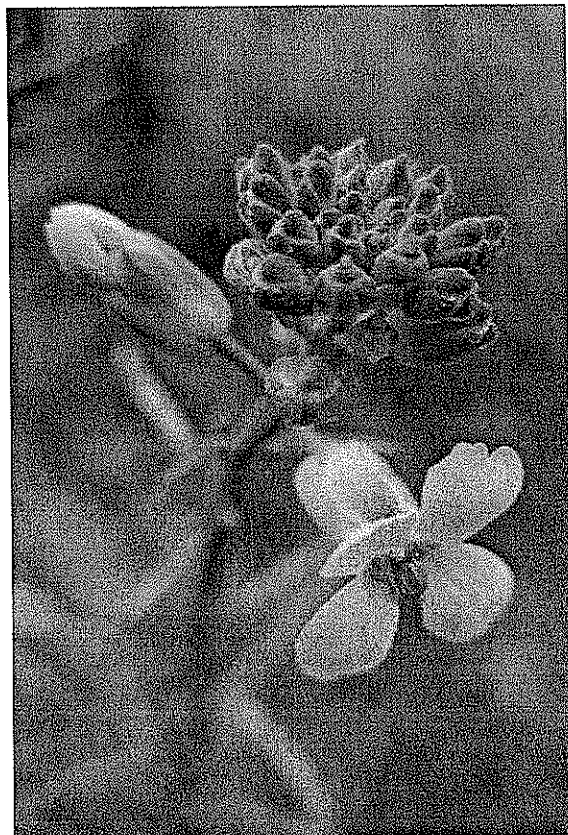
The most cost-effective and environmentally-friendly regional solution is the construction of Natural Treatment Wetlands. Natural

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

Treatment Wetlands are designed and constructed to improve water quality by taking advantage of natural processes that occur in otherwise natural wetlands. Natural Treatment Wetlands have been constructed in hundreds of successful programs in the United States in recent decades, including projects here in Southern California, and have even been cited as preferable options by the City and County of Los Angeles as well as the Regional Board.

The EPA states that "the treatment of wastewater or stormwater by constructed wetlands can be a low-cost, low-energy process requiring minimal operational attention." Constructed treatment wetlands would provide habitat for threatened species and would serve dual function as needed park space in a city with the lowest ratio of open space per capita of any large city in the U.S. Adoption would be a keystone of Mayor Antonio Villaraigosa's stated intent to transform Los Angeles into "the greenest big city in America," and is an alternative to energy-intensive, greenhouse gas-emitting treatment plants. Jobs provided by the establishment of a natural treatment wetland would train disadvantaged Los Angeles residents for a career in the new "green economy."



Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

Unfortunately, availability of appropriate sites for natural treatment wetlands is limited. An engineered treatment system would not be appropriate in land already protected as a Wildlife Reserve at Ballona, as fragile local ecosystems would be irreparably displaced. The 111 acres at "Ballona Southeast" (located east of Lincoln Boulevard and south of Jefferson Boulevard and the current proposed site for development of Playa Vista Phase 2) comprise the last remaining viable site for a natural treatment system of significant capacity in the lower Ballona basin. As historical wetlands adjacent to permanently preserved wetland habitat, these acres provide an ideal opportunity for the establishment of a "green corridor", an aesthetically pleasing and ecologically sound alternative to further development. Located in close proximity to Centinela and Ballona Creeks, a constructed Natural Treatment Wetland at this site could draw upon existing storm drain infrastructure. There are no other sites of comparable opportunity in the region.

A Natural Treatment Wetland at "Ballona Southeast" is a feasible, cost-effective, environmentally sound alternative for treating dry weather runoff and small storm events. The use of natural ecosystems to sequester and remove contaminants that would otherwise wind up in Santa Monica Bay is preferable to the construction of costly and energy-intensive new mechanical treatment plants. At the same time, only a constructed Natural Treatment Wetland will provide neighborhood open space and preserve critical wildlife habitat for the enjoyment of future generations.

Summary:

- The Regional Board demands drastic near-term reductions in pollutants reaching Ballona Creek and Santa Monica Bay, and will impose severe liabilities on the City and County of Los Angeles for continued noncompliance with the Federal Clean Water Act.
- The City and County have not produced stormwater pollution mitigation plans that adequately address the scope of the problem.
- Natural Treatment Wetlands reduce pollutant loads by tested and proven methods, using natural processes at much lower cost than energy-intensive mechanical treatment plants, saving taxpayer money.
- The 111 acres slated for development at Ballona Southeast comprise the only viable site in the lower watershed for a Natural Treatment Wetland of significant capacity.
- A Treatment Wetland at Ballona Southeast would renew the land's historic role in the greater Ballona Wetlands ecosystem, providing wildlife habitat and neighborhood park space, and is preferred by the local community to massive development and its attendant costs in traffic, pollution and real estate value on the West Side.
- Construction of a Treatment Wetland would provide local residents with valuable training for jobs in the growing "green economy."
- Funding for a Natural Treatment Wetland remains available via state and local bond acts passed by California voters in pursuance of cost-effective water quality initiatives.

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

The Ballona Watershed

1.1 Features of the Ballona Watershed

The Ballona watershed is one of the most urbanized watersheds in the country. Its land use consists of 64% residential, 8% commercial, 4% industrial, and 17% open space. Open space is almost entirely confined to the Santa Monica Mountains and Baldwin Hills. The population of the watershed is greater than 1.6 million. Runoff from the entire 128 square mile watershed collects in Ballona Creek before draining into the Santa Monica Bay, and is currently the largest source of pollution in the bay.

Development in the Ballona watershed has induced severely limited ground permeability. Historically, Ballona Creek emerged from the Santa Monica Mountains and meandered towards the Pacific Ocean. Because of the depth of alluvium (eroded material that is deposited in lowlands) on the coastal plain, much of the water in the creek and its tributaries disappeared into sand and gravel and replenished groundwater, resulting in various marshes, swamps and springs. At locations where surface water was present or groundwater was near the surface, willows and other native trees, roses, grapes, and other flowering shrubs were plentiful.

Wetlands, marshes, and springs dotted the landscape. At other locations, surface water was scarce and the vegetation was sparse and dominated by grasses and prickly pear cactus. The wide variety of habitats and available water supplies supported several settlements of indigenous peoples, including the Tongva (or Gabrielino) tribes. Spanish settlers in the

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

18th century were the first to attempt wholesale reengineering of the hydrology and ecology of the watershed for conversion to farm and grazing land.

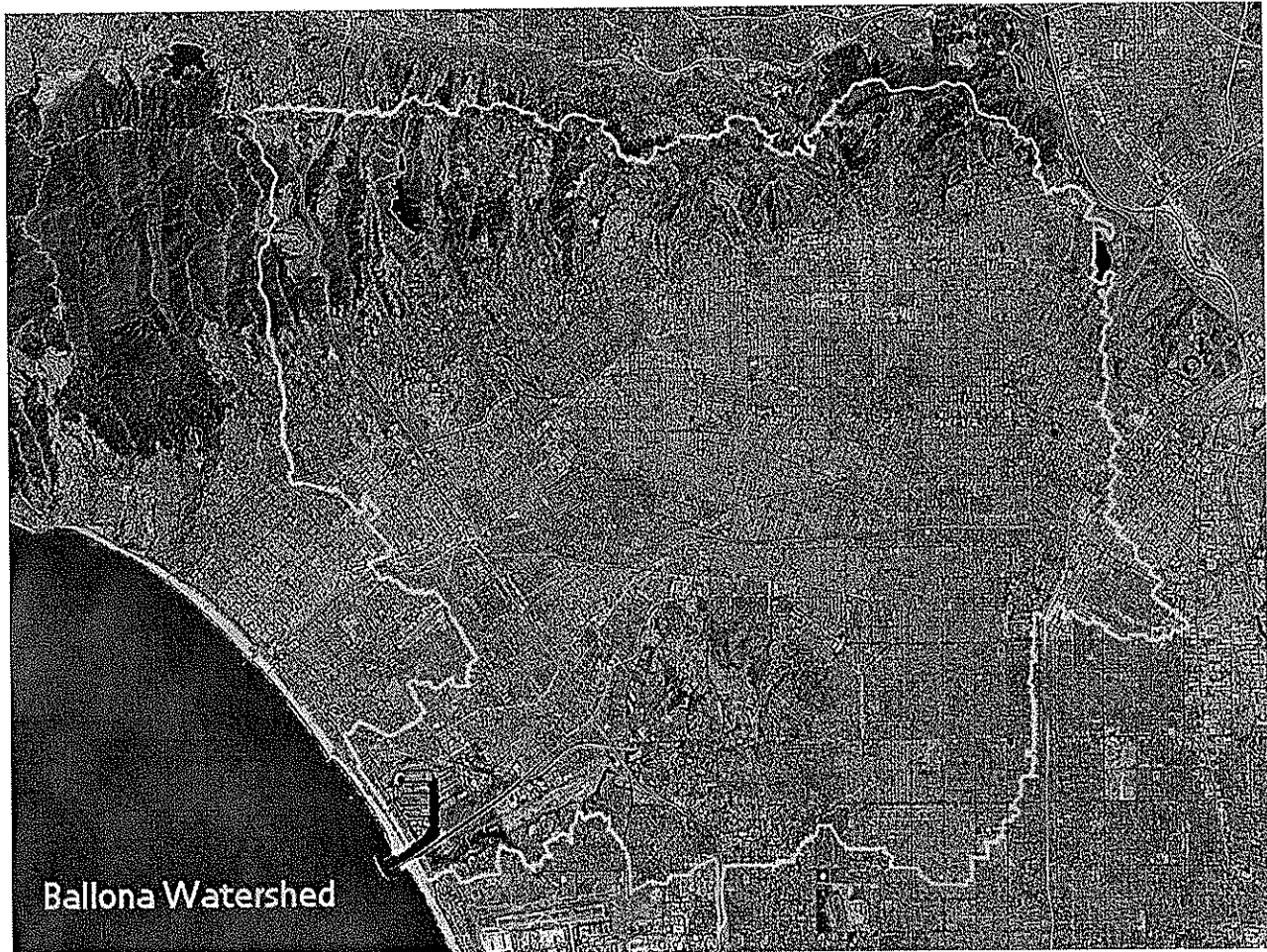


Figure 1: Extent of the Ballona Watershed

The transformation of the watershed from farmland to urban metropolis over the last two centuries exposed large populations to danger from floods. After two significant floods in the 1930s, the federal government worked with the Los Angeles County Flood Control District to implement a flood control plan to (1) channelize, straighten, and deepen Ballona

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

Creek; (2) install debris basins in the foothills to protect against debris flows during storm events; and (3) convert tributary streams to flood control channels, most in underground tunnels that erased traces of the extensive network of natural tributaries.

To provide recreational boating opportunities, the County of Los Angeles developed Marina del Rey in the late 1950s and early 1960s, transforming a large area of former coastal dunes and Ballona wetlands into a major small craft marina. The entrance channel to Marina del Rey was constructed immediately north of the Ballona Creek Channel, with a breakwater constructed at the mouth of the creek.

Ballona Creek has been greatly altered by human engineering. The Creek flows as an open channel for just under 10 miles from Los Angeles (south of Hancock Park) through Culver City, reaching the Pacific Ocean at Playa del Rey. It is almost entirely lined in concrete, with a sandy natural bottom west of Centinela Avenue, and is fed by a complex underground network of storm drains, which reaches north to Beverly Hills and West Hollywood. Tributaries of the Creek and Estuary include Centinela Creek, Sepulveda Canyon Channel, Benedict Canyon Channel, and numerous other storm drains. The creek meets Ballona Estuary at Centinela Avenue, and flows into the Santa Monica Bay at the site of engineered jetties and breakwater.

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

1.2 Polluted Runoff in the Ballona Watershed

The concretization of hydrologic pathways in the Ballona Watershed have been successful in their stated purpose of flood loss minimization, but have had the unintended consequence of subverting the natural cleansing processes of riparian habitat. High-flow concrete channels preclude the sequestration and absorption of pollutants and the recharging of ground aquifers. Lack of permeability ensures that pollutants spilled in the watershed are dumped into Santa Monica Bay at high concentrations.

Sources of pollution in the Ballona Watershed include, but are not limited to, automobiles, industry, fertilizers, pets, leaking tanks, legacy pollutants, and illegal dumping. These pollutant sources collect into storm drains and concretized creeks and result in high measured content of heavy metals, toxic chemicals and bacterial and viral pathogens in Ballona Creek and the Ballona Creek Estuary. Concentrations of these pollutants require drastic reductions to come into compliance with the Federal Clean Water Act.

Ballona Creek is designed to discharge to Santa Monica Bay approximately 71,400 cubic feet per second from a 50-year frequency storm event. In dry weather, flows in Ballona Creek are estimated to be 14 cubic feet per second.

1.3 Coming Into Compliance with the Clean Water Act

The Clean Water Act ("CWA") requires the establishment of limits on the amount of pollutants that can be discharged to Santa Monica Bay. Section 303(d)(1)(A) of the CWA requires each state to conduct a biennial assessment of its waters, and identify those waters that are not achieving water quality standards. The resulting list is referred to as the 303(d) list, otherwise known as "pollution-impaired waters." The CWA also requires states to establish a priority ranking for waters on the 303(d) list of impaired waters and to develop and implement limits on pollutants for these waters. These limits are called Total Maximum Daily Loads, or "TMDLs."

1.3.1 Assessment of Impairments in Ballona Creek

The most recent 303(d) assessment was in 2002 and identified 16 state impairments in Ballona Creek (Table 1). The most recent assessment localized to the Ballona Creek Estuary was in 1998 and found 10 state impairments (Table 2). These lists are not exhaustive, but indicate that impairments in water quality in Ballona Creek are most pressing in the areas of metals, toxic chemicals, and bacterial and viral pathogens.

Table 1: 303(d) Listed Impairments in Ballona Creek

State Impairment	Parent Impairment	Priority
CHEMA	OTHER CAUSE	HIGH
CHLORDANE (FISH TISSUE)	PESTICIDES	HIGH
CONTAMINATED SEDIMENTS (CADMIUM)	METALS (OTHER THAN MERCURY)	HIGH
CONTAMINATED SEDIMENTS (SILVER)	METALS (OTHER THAN MERCURY)	LOW
COPPER	METALS (OTHER THAN MERCURY)	HIGH
DDT	PESTICIDES	HIGH
DIELDRIN	PESTICIDES	HIGH
ENTERIC VIRUSES	PATHOGENS	HIGH
HIGH COLIFORM COUNT	PATHOGENS	HIGH
LEAD	METALS (OTHER THAN MERCURY)	HIGH
PCBS	PCBS	HIGH
PH	PH	LOW
SEDIMENT TOXICITY	TOTAL TOXICITY	HIGH
SELENIUM	METALS (OTHER THAN MERCURY)	LOW
TOXICITY	TOTAL TOXICITY	HIGH
ZINC	METALS (OTHER THAN MERCURY)	LOW

Table 2: 303(d) Listed Impairments in Ballona Creek Estuary

State Impairment	Parent Impairment	Priority
AROCHLOR	PCBS	HIGH
CHLORDANE	PESTICIDES	HIGH
DDT	PESTICIDES	HIGH
HIGH COLIFORM COUNT	PATHOGENS	HIGH
LEAD	METALS (OTHER THAN MERCURY)	LOW
PAHS	TOXIC ORGANICS	HIGH
PCBS	PCBS	HIGH
SEDIMENT TOXICITY	TOTAL TOXICITY	MEDIUM
SHELLFISH HARVESTING ADVISORY	FISH CONSUMPTION ADVISORY - POLLUTANT UNSPECIFIED	MEDIUM
ZINC	METALS (OTHER THAN MERCURY)	LOW

Natural Treatment Wetlands at Ballona Southeast:

1.3.2 Meeting the Goals of the TMDLs

The Los Angeles Regional Water Quality Control Board, vested with the responsibility of enforcing the federal Clean Water Act in the Los Angeles region, is in process of establishing TMDLs to address all water quality impairments. To date, the following TMDLs have been established:

- For Ballona Creek: Trash (2002), Copper (2005), Lead (2005), Selenium (2005), Zinc (2005), and Bacteria (2007).
- For Ballona Creek Estuary: Cadmium (2005), Chlordane (2005), Copper (2005), Lead (2005), Silver (2005), DDT (2005), PAH (2005), PCBs (2005), Zinc (2005), and Bacteria (2007).

These regulations require reductions of as much as 70 percent in measured effluent pollutant content. Additional TMDLs for the other stated impairments are being drafted and are expected to be adopted in the coming years.

The regulatory mechanism used to implement the TMDL is the National Pollutant Discharge Elimination System (NPDES) permit program. The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Under the NPDES storm water program, operators of large, medium and regulated small municipal separate storm sewer systems (MS4s), as well as industrial point polluters, require authorization to discharge pollutants. Parameters for the permit authorization process are informed by enacted TMDLs and are evaluated on rolling 5-year compliance schedules.

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Permits granted by the Regional Board whose compliance targets will become more stringent include the Los Angeles County Municipal Storm Water NPDES Permit (MS4), the State of California Department of Transportation (Caltrans) Storm Water Permit, as well as minor and general NPDES permits for industry and construction. According to a schedule laid out in the Basin Plan and its amendments, by 2016 bacterial targets and metals targets for dry-weather must be fully met, and wet-weather metals targets must be met for 50 percent of the drainage area served by the MS4 system.

On March 4, 2008, the Regional Water Quality Control Board issued long-awaited violation notices to 20 cities and Los Angeles County. The Regional Board is requiring municipal violators to provide documentation of the causes of the violations, and detailed descriptions of remedial actions already attempted and planned for the future. The cities and counties face fines of \$10,000 a day for noncompliance. The Regional Board may also ask the state Attorney General's office to seek civil liabilities in court of up to \$25,000 a day for each day a violation occurs.

Meeting the TMDL goals and avoiding liability will require major pollution-abatement efforts by all NPDES permit-holders, including the City and County of Los Angeles. Proposed abatement plans have failed to fully account for the reductions mandated by the Regional Board. The Integrated Resource Plan promulgated by the City of Los Angeles proposes to install cisterns and permeability improvements at parks, schools and government facilities. This approach is costly, and unlikely to provide the abatements necessary for compliance. A second favored approach by the City is the construction of end-of-pipe treatment plants

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that would use costly and energy-intensive means of filtering runoff. As has been shown by respondents to the plan, there is a marked deficiency of viable sites for treatment plants. The cleanest and most cost-effective means of achieving compliance with the TMDLs mandated by the Clean Water Act is the establishment of Natural Treatment Wetlands in the lower Ballona watershed, which would use natural processes to sequester runoff and filter pollutants from dry- and wet-weather runoff before it reaches Santa Monica Bay.

II Natural Treatment Wetlands

II.1 What is a Natural Treatment Wetland?

Wetlands are commonly known as biological filters, providing protection for water resources, including lakes, estuaries, ground water, and coastal shorelines. Although wetlands have always served this purpose, research and development of wetland treatment technology is a relatively recent phenomenon. In the United States, wastewater-to-wetlands research began in the late 1960s, and increased dramatically in scope during the 1970s. As a result, the use of wetlands for stormwater and wastewater treatment has gained considerable popularity worldwide. Currently, more than one thousand wetland treatment systems are in use in North America. This relatively new technology for water quality management is attractive because in many cases it provides the most cost-effective method for complying with the pollution abatement mandate of the Clean Water Act.

The goal of wastewater treatment is the removal of contaminants from the water in order to decrease the possibility of detrimental impacts on humans and the rest of the ecosystem. Many contaminants, including a wide variety of organic compounds and metals, are toxic to humans and other organisms. Other types of contaminants are not toxic, but nevertheless pose an indirect threat to our well-being. For example, loading of nutrients (e.g., nitrogen and phosphorus) to waterways can result in excessive growth of algae and unwanted vegetation, diminishing the value of lakes, bays and streams. The sequestration of polluted waters in a treatment wetland allows natural processes to proceed. These

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include sedimentation, chemical precipitation and adsorption, uptake and transformation by plants and microorganisms, and prolonged UV exposure.

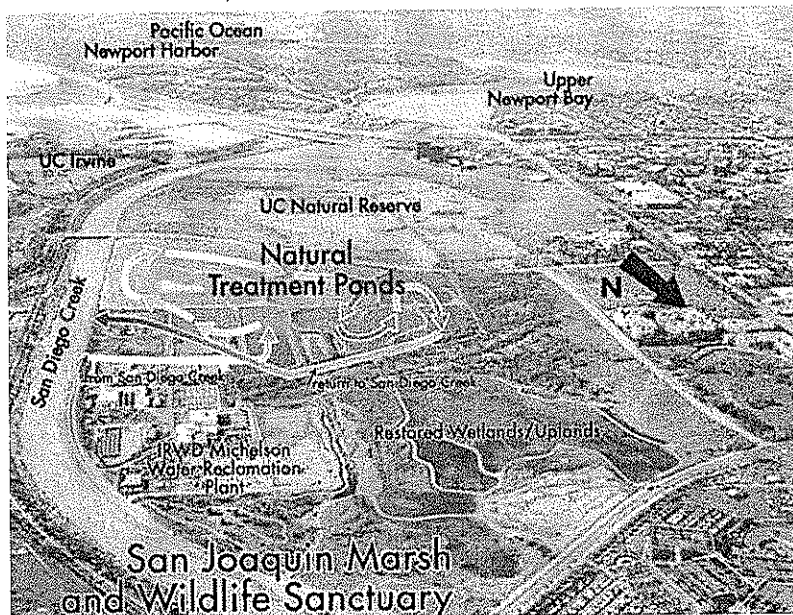


Figure 2: Diagram of Treatment Wetland System in the San Diego Creek Watershed

Wetlands have proven effective in treating municipal wastewater (sewage), agricultural wastewater and runoff, industrial wastewater, and stormwater runoff from urban, suburban and rural areas. Wetland treatment systems vary greatly in size and scope, from single-residence backyard wetlands to regional-scale systems such as the 1200-acre Iron Bridge treatment wetland in central Florida. In Southern California, a number of Natural Treatment Systems have been proposed and built. These include the ambitious implementation of an integrated treatment system in the San Diego Creek watershed. Under the auspices of the Irvine Ranch Water District, Orange County, and the city governments within the watershed, the conversion of at least 31 sites to treatment wetlands is under way at modest cost (\$41 million in the most recent estimate).

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II.2 How does a Natural Treatment Wetland work?

A number of physical, chemical and biological processes operate concurrently in constructed and natural wetlands to provide contaminant removal. Knowledge of the essential features of wetlands is helpful in the consideration of a constructed natural treatment system.

II.2.1 Features of Wetlands

The term "wetlands" encompasses a broad range of wet environments, including marshes, bogs, swamps, wet meadows, tidal wetlands, floodplains, and ribbon (riparian) wetlands along stream channels. All wetlands - natural or constructed, freshwater or salt - have one characteristic in common: the presence of surface or near-surface water, at least periodically. In most wetlands, hydrologic conditions are such that the substrate is saturated long enough during the growing season to create oxygen-poor conditions in the substrate. The lack of oxygen creates reducing (oxygen-poor) conditions within the substrate and limits the vegetation to those species that are adapted to low-oxygen environments.

The hydrology of wetlands is generally one of slow flows and either shallow waters or saturated substrates. The slow flows and shallow water depths allow sediments to settle as the water passes through the wetland. The slow flows also provide prolonged contact times between the water and the surfaces within the wetland. The complex mass of organic and inorganic materials and the diverse opportunities for gas/water

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interchanges foster a diverse community of microorganisms that break down or transform a wide variety of substances. Most wetlands support a dense growth of vascular plants adapted to saturated conditions. This vegetation slows the water, creates microenvironments within the water column, and provides attachment sites for the microbial community. The litter that accumulates as plants die creates additional material and exchange sites, and provides a source of carbon, nitrogen, and phosphorous to fuel microbial processes.

Many chemical and biological (especially microbial) transformations take place within the substrates. The accumulation of litter increases the amount of organic matter in the wetland and provides storage for many contaminants. Organic matter provides sites for material exchange and microbial attachment. The physical and chemical characteristics of soils and other substrates are altered when they are flooded. In a saturated substrate, water replaces the atmospheric gases in the pore spaces and microbial metabolism consumes the available oxygen. Since oxygen is consumed more rapidly than it can be replaced (by diffusion from the atmosphere), substrates become anoxic (without oxygen). This reducing environment is important in the removal of pollutants such as nitrogen and metals.

Wetlands may be classified in three types; surface flow wetlands, subsurface flow wetlands, and hybrid systems. Surface flow wetlands sustain a water level above the ground surface. Waterflow is primarily above ground. In subsurface flow wetlands, water level remains below the ground surface. Water flows through a sand or gravel bed; vascular plant roots anchor to the bottom of the bed. In order to maximize

Natural Treatment Wetlands at Ballona Southeast:

treatment yields in a site of variable flow, a hybrid system may be maintained. Hybrid systems also confer the possibility for multistage treatment systems in which differing chemical processes are maximized.

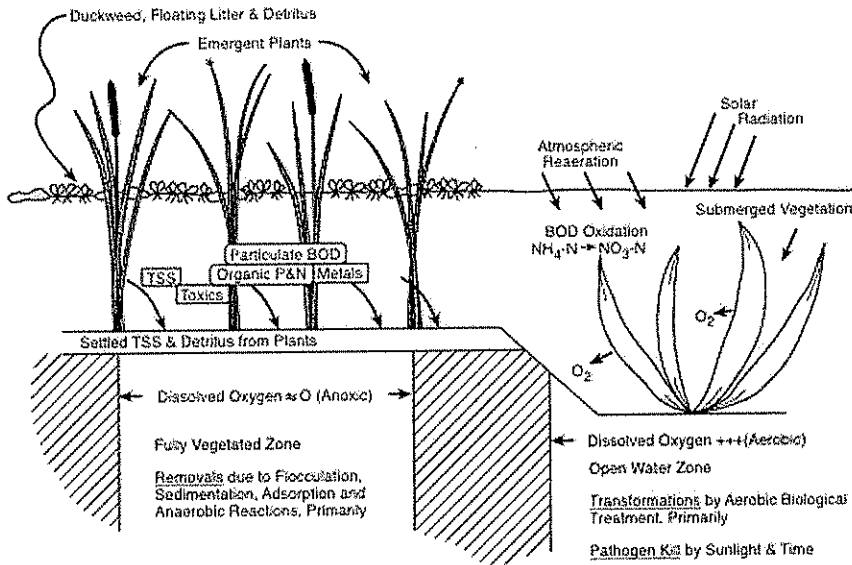


Figure 3: Selected Chemical Processes in a Wetland Ecosystem

11.2.2 Ecology of Wetlands

Wetlands are typically sites of high concentrations of biological diversity. Common to all wetlands is the presence of vascular plants, non-vascular plants (algae), microorganisms, and animals. These are highly adapted to saturated, oxygen-poor conditions. Decay of plant matter fuels high concentrations of microorganisms, which propel a diverse food web of vertebrate fauna.

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II.2.3 How Wetlands Improve Water Quality

Wetlands are commonly referred to as the "kidneys" of the hydrologic cycle. The complex interaction of water, substrate, plants, plant litter, algae, microorganisms and invertebrates in a wetlands ecosystem improves water quality by a variety of mechanisms, including:

- sedimentation of suspended particulate matter
- filtration and chemical precipitation through contact of the water with the substrate and plant litter
- chemical transformation
- adsorption and ion exchange on the surfaces of plants, substrate, sediment, and litter
- breakdown, transformation and volatilization of pollutants by microorganisms and plants
- uptake and transformation of nutrients by microorganisms and plants
- predation and natural die-off of pathogens.
- prolonged exposure of sequestered materials to UV radiation

In most systems, a detention period of 10-14 days is the standard for optimum treatment.

II.2.4 Mechanisms for Specific Pollutant Removal

Treatment of specific pollutants in a wetland occurs by a varied set of interrelated processes (Table 3). Design of wetland systems may be configured for maximum benefit to local pollutant loads.

Table 3: Pollutant Removal Mechanisms in Treatment Wetlands

POLLUTANT	REMOVAL MECHANISMS
Suspend solids	<ul style="list-style-type: none">• Sedimentation and filtration
Nitrogen	<ul style="list-style-type: none">• Nitrification and denitrification• Plant uptake• Volatilization
Phosphorus	<ul style="list-style-type: none">• Sedimentation• Adsorption
Pathogens	<ul style="list-style-type: none">• Sedimentation and filtration• Natural die-off / predation• UV radiation
Toxic chemicals	<ul style="list-style-type: none">• Adsorption• Degradation by bacteria• Volatilization
Selenium	<ul style="list-style-type: none">• Adsorption in permanently anoxic conditions• Volatilization
Dissolved metals	<ul style="list-style-type: none">• Adsorption• Precipitation

Sediment

Gravitational settling (sedimentation) is the predominant removal mechanism for suspended solids. Sedimentation of larger particles occurs in shallow areas designed as sediment traps, where finer particles can settle out over extended periods. Some solids will also be removed by vegetation through electrostatic adsorption and by filtering through trapped organic debris and sands.

Nitrogen

Nitrogen removal in treatment wetlands occurs by several complex mechanisms, collectively referred to as the nitrogen cycle. Bacteria present in the sediments facilitate important removal mechanisms. Bacteria convert ammonia to nitrate in the presence of oxygen, and convert nitrate to nitrogen gas in the absence of oxygen. These processes are affected by temperature, occurring more rapidly during warmer seasons when microbial activity is highest. Nitrate is also a readily available form of nitrogen for growth and uptake by wetland vegetation.

Phosphorus

Phosphorus removal occurs by sedimentation of particulate forms of phosphorus. Plant uptake of soluble phosphorus by adsorption is a secondary removal mechanism.

Pathogens

Pathogen removal in natural treatment wetlands occurs by filtration/interception, predation by nematodes and microorganisms, and natural die-off. Ultraviolet radiation (UV) from sunlight also reduces pathogen populations in systems with open water areas. The waters of the lower Ballona watershed are listed for enteric viruses and also for high coliform count. The coliform count is employed as an indicator of total bacterial load. Natural treatment systems have proven especially effective in reducing bacteria (see Figure 4), and a treatment wetland at Ballona would be expected to contribute significantly to meeting the goals of the TMDL. Reported data from functioning treatment wetlands systems on the reduction of viral loads is minimal and less conclusive.

Pesticides and Organics

Toxic organic compounds that are potentially present in urban runoff include a wide variety of hydrocarbons, solvents, and pesticides. Removal processes for organic compounds in natural treatment wetlands are highly compound-specific and include volatilization, sedimentation, adsorption, and microbial degradation. In the lower Ballona watershed, toxic compounds of concern include Chlordane, DDT, Dieldrin, Arochlor and PCBs. For these compounds, moderate uptake by adsorption to soil sediments and by biodegradation may be expected.

Selenium

Selenium removal is dependant upon low- oxygen (anoxic) conditions. A permanently anoxic environment promotes the biologically mediated conversion of selenium to reduced forms that will readily adhere to soil particles. Other removal/degradation mechanisms include bacterial and phyto methylation. During methylation, inorganic selenium is converted to volatile dimethylselenide (DMSe) by bacteria and plants. DMSe is substantially less toxic than inorganic forms of selenium (i.e. selenate and selenite) and will readily be transferred to the environment through volatilization. Selenium is listed as a low priority impairment for Ballona Creek, and recent studies of selenium removal in surface flow wetlands have shown that selenium volatilization is a significant removal pathway.

Metals

Removal of trace metals occurs by several mechanisms including adsorption, sedimentation, precipitation as insoluble salts, and uptake by plants and microorganisms. Adsorption and sedimentation are key to the removal of heavy metals. High concentrations of Cadmium, Copper,

Lead, Silver and Zinc in the lower Ballona watershed can expect to see significant abatement by adsorption and sedimentation. High levels of sedimentation of these metals may require infrequent dredging and removal.

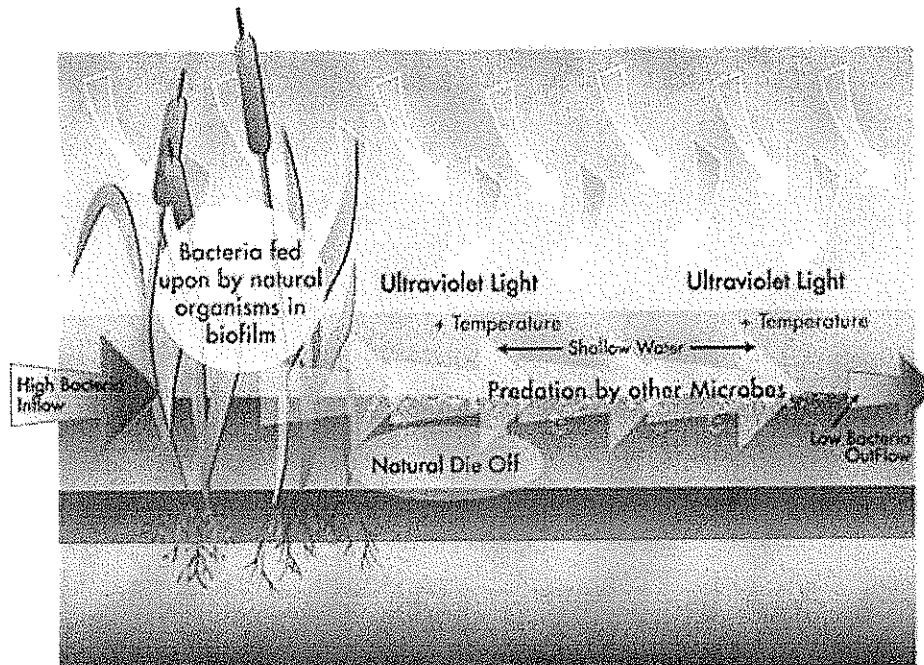


Figure 4: Bacterial Removal Mechanisms

II.3 Elements of Treatment Wetlands Design

Natural treatment systems incorporate various elements to achieve specific design objectives. While most natural treatment facilities share common design features, design of treatment wetlands must be tailored to local conditions and constraints in order to maximize removal of local pollutants, accommodate endemic species, and provide necessary flood control for large storm events.

Cells

Wetlands can be constructed by excavating basins or by building up earth embankments (dikes), or by a combination of the two. A gradual slope keeps the water velocity low, which promotes more effective treatment in the wetlands and limits stress on the vegetation that could be caused by high water velocities. The design of wetland cells should accommodate a retention period of maximum effectiveness, usually no less than 10-14 days. Finger dikes may be employed to create controlled, serpentine flow paths through varied treatment zones.

Flow Control Structures

Water levels should be maintained by simple and easily-adjustable low maintenance flow control structures. Inlet structures are designed to dissipate energy at the inflow, reducing the potential for erosion and damage to wetland plants. Important elements of inlet and outlet design include even flow distribution, elevation to prevent blockage by silt buildup, facilitation of water quality monitoring, devices for trash

catchment, and structures such as sluice gates for containment and drainage of the system.



Figure 5: Constructed Treatment Wetland in the Las Vegas Wash

Hydrologic and Vegetative Design

Natural treatment systems may incorporate varied water depths to facilitate maximum treatment. Shallow water, 1-2 feet in depth, supports emergent plants such as cattails and bulrushes, which provide frictional resistance to slow the velocity of the inlet waters, promoting sedimentation and increasing the time for pollutant removal. Cattails and other shallow-water vegetation provide a physical substrate for filtering bacteria, and some removal of soluble phosphate. Bulrushes provide a good long-lasting peat source for anoxic degradation of organic pollutants such as pesticides and petroleum products. Deeper, open water areas, approximately four to six feet deep, provide favorable environments for fish and also provide sites for ultraviolet degradation of complex organics and pathogens. The coexistence of emergent, aquatic, and woody plants in a treatment system, each of which have different

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preferred water depths, promotes both biodiversity and variable treatment zones. Riparian and upland vegetation adjacent to the wetlands can serve important habitat functions, including the production of detritus critical to the wetland food chain.

Stormwater Flooding

The use of levees around the perimeter of the wetlands provides contingency for high-flow storms. Runoff from the largest storm events will require diversion structures. Maximum capacity of a treatment wetlands varies greatly based on the design of mitigation structures.

Monitoring Devices

Monitoring devices for automatic flow measurement and water quality sampling are typically installed near the inlets and outlets to measure influent and effluent pollutant concentrations.

Maintenance

Maintenance of natural treatment systems is generally minimal. Required service may include cleaning and maintaining inlet and outlet structures, valving, and monitoring devices, and inspecting embankments and structures for damage. Harvesting of plants generally is not required, but annual removal or thinning of vegetation or replanting of vegetation may be needed to maintain flow patterns and treatment functions.

II.4 Treatment Wetlands Are More Economical Than Mechanical Treatment Facilities, Saving Millions in Taxpayer Funds

The City of Los Angeles has proposed an Integrated Resources Program ("IRP") which outlines a plan for catching and treating urban runoff as mandated by the Clean Water Act. The plan relies on two approaches: source reduction and mechanical treatment. Significant source reduction is proposed via catchment at government-owned facilities such as schools and parks, and a requirement that new development incorporate on-site catchment. While source reduction is a worthwhile and necessary goal, the IRP does not quantify the expected benefits, which are expected to fall far short of what's needed to meet the goals of the TMDLs.

In order to meet those goals, the IRP suggests the construction of conventional end-of-pipe treatment plants. Unfortunately, the costs of mechanical treatment of the City's urban runoff would far exceed the IRP's \$1 billion estimate inclusive of all runoff treatment approaches. Meeting the mandated targets would require a network of up to 24 plants at a cost upwards of \$9 billion. Not only are construction and operational costs high, but there is a marked lack of viable publicly-owned sites for such plants. Mechanical treatment plants are also energy-intensive, producing greenhouse gas emissions, and rate a poor investment at a time when energy costs are escalating. Mechanical treatment of runoff is a costly and inefficient boondoggle that fails to meet the multiple benefit goals of an integrated approach that enhances the value and livability of city neighborhoods.

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The construction of treatment wetlands is a far more economical approach. Construction and operational costs are low, and auxiliary benefits to the value of local communities are high. Even when factoring the cost of acquisition of property, a large-capacity treatment wetland is a regional solution that will ultimately pay for itself, saving billions of taxpayer dollars over the alternative.

III

Natural Treatment Wetlands in the Lower Ballona Watershed

III.1 Natural Treatment Wetland Site Opportunity

There currently stands a large undeveloped tract of cleared land in close proximity to the confluence of Centinela and Ballona Creeks. Historic wetlands, part of the wetlands ecosystem that once stretched from Venice to El Segundo on the coast and inland towards what is now Culver City, 1000 acres of land was purchased by Howard Hughes in the 1940's, about 300 acres of which was built for use as an aircraft factory and airstrip at the eastern end of the property. Many other acres were drained, cleared and farmed. The western-most portion of Hughes' land remained functional salt and freshwater marsh. After Hughes' death, the land was transferred to a development company who proposed a mammoth development for the 1000 acres called "Playa Vista." Objections to the destruction of the last remaining coastal wetlands in Los Angeles County held up the project for nearly 25 years. In 2000, Playa Vista began constructing its first phase of development, approximately 250 acres. In 2003, the Ballona Wetlands Land Trust, working in conjunction with other environmental groups, convinced the State of California to purchase approximately 600 acres of the Ballona Wetlands for permanent protection. The remaining 111 acres is currently undeveloped, and unreserved property known as "Ballona Southeast" and threatened with development by Playa Vista's proposed "Phase 2."

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The landowner's proposal for the 111 acre undeveloped site calls for a 99.3 acre "Urban Development Component" and an 11.7 acre "Habitat Creation/Restoration Component" in the form of restoration of the riparian corridor in the historical path of Centinela Creek. The proposal calls for 2,600 dwelling units, 175,000 square feet of office space and 150,000 square feet of retail space.



Figure 6: The Lower Ballona Watershed

- A, B, C: Permanently Protected Wetlands
- D: Natural Treatment Wetland Site Opportunity at Ballona Southeast ("Playa Vista Phase II")
- E: Riparian Corridor in Historic Path of Centinela Creek
- F: Playa Vista Phase I Residential and Commercial Development
- G: Ballona Creek
- H: Ballona Creek Estuary
- I: Centinela Creek
- J: Marina del Rey
- K: Venice Canals
- L: Santa Monica Bay

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The California Second District Court of Appeal halted development on the site in October 2007, ruling that the Los Angeles City Council violated the California Environmental Quality Act when it approved Playa Vista's development expansion in 2005. The developers' Environmental Impact Report was deemed "deficient in its analysis of land use impacts, mitigation of impacts on historical archaeological resources, and wastewater impacts."

Development of the site would not only have unavoidable adverse impacts on the environment by increasing traffic and wastewater and the emission of greenhouse gases and toxic pollutants, but would despoil an ideal site for collected stormwater treatment, the last available site of significant capacity in the lower Ballona watershed. Deployment of an engineered Treatment System in the preserved Wildlife Reserve would not be appropriate, as fragile local ecosystems would be forever lost. However, a Treatment Wetland at Ballona Southeast would provide valuable upland habitat for protected species, enhancing the habitat value of the adjacent Wildlife Reserve.

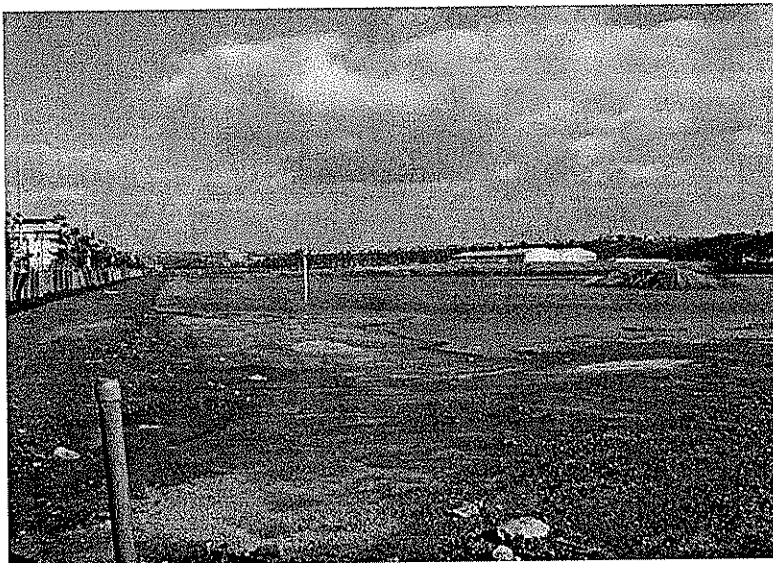


Figure 7:
Collected Stormwater at
Ballona Southeast ("Playa
Vista Phase II") site

Topography of the site is flat and low-lying, ranging from approximately 7 to 24 feet above mean sea level. The soil consists of Holocene Alluvium deposited within the last 11,000 years overlain by recent fill. The alluvium ranges from 40 to 120 feet thick and comprises compressible soft silty clay and clay with layers of silt and sand. The presence of impermeable clay indicates that compaction of soil would provide sufficient liner for the creation of a natural treatment wetland on the site.

A natural treatment wetlands system at Ballona Southeast would be able to draw upon existing hydrologic infrastructure. Already, a tributary area of approximately 1,056 acres drains to the property. According to the current landowner, the site currently "provide[s] for temporary stormwater detention." A county stormwater drainage pipe runs parallel to the site along Jefferson Boulevard, and could supply additional surface water. The path of the concretized Centinela Creek runs less than a kilometer from the site to the east, and bends to within 400 meters of the site to the north. Drainage pipes could divert runoff from the creek back towards the creek's original pathway, where it could be treated in a freshwater wetland. Outflow from the treatment wetlands could replenish the riparian corridor and the wetlands west of Lincoln Boulevard or be diverted to Ballona Creek west of its confluence with Centinela Creek.

Ballona Southeast presents a tremendous opportunity for the enhancement of capacity for treatment of polluted runoff. It is the only site of comparable size and value in the lower Ballona watershed and is uniquely recommended by its placement near the confluence of Centinela and Ballona Creeks, by its elevation and soil constituents, and

Natural Treatment Wetlands at Ballona Southeast:

by its historical role as wetlands and its proximity to preserved wetlands habitat. State and local agencies would be well advised to consider acquisition of this land to create a cost-effective means of treating regional polluted runoff with beneficial consequences for the environmental health of the lower Ballona watershed and Santa Monica Bay.

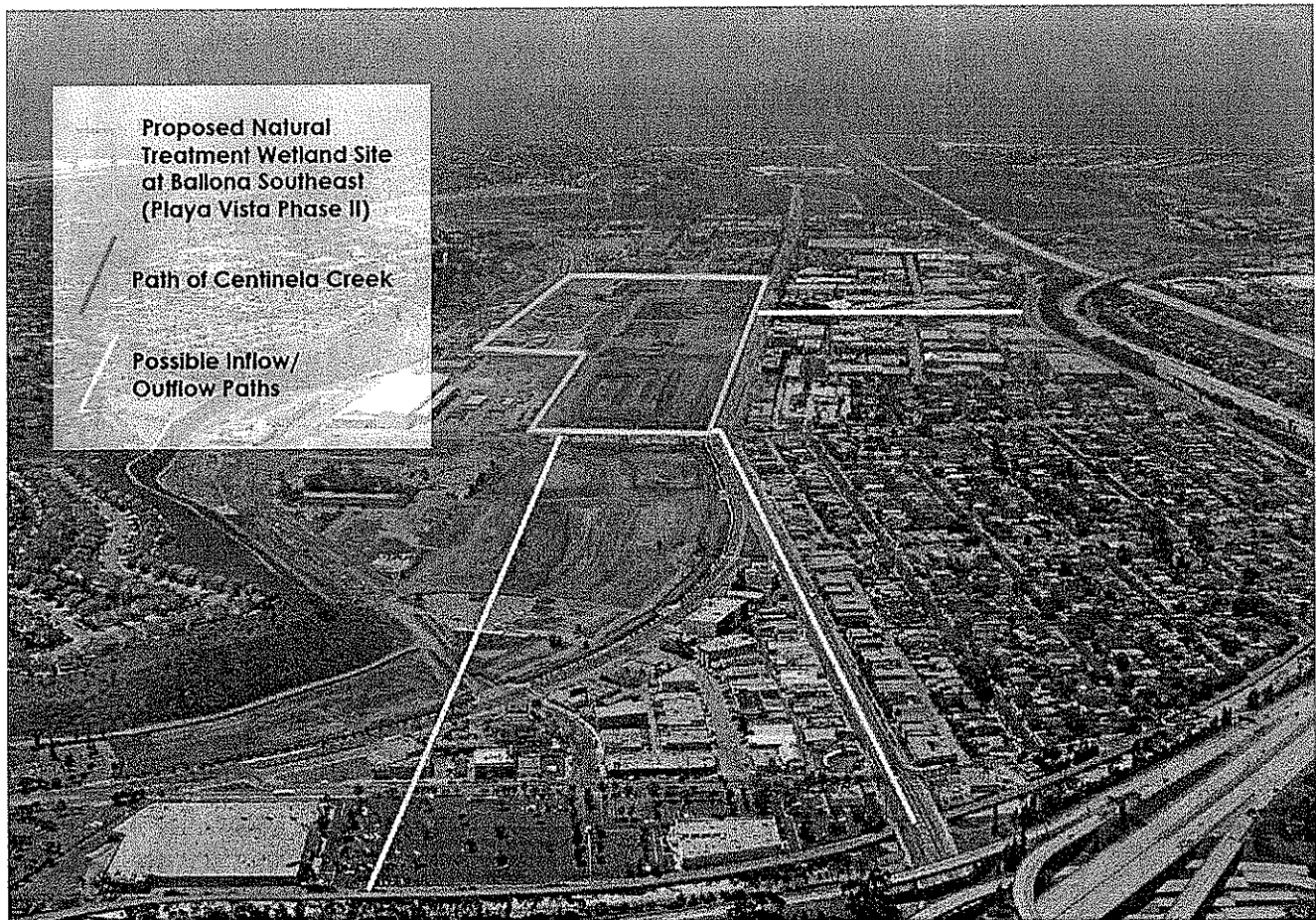
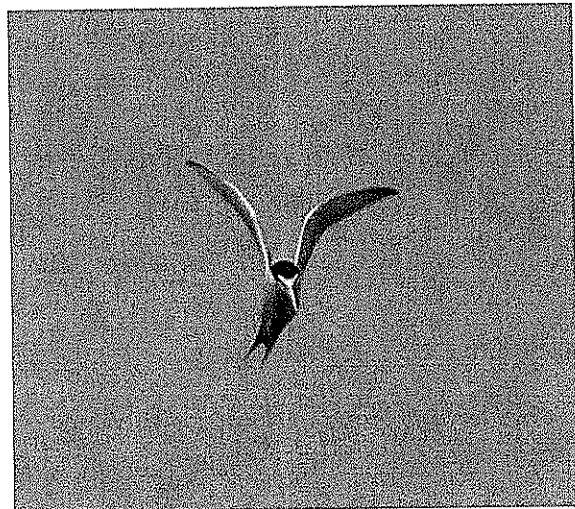


Figure 8: Possible Inflow/Outflow Paths at Ballona Southeast

III.2 Auxiliary Benefits of a Natural Treatment Wetland at Ballona Southeast: Wildlife Habitat, Recreation, Increased Property Values, Green Jobs

At least 90 percent of historic coastal wetlands in California have been lost due to filling, dredging, flood control and intensive development. In Los Angeles County, over 98 percent of wetlands have been lost. The wetlands that remain at Ballona have been degraded by trash and legacy pollutants as well as invasive species. Key native species remain, however, and rely on the Ballona wetlands for survival.

Many of the bird species native to Los Angeles have been extirpated. Of those that remain, the red-tailed hawk, least tern (endangered), yellow-headed blackbird, American coot, cinnamon teal, snowy egret, white-faced Ibis, red-winged blackbird, and great blue heron are among the visitors to the Ballona Wetlands area. Tanagers, wrens, finches, towhees, phoebes,



Federal and State Endangered California Least Tern photographed at the Ballona Wetlands

phainopeplas, and owls are common native birds in the upland areas. Some of these are migratory visitors to Los Angeles. A restoration of wetlands habitat at Ballona Southeast could attract listed species such as the least Bell's vireo and the coastal California gnatcatcher. Recently Osprey (listed as sensitive by the California Department of Fish and Game)

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have been spotted frequenting standing water on the site of the proposed treatment wetland.

Known and Documented to Use the Ballona Wetlands:

- **American Peregrine Falcon** (*Falco peregrinus*) State Endangered
- **Brown Pelican** (*Pelecanus occidentalis*) State and Federal Endangered
- **California Least Tern** (*Sterna antillarum browni*) State and Federal Endangered
- **Belding Savannah Sparrow** (*Passerculus sandwichensis beldingi*) State Endangered

Known Historic or Occasional Use of Ballona Wetlands:

- **Light-footed Clapper Rail** (*Rallus longirostris levipes*) State and Federal Endangered
- **Western Snowy Plover** (*Charadrius alexandrinus nivosus*) Federal Threatened

Possible Historic Use or Potential Future Use of Ballona Wetlands:

- **Coastal California Gnatcatcher** (*Polioptila californica californica*) Federal Threatened
- **Least Bell's Vireo** (*Vireo bellii pusillus*) State and Federal Endangered
- **Southwestern Willow Flycatcher** (*Empidonax traillii extimus*) Federal Endangered
- **California Red-legged Frog** (*Rana aurora draytonii*) Federal Threatened
- **Pacific Pocket Mouse** (*Perognatus longimembris pacificus*) State and Federal Endangered
- **Unarmored Threespine Stickleback** (*Gasterosteus aculatus williamsoni*) State and Federal Endangered
- **Arroyo Southwestern Toad** (*Bufo microscaphus californicus*) Federal Endangered
- **El Segundo Blue Butterfly** (*Euphilotes battoides allyni*) Federal Endangered
- **San Diego Fairy Shrimp** (*Branchinecta sendiegoensis*) Federal Endangered
- **Quino Checkerspot Butterfly** (*Euphydryas editha quino*) Federal Endangered
- **Tidewater Goby** (*Eucyclogobius newberryi*) Endangered
- **Saltmarsh Bird's Beak** (*Cordylanthus maritimus*) Endangered

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In recent years, conservationists have stressed the importance of the maintenance of contiguous habitat areas for the preservation of diverse species. In the Ballona watershed, numerous groups advocate for the creation of a "Green Corridor" connecting a renewed natural ecosystem from Baldwin Hills to the Ballona Wetlands along a revitalized Ballona Creek. Preservation of the land at Ballona Southeast as a constructed treatment wetland would be a vital link in the greenway, connected to the rest of Ballona via Playa Vista's existing Riparian Corridor. The establishment of a contiguous wildlife corridor in Los Angeles would be a model demonstration of the viability of urban ecosystems.



Osprey photographed at Ballona Southeast (on proposed site) February 2008. The Osprey (*Pandion haliaetus*) is listed by the California Department of Fish and Game as a Species of Special Concern. Formerly a breeding bird throughout much of California, this species had declined by the 1940's and is now found mainly in a few areas in northern California.

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A study of major metropolitan cities in the U.S. concluded that Los Angeles had the lowest amount of accessible park space per capita of any city of comparable size, and increased development will only exacerbate the deficit. A natural treatment wetland at Ballona Southeast would provide needed open space and could incorporate trails and recreational areas, as has been accomplished at natural treatment wetland sites around the country. One model to emulate is the Sepulveda Basin Wildlife Reserve established by the City of Los Angeles, where a protected wildlife reserve coexists with mixed-use community park space. The park doubles as stormwater and flood water management areas during the rainy winter months.

Numerous studies have shown beyond a doubt that parks and open space increase the value of neighboring residential property. A constructed natural treatment wetland would be a boon to residents of surrounding communities including Westchester, South Los Angeles, Mar Vista, Marina del Rey, Playa del Rey and El Segundo, as well as Playa Vista (Phase I), by providing accessible, aesthetically pleasing park space that enhances the value and diversity of their communities.

Construction of a Treatment Wetland at Ballona Southeast also presents the opportunity to create "green jobs" for disadvantaged local communities. These jobs would provide training in ecologically sensitive construction and hydraulic design, which would prove valuable expertise as Los Angeles revamps its private and public infrastructure to be more efficient and ecologically sustainable.

III.3 Fulfillment of Multiple Agency Goals and Objectives

In recent decades, the Los Angeles Regional Quality Control Board, the City of Los Angeles and the County of Los Angeles have promulgated a variety of interagency plans for improved hydrologic management in the Ballona Watershed. A Treatment Wetland at the Ballona Southeast site would significantly advance the goals of many of these plans.

SANTA MONICA BAY RESTORATION PLAN

In 1994, the Santa Monica Bay Restoration Project, the precursor organization to the Santa Monica Bay Restoration Commission, completed the Santa Monica Bay Restoration Plan ("Restoration Plan"), which addresses all of the coastal watersheds that drain into Santa Monica Bay. The Restoration Plan identifies almost 250 actions that address critical problems such as stormwater and urban runoff pollution, habitat loss and degradation, and public health risks associated with seafood consumption and swimming near storm drain outlets. The Restoration Plan offers the following recommendations:

- "Evaluate and develop effective mechanisms to address small discharges of nonstorm or contaminated storm runoff within the Santa Monica Bay watershed."
- "Restore and enhance ecological diversity and productivity of degraded wetlands."
- "Acquire privately-owned wetlands."
- "Create new wetlands, where feasible."

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LOS ANGELES BASIN WATER QUALITY CONTROL PLAN

In 1994, the Los Angeles Regional Water Quality Control Board updated its Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties ("Basin Plan"). The Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters facing the Bay and principles including:

- "Reclaimed water will be used to preserve, restore or enhance instream beneficial uses which include, but are not limited to, fish, wildlife, recreation and esthetics associated with any surface water or wetlands."

CITY OF LOS ANGELES INTEGRATED PLAN FOR THE WASTEWATER PROGRAM

In 1999, the City of Los Angeles began work on an Integrated Plan for the Wastewater Program (IPWP) to address the interrelationships between water supply, wastewater, and stormwater. Based on a dual track approach of information gathering and stakeholder outreach, a list of policy recommendations was developed, which include development of new wastewater treatment facilities at "upstream" locations, expand use of recycled water, increase water conservation, increase the diversion of dry-weather urban runoff for treatment, and increase the amount of stormwater that can be captured and beneficially used. The IPWP is the first element of the Integrated Resource Plan (IRP) for the City of Los Angeles, which addresses wastewater, water supply, and stormwater runoff.

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

SOUTHERN CALIFORNIA WETLANDS REGIONAL RESTORATION STRATEGY

In 2001, the Board of Governors of the Southern California Wetlands Recovery Project, a partnership of public agencies working cooperatively to acquire, restore, and enhance coastal wetlands and watersheds between Point Conception and the International border with Mexico, adopted a Regional Restoration Strategy which identified specific wetland restoration objectives for each county in the Southern California region. Site-specific objectives for the Ballona Wetlands Complex include:

- "acquire coastal wetland and associated upland habitat"
- "develop and implement a restoration and long-term management plan for Ballona wetlands complex."

LOWER BALLONA CREEK RECONNAISSANCE STUDY

In 2002, the U.S. Army Corps of Engineers initiated the Lower Ballona Creek Ecosystem Restoration Los Angeles County 905(b) Reconnaissance Study. The study identifies issues and opportunities for restoration of drainage channels and natural areas in the lower Ballona Creek watershed. The General Opportunity Statement highlights the following:

- "Restore previously filled wetlands and improve the quality of remaining existing wetland remnants and riparian habitat."
- "Creating healthy wetland ecosystems will provide important coastal wetland habitat for threatened and endangered species and can also aid in enhancing Ballona Creek water quality."

BALLONA CREEK WATERSHED MANAGEMENT PLAN

The Ballona Creek Watershed Task Force is a stakeholder group convened by the County of Los Angeles, the City of Los Angeles, the Santa Monica Bay Restoration Commission, and Ballona Creek Renaissance. The task

Natural Treatment Wetlands at Ballona Southeast:

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force articulated a broad goal for this Plan: “[Set] forth pollution control and habitat restoration actions to achieve ecological health.” The Ballona Creek Watershed Management Plan was adopted in September 2004 and endorses the following goals:

- “Improve Quality of Surface Water and Groundwater”
- “Restore Natural Hydrologic Function to Ballona Creek and Tributaries Where Feasible”
- “Improve Aquatic, Estuarine and Riparian Habitat Quality and Quantity”
- “Improve Habitat Quality, Quantity and Connectivity”
- “Improve Access to Open Space and Recreation for All Communities”

GREEN LA: AN ACTION PLAN TO LEAD THE NATION IN FIGHTING GLOBAL WARMING

The Green LA Action Plan was produced by the office of Mayor Antonio Villaraigosa in May 2007. The plan endorses a goal of 35% reduction in greenhouse-gas emissions below 1990 levels by 2030, and outlines actions to be taken commensurate with that goal.

- “Unpave paradise by increasing green space”
- “Create 35 new city parks by 2010”
- “Identify and develop promising locations for stormwater infiltration to recharge groundwater aquifers.”
- “An urban ecosystem approach recognizes and accounts for the intrinsic ability of ecosystems—through biological processes—to improve environmental quality and livability”

III.4 Funding Sources for Lower Ballona Regional Natural Treatment Wetland

California taxpayers have repeatedly demonstrated their willingness to fund bonds in order to achieve the goals of open space, wildlife protection and clean water. Funding for a Natural Treatment Wetland at Ballona Southeast is available under a number of city and state propositions.

PROP. 84

Proposition 84 was approved by California residents in 2006. The Act authorizes the issuance of \$5.388 billion in general bonds to fund projects relating to safe drinking water, water quality and supply, flood control, waterway and natural resource protection, water pollution and contamination control, state and local park improvements, public access to natural resources, and conservation efforts. The Proposition states the following intentions:

- Provide grants and loans for safe drinking water and water pollution prevention projects.
- Protect the public from catastrophic floods by identifying and mapping the areas most at risk, inspecting and repairing levees and flood control facilities, and reducing the long-term costs of flood management, reducing future flood risk and maximizing public benefits by planning, designing and implementing multi-objective flood corridor projects.
- Protect the rivers, lakes and streams of the state from pollution, loss of water quality, and destruction of fish and wildlife habitat

Natural Treatment Wetlands at Ballona Southeast:

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- Protect the beaches, bays and coastal waters of the state for future generations.
- Revitalize our communities and make them more sustainable and livable by investing in sound land use planning, local parks and urban greening.

PROP. 1E

The Disaster Preparedness and Flood Prevention Bond Act was approved by California voters in 2006. The Act provides \$4.09 billion in bonds – some of which are specified for use in the Central Valley and some of which are to be used outside of the Central Valley. The Act provides:

- \$300 million to the Department of Water Resources for grants for stormwater flood management projects that: are designed to manage stormwater runoff to reduce flood damage, comply with regional water quality control plans, and are consistent with any applicable IRWMP.
- \$500 million to provide funds to local governments for the state's share of costs for locally sponsored, federally authorized Flood Control Subventions.
- \$290 million to protect, create, and enhance flood protection corridors, including flood control bypasses and setback levees; as well as for floodplain mapping.

Natural Treatment Wetlands at Ballona Southeast:

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PROP. O

On November 2, 2004, the voters of Los Angeles overwhelmingly passed Proposition O, authorizing the City of Los Angeles to issue \$500 million in general bonds for projects to protect the City's water resources. The Proposition aimed to clean up pollution, including bacteria and trash, in response to the regulatory requirements of the Federal Clean Water Act, while funding improvements to protect groundwater, provide flood protection, and increase water conservation, habitat protection, and open space. Criteria for project approval include:

- Protect rivers, lakes, beaches, and the ocean
- Conserve and protect drinking water and other water sources
- Reduce flooding and use neighborhood parks to decrease polluted runoff
- Capture, clean up, and reuse stormwater

PROP. 50

California residents approved the \$3.44 billion Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 by a large margin. In addition to providing funds for protection of the water supply from terrorism, the act declares that it is necessary and in the public interest to:

- Establish and facilitate integrated regional water management systems and procedures to meet increasing water demands due to significant population growth that is straining local infrastructure and water supplies.
- Improve practices within watersheds to improve water quality, reduce pollution, capture additional storm water runoff, protect and manage groundwater better, and increase water use efficiency.

Natural Treatment Wetlands at Ballona Southeast:

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- Protect urban communities from drought, increase supplies of clean drinking water, reduce dependence on imported water, reduce pollution of rivers, lakes, streams, and coastal waters, and provide habitat for fish and wildlife.
- Protect, restore, and acquire beaches and coastal uplands, wetlands, and watershed lands along the coast and in San Francisco Bay to protect the quality of drinking water, to keep beaches and coastal waters safe from water pollution, and to provide the wildlife and plant habitat and riparian and wetlands areas needed to support functioning coastal and San Francisco Bay ecosystems for the benefit of the people of California.

Conclusions/Recommendations

The management of dry- and wet-weather urban runoff presents a major challenge to the infrastructure of large cities such as Los Angeles. The expansion of impermeable development over large swaths of the Ballona Watershed occurred before the consequences of polluted effluent were fully understood and before best practices for management of runoff were commonplace.

At the beginning of the 21st Century, opportunities for better land use practices that mitigate pollution are few. There is a marked lack of open space left in the Ballona Watershed, and particularly in the lower portion of the watershed where surface effluent will require treatment. To prevent further pollution of Santa Monica Bay, as required by State and Federal law, and to revitalize our beaches and expand our tourism economy, an integrated approach to source reduction and treatment of polluted runoff should be an urgent priority for policymakers.

As urban development and population growth continue, the problem will metastasize, and consequences of continued dumping of toxics and pathogens will further degrade ecosystems already expected to face severe strain from climate change. The Integrated Resource Plan offered by the City of Los Angeles does not adequately address the scope of the challenge. Installation of porous pavement and catchments at city-owned sites will not sufficiently mitigate downstream pollutants. Construction of treatment plants will be costly and energy-intensive, releasing tons of greenhouse gases, and there is a notable lack of available sites on which to build. It is for these reasons that state and local

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

agencies are urged to consider the purchase of privately-held land at Ballona Southeast for the construction of a natural treatment wetland.

There are no sites of comparable promise left in the watershed, and a constructed wetland would restore the land's historic role in the lower Ballona ecosystem. Natural Treatment Wetlands throughout North America have proven effective in the sequestration and abatement of the very pollutants impairing the Ballona Watershed. Construction and maintenance costs are low, and auxiliary benefits to wildlife and to communities in need of vital park space are high.

Taxpayers in California have signaled their environmental priorities by approving multiple bond acts for the preservation of open space and the mitigation of pollution. Compliance with Federal and State law demands drastic and timely action by local agencies. A Natural Treatment Wetland at Ballona Southeast is the most attractive, cost-effective, "green" option, and should be given all due consideration as we attempt a more conscious stewardship of our ecological resources.



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Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

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Ballona Wetlands Land Trust

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April, 2008

Natural Treatment Wetlands at Ballona Southeast:

A Better Solution for Urban Runoff in the Ballona Watershed

EXHIBIT F - 2



California Regional Water Quality Control Board Los Angeles Region



Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Linda S. Adams
Agency Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

March 4, 2008

Mr. Enrique C. Zaldivar
Director, Bureau of Sanitation
City of Los Angeles
1149 S. Broadway, 10th Floor
Los Angeles, CA 90015

VIA CERTIFIED MAIL

NOTICE OF VIOLATION (ORDER NO. 01-182 AS AMENDED BY ORDER NO. R4-2006-0074 AND ORDER NO. R4-2007-0042, NPDES PERMIT NO. CAS004001, WDID 4B190188001)

Dear Mr. Zaldivar:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the state regulatory agency responsible for protecting water quality in Los Angeles and Ventura Counties. To accomplish this, the Regional Board issues permits under the National Pollutant Discharge Elimination System (NPDES) as authorized by the federal Clean Water Act. On December 13, 2001, this Regional Board adopted the Los Angeles County Municipal Separate Storm Sewer System Permit, NPDES Permit No. CAS004001, Order No. 01-182 (LA MS4 Permit), under which the City of Los Angeles is a Permittee.

BACKGROUND

The LA MS4 Permit includes Discharge Prohibitions, Receiving Water Limitations, and a Monitoring and Reporting Program, among other requirements. Under Part 1, Discharge Prohibitions, the LA MS4 Permit requires that the Permittees "effectively prohibit non-storm water discharges into the MS4 [municipal separate storm sewer system] and watercourses," except under limited circumstances, as specified in Part 1. Under Part 2, Receiving Water Limitations, the LA MS4 Permit prohibits "discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives."

The LA MS4 Permit was subsequently amended on September 14, 2006 by Order No. R4-2006-0074 and on August 9, 2007 by Order No. R4-2007-0042 to implement the summer dry weather waste load allocations established in the Santa Monica Bay Beaches Bacteria Dry Weather Total Maximum Daily Load (TMDL) and the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL. The summer dry weather requirements were incorporated in the LA MS4 Permit as specific Receiving Water Limitations (RWLs) for fecal indicator bacteria in Parts 2.5 and 2.6, and a supporting specific prohibition on discharges from the MS4 that cause or contribute to exceedances of the bacteria RWLs.

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

The Permittees collectively discharge urban runoff and storm water from the MS4 to the Santa Monica Bay and Marina del Rey Harbor, navigable waters of the United States, under the provisions and requirements of the LA MS4 Permit. These discharges, as demonstrated via shoreline and harbor water quality monitoring, contain total coliform, fecal coliform, enterococcus and other pollutants, which degrade water quality and impact beneficial uses of the receiving waters at beaches along Santa Monica Bay and within Marina del Rey Harbor. These bacterial indicators are defined as wastes under the California Water Code (CWC § 13000 et seq.).

VIOLATIONS OF RECEIVING WATER LIMITATIONS

The City of Los Angeles is hereby notified that technical staff has concluded that the City is in violation of waste discharge requirements established in Board Order No. 01-182 as amended by Order No. R4-2006-0074 and Order No. R4-2007-0042, and has therefore violated CWC § 13376, and is subject to liability pursuant to CWC § 13385.

The data submitted in the Permittees' shoreline and harbor monitoring reports for the summer dry weather compliance periods, beginning on September 14, 2006 through October 31, 2006 and April 1, 2007 through October 31, 2007, reveal violations of the RWLs set forth in Parts 2.5 and 2.6 of Order No. 01-182 as amended by Order No. R4-2006-0074 and Order No. R4-2007-0042. These violations occurred at 27 shoreline and harbor monitoring sites located along Santa Monica Bay beaches and within Marina del Rey Harbor to which the City of Los Angeles discharges via the MS4, on 851 days, which included 1,393 instances where the bacteria water quality objectives set to protect water contact recreation were exceeded. These violations are summarized in Table 1, detailed in the attachments, and incorporated herein by reference. The City of Los Angeles is jointly responsible for violations at these monitoring sites along with the other Permittees with land area within the watersheds draining to these sites.

CIVIL LIABILITY

Pursuant to CWC § 13385, the City of Los Angeles is subject to penalties of up to \$10,000 for each day in which a violation of RWLs occurs. These civil liabilities may be assessed by the Regional Board beginning with the date that the violations first occurred, and without further warning. The Regional Board may also request that the State Attorney General seek judicially imposed civil liabilities of up to \$25,000 for each day in which a violation occurs, or injunctive relief, pursuant to CWC §§ 13385 and 13386. The City of Los Angeles may also be subject to penalties pursuant to other sections, and other forms of enforcement proceedings, in addition to those described above.

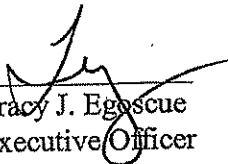
To ensure that the causes of the violations are identified and abated, enclosed herewith, please find an Order directing the City of Los Angeles to submit a variety of reports pursuant to CWC § 13383. Specifically, these reports shall provide an evaluation and documentation of the causes of these violations, remedial actions to date, and the City's plans for additional corrective and

March 4, 2008

preventative actions to bring discharges from the MS4 into prompt compliance with the bacteria RWLs applicable to the Santa Monica Bay and Marina del Rey Harbor.

If you have any questions regarding this matter, please contact me at (213) 576-6605, or alternatively, your staff may contact Mr. Carlos Urrunaga at (213) 620-2083.

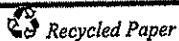
Sincerely,


Tracy J. Egoscue
Executive Officer

Enclosures: Table 1
Attachments 1-8, 17-33, 39-40
Order Pursuant to California Water Code Section 13383, dated March 4, 2008

cc: Mr. Shahram Kharaghani, Program Manager, City of Los Angeles
Mr. Michael Levy, Office of Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Storm Water Section, State Water Resources Control Board
Mr. Eugene Bromley, U.S. EPA, Region 9

California Environmental Protection Agency



Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

**VIOLATIONS OF RECEIVING WATER LIMITATIONS FOR SUMMER DRY WEATHER PERIODS
 SEPTEMBER 14, 2006 - OCTOBER 31, 2006 AND APRIL 1, 2007 - OCTOBER 31, 2007
 ORDER 01-182 AS AMENDED BY R4-2006-0074 AND R4-2007-0042
 SITE ID SMB-BC-01, BALLONA CREEK**

Date of Violation(s)	Single Sample Result (MPN/100 ml)				30-day Geometric Mean Result* (MPN/100 ml)		
	Total Coliform	Fecal Coliform	Enterococcus	Total Coliform (Fecal:Total Coliform Ratio > 0.1)	Total Coliform	Fecal Coliform	Enterococcus
Basin Plan Limit	10000	400	104	1000	1000	200	35
9/14/2006					1452		
9/15/2006					1225		
9/16/2006					1176		
9/17/2006					1186		
9/18/2006					1180		
9/19/2006					1137		
9/20/2006					1020		
4/24/2007	>13000	4400	190	>13000			
6/15/2007				1900			
6/22/2007	11000						
6/28/2007	11000						
6/30/2007			140		1092		
7/1/2007					1096		
7/2/2007					1191		
7/3/2007					1315		
7/4/2007					1259		
7/5/2007					1423		
7/6/2007					1516		
7/7/2007					1587		
7/8/2007					1512		
7/9/2007					1536		
7/10/2007					1505		
7/11/2007					1307		
7/12/2007					1513		
7/13/2007	13000				1755		
7/14/2007					1817		
7/15/2007					1813		
7/16/2007					1814		
7/17/2007	>13000				1992		
7/18/2007	>13000				2170		
7/19/2007	>13000				2675		
7/20/2007					2161		
7/21/2007	>13000				2746		
7/22/2007					2570		
7/23/2007					2531		
7/24/2007					2599		
7/25/2007					2427		
7/26/2007	13000				2612		
7/27/2007	>13000				2910		
7/28/2007					2650		
7/29/2007					2602		
7/30/2007					2563		
7/31/2007					2482		
8/1/2007	13000				2676		

**VIOLATIONS OF RECEIVING WATER LIMITATIONS FOR SUMMER DRY WEATHER PERIODS
 SEPTEMBER 14, 2006 - OCTOBER 31, 2006 AND APRIL 1, 2007 - OCTOBER 31, 2007
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	Total Coliform	Fecal Coliform	Enterococcus	Total Coliform (Fecal:Total Coliform Ratio > 0.1)	Total Coliform	Fecal Coliform	Enterococcus
Basin Plan Limit	10000	400	104	1000	1000	200	35
8/2/2007	>13000				2713		
8/3/2007	>13000	500			3146		
8/4/2007	>13000				3535		
8/5/2007					3427		
8/6/2007					3255		
8/7/2007	13000				3477		
8/8/2007	13000				3691		
8/9/2007					4001		
8/10/2007	>13000				5084		
8/11/2007					5039		
8/12/2007					4817		
8/13/2007					5553		
8/14/2007	11000	1300		11000	5737		
8/15/2007	>13000	6800		>13000	5955		
8/16/2007	>13000	11000		>13000	5955		
8/17/2007	11000	5500		11000	5909	235	
8/18/2007	>13000	13000		>13000	5909	299	
8/19/2007					7315	321	
8/20/2007					7107	336	
8/21/2007					6983	337	
8/22/2007			590		6837	329	
8/23/2007	>13000	1100			7183	374	
8/24/2007	13000				8273	403	
8/25/2007					7647	391	
8/26/2007					7456	426	
8/27/2007					8106	467	
8/28/2007					7618	426	
8/29/2007					6888	391	
8/30/2007					7316	403	
8/31/2007	>13000	1300			7316	461	
9/1/2007		830			7216	502	
9/2/2007					7017	502	
9/3/2007					6803	524	
9/4/2007		500			6852	523	
9/5/2007					6958	491	
9/6/2007	13000	500			6958	499	
9/7/2007					6041	468	
9/8/2007					5723	454	
9/9/2007					5504	460	
9/10/2007					5894	506	
9/11/2007					5679	460	
9/12/2007	>13000	430			5897	458	
9/13/2007	>13000	1800		>13000	5942	465	
9/14/2007	>13000	830			5942	423	

**VIOLATIONS OF RECEIVING WATER LIMITATIONS FOR SUMMER DRY WEATHER PERIODS
 SEPTEMBER 14, 2006 - OCTOBER 31, 2006 AND APRIL 1, 2007 - OCTOBER 31, 2007
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	Total Coliform	Fecal Coliform	Enterococcus	Total Coliform (Fecal:Total Coliform Ratio > 0.1)	Total Coliform	Fecal Coliform	Enterococcus
Basin Plan Limit	10000	400	104	1000	1000	200	35
9/15/2007					5598	335	
9/16/2007					5421	293	
9/17/2007					5189	243	
9/18/2007					5220	241	
9/19/2007					4822	227	
9/20/2007					3967	211	
9/21/2007					3948	211	
9/22/2007					3719		
9/23/2007					3482		
9/24/2007					3563		
9/25/2007					3543		
9/26/2007	13000				3781		
9/27/2007					3722		
9/28/2007			140		3879		
9/29/2007			150		3785		
9/30/2007					3547		
10/1/2007					3356		
10/2/2007					3036		
10/3/2007					2753		
10/4/2007					2594		
10/5/2007					2143		
10/6/2007					1821		
10/7/2007					1934		
10/8/2007					1941		
10/9/2007					1753		
10/10/2007					1577		
10/11/2007					1355		
10/12/2007					1203		
10/13/2007					1054		
10/23/2007			110				
10/25/2007			320				
Total Violations	30	15	7	8	113	36	0

Notes: Site ID refers to sites identified in the "Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan," dated April 7, 2004.

* Regional Board staff calculated the rolling 30-day geometric mean values presented.

EXHIBIT F - 3



California Regional Water Quality Control Board Los Angeles Region



Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Linda S. Adams
Agency Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.waterboards.ca.gov/losangeles>

Arnold Schwarzenegger
Governor

March 4, 2008

Mr. Enrique C. Zaldivar
Director, Bureau of Sanitation
City of Los Angeles
1149 S. Broadway, 10th Floor
Los Angeles, CA 90015

VIA CERTIFIED MAIL

**ORDER PURSUANT TO CALIFORNIA WATER CODE SECTION 13383
(REGARDING VIOLATIONS OF ORDER NO. 01-182 AS AMENDED BY ORDER NO.
R4-2006-0074 AND ORDER NO. R4-2007-0042, NPDES PERMIT NO. CAS004001, WDID
4B190188001)**

Dear Mr. Zaldivar:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the state regulatory agency responsible for protecting water quality in Los Angeles and Ventura Counties. To accomplish this, the Regional Board issues permits under the National Pollutant Discharge Elimination System (NPDES) as authorized by the federal Clean Water Act. On December 13, 2001, this Regional Board adopted the Los Angeles County Municipal Separate Storm Sewer System Permit, NPDES Permit No. CAS004001, Order No. 01-182 (LA MS4 Permit), under which the City of Los Angeles is a Permittee.

BACKGROUND

The LA MS4 Permit was subsequently amended on September 14, 2006 by Order No. R4-2006-0074 and on August 9, 2007 by Order No. R4-2007-0042 to implement the summer dry weather waste load allocations established in the Santa Monica Bay Beaches Bacteria Dry Weather Total Maximum Daily Load (TMDL) and the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL. The summer dry weather requirements were incorporated in the LA MS4 Permit as specific Receiving Water Limitations (RWLs) for fecal indicator bacteria in Parts 2.5 and 2.6, and a supporting specific prohibition on discharges from the municipal separate storm sewer system (MS4) that cause or contribute to exceedances of the bacteria RWLs.

The Permittees collectively discharge urban runoff and storm water from the MS4 to the Santa Monica Bay and Marina del Rey Harbor, navigable waters of the United States, under the provisions and requirements of the LA MS4 Permit. These discharges, as demonstrated via shoreline and harbor water quality monitoring, contain total coliform, fecal coliform, enterococcus and other pollutants, which degrade water quality and impact beneficial uses of the receiving waters at beaches along Santa Monica Bay and within Marina del Rey Harbor. These

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bacterial indicators are defined as wastes under the California Water Code (CWC § 13000 et seq.).

As documented in the enclosed Notice of Violation, technical staff of the Regional Board has concluded that the City of Los Angeles is in violation of waste discharge requirements established in Board Order No. 01-182 as amended by Order No. R4-2006-0074 and Order No. R4-2007-0042, and has therefore violated CWC § 13376, and is subject to liability pursuant to CWC § 13385.

The data submitted in the Permittees' shoreline and harbor monitoring reports for the summer dry weather compliance periods, beginning on September 14, 2006 through October 31, 2006 and April 1, 2007 through October 31, 2007, reveal violations of the RWLs set forth in Parts 2.5 and 2.6 of Order No. 01-182 as amended by Order No. R4-2006-0074 and Order No. R4-2007-0042. These violations occurred at 27 shoreline and harbor monitoring sites located along Santa Monica Bay beaches and within Marina del Rey Harbor to which the City of Los Angeles discharges via the MS4, on 851 days, which included 1,393 instances where the bacteria water quality objectives set to protect water contact recreation were exceeded. These violations are detailed in the enclosed Notice of Violation. The City of Los Angeles is jointly responsible for violations at these monitoring sites along with the other Permittees with land area within the watersheds draining to these sites.

REQUIREMENT TO PROVIDE INFORMATION

California Water Code § 13383 provides the Regional Board the authority to require a Permittee to monitor and report and provide other information, under penalty of perjury, that the Regional Board requires. Pursuant to CWC § 13383, the City of Los Angeles is hereby ordered to submit the information required in this Order by April 21, 2008. Furthermore, pursuant to CWC § 13385, failure to comply with any requirements established pursuant to CWC § 13383 may result in the imposition of administrative civil liability penalties by the Regional Board of up to \$10,000 for each day in which the violation occurs after the April 21, 2008 due date. (CWC § 13385(a)(3).)

Pursuant to CWC § 13383, the Regional Board directs the City of Los Angeles to provide information evaluating and documenting (i) the causes of the violations, (ii) remedial actions taken prior to incorporation of the TMDL summer dry weather requirements into the LA MS4 Permit and those taken since, and (iii) the City's plans for additional corrective and preventative actions to bring MS4 discharges into compliance with the bacteria RWLs applicable to the Santa Monica Bay and Marina del Rey Harbor for the upcoming summer dry weather period, beginning on April 1, 2008.

Specifically, the City of Los Angeles is required to submit reports providing the following information for each of the shoreline and harbor monitoring sites, for which it is jointly responsible, where violations have been documented. The reports shall be signed by an

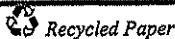
authorized signatory for the City of Los Angeles, under penalty of perjury. The reports shall provide:

1. The source(s) of the violations for each shoreline and harbor compliance location, including an evaluation of dry weather discharges from the MS4 at each noncompliant shoreline and harbor location on the date(s) of the violations. The evaluation shall include, where available:
 - a. Details regarding dry weather discharge from the MS4 to each noncompliant shoreline and harbor location including, but not limited to storm drain position, volume estimate, flow direction, presence of ponding, and proximity to surf.
 - b. Details regarding existing treatment of summer dry weather discharge from the MS4 at each noncompliant shoreline and harbor location, and any upstream treatment including, but not limited to type(s) of treatment system(s), operational capability(ies), and operational status on date(s) of violation.
 - c. Results of any source investigation(s) of the subwatershed, pursuant to protocols established under CWC § 13178, detailing the locational and/or biological origin of the bacteria causing or contributing to RWL violations.
2. A detailed description of remedial actions taken prior to incorporation of the TMDL summer dry weather requirements into the LA MS4 Permit (i.e., before September 14, 2006 for shoreline sites along Santa Monica Bay, and before August 9, 2007 for harbor sites within Marina del Rey Harbor) and those remedial actions taken since, and the results thereof.
3. A detailed description of additional corrective and preventative actions that will be taken for summer dry weather discharges from the MS4 to preclude future violations. The report shall include a time schedule designed to achieve full compliance. This timeline shall not be construed as an authorization for any past or future RWL violations.
4. For site SMB BC-01, which is impacted by discharges from Ballona Creek watershed for which there is a separate bacteria TMDL to address bacteria impairments in Ballona Creek and its tributaries, an evaluation and supporting documentation of whether the sources causing the violations are originating from upstream sources within the Ballona Creek watershed, or whether the causes of the violations are originating from sources in proximity to the shoreline monitoring location. If the causes of the violations are originating from sources in proximity to the shoreline monitoring location, then the City of Los Angeles shall provide the information required in 1 through 3 above.

In addition, should the City of Los Angeles contend that it is not responsible for one or more of the violations, the City shall also submit the following information, if applicable:

1. Evidence that the RWL violation(s) at the shoreline or harbor monitoring site is not the result of discharge from the MS4 but from some other sources or discharges;

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2. Evidence that the City of Los Angeles does not discharge dry weather flow into the Santa Monica Bay or Marina del Rey Harbor at the shoreline or harbor monitoring site, respectively; and
3. Evidence that the City of Los Angeles' summer dry weather discharges into the Santa Monica Bay or Marina del Rey Harbor are treated to a level that does not exceed either the single sample or geometric mean bacteria RWLs.

CIVIL LIABILITY

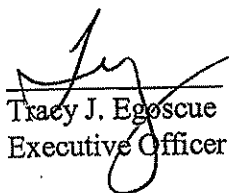
Pursuant to CWC § 13385(a)(3), the City of Los Angeles is subject to penalties of up to \$10,000 for any violation of the requirements set forth in this Order. These civil liabilities may be assessed by the Regional Board beginning with the date on which a violation of this Order first occurred, and without further warning. The Regional Board may also request that the State Attorney General seek judicially imposed civil liabilities of up to \$25,000 for each day in which a violation occurs, or injunctive relief, pursuant to CWC §§ 13385 and 13386. The City of Los Angeles may also be subject to penalties pursuant to other sections, and other forms of enforcement proceedings, in addition to those described above, if compliance does not timely occur.

RIGHT TO PETITION

Pursuant to CWC § 13320, an aggrieved person may seek review of this Order by filing a petition within 30 days of the date of this Order with the State Water Resources Control Board (SWRCB). The petition must be sent to the SWRCB, P.O. Box 100, Sacramento, CA 95812.

If you have any questions regarding this matter, please contact me at (213) 576-6605, or alternatively, your staff may contact Mr. Carlos Urrunaga at (213) 620-2083.

Sincerely,


Tracy J. Egoscue
Executive Officer

Enclosure: Notice of Violation, dated March 4, 2008

cc: Mr. Shahram Kharaghani, Program Manager, City of Los Angeles
Mr. Michael Levy, Office of Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Storm Water Section, State Water Resources Control Board
Mr. Eugene Bromley, U.S. EPA, Region 9

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EXHIBIT F - 4



**Integrated Resources Plan (IRP)
A New Strategy for LA's Water Infrastructure
Information Sheet**

The Integrated Resources Plan (IRP) is an inaugural visionary process for stakeholder-based integrated water resources planning. The IRP incorporates the values of Los Angeles communities into infrastructure planning and integrates planning for the three interdependent water systems: wastewater, recycled water and stormwater. By realizing the relationships among these interdependent water resources and planning on a watershed basis, the community and the environment can get the highest benefit for the least overall cost with the least impact to our communities. Over 100 community leaders have joined the City in planning the future of wastewater, recycled water and urban runoff management in Los Angeles.

Los Angeles is facing many challenges. These challenges include a growing population, an aging infrastructure for wastewater and stormwater, polluted waters at our beaches and waterways, a shortage of parks and open space, a dependence on imported water and a shortage of necessary funding. The IRP is the solution for these challenges.

After an intensive 4-year process that was built on the stakeholder preferences, 21 initial alternatives were narrowed down to 4 alternatives. These alternatives will meet 20% projected increase in wastewater flow over the next 20 years while maximizing the beneficial reuse of recycled water and urban runoff, optimizing the use of our existing facilities and water resources, reducing pollution, and reducing our dependency on imported water.

The IRP provides these multi-benefits:

- Meet future wastewater needs*
- Increased use of recycled water*
- Increased local water supply*
- Reduced stormwater pollution*
- Improved water quality*
- Clean beaches*
- Regulatory compliance*
- Improved water quality*
- Increased open space*
- Enhanced quality of life*
- More jobs*

The benefits will be profound. The IRP includes alternatives that emphasize water reclamation, which not only helps the water environment of California, but also makes perfect sense for the semi-arid region in which we live. The IRP alternatives reflect the community's very strong desire to clean up urban runoff and stormwater, but also to use the current wasted resources locally and regionally. Last, but not least, the alternatives do NOT include a new wastewater or water reclamation plant, but emphasize maximizing use of the City's existing plants in the San Fernando Valley and at the Hyperion Treatment Plant in Playa del Rey.

In November 2005, the City released draft IRP and draft Environmental Impact Report for a broader review by the public. This plan is being developed with the community and for the community and promises to be an example of how we can all work together to enhance the quality of life in our neighborhoods, improve our water quality, protect the environment.

The IRP alternatives under consideration include the following elements:

- Provide adequate wastewater treatment capacity for increased future, and dry weather runoff diversion to treatment plants. Expand the treatment plants by about 50 Million Gallons per Day (MGD). Construct three new major sewers to prevent sewer overflows.



**Integrated Resources Plan (IRP)
A New Strategy for LA's Water Infrastructure
Information Sheet**

- Optimize existing plant capacities without siting a new plant.
- Implement advance treatment in upstream plants to enhance water quality and increase beneficial reuse of recycled water.
- Include diversity of plant expansion(s) to show tradeoffs in cost and flexibility
- Increase levels of water conservation including a program to individually meter apartments and encourage use of cisterns and gray water systems.
- Increase recycled water use by providing additional recycling of 40,000 to 60,000 acre-ft/yr (equivalent to water for 80,000 to 120,000 homes).
- Enhance water quality and beneficial use and management of dry and wet weather runoff by managing 26% to 47% of dry and wet weather runoff (based on runoff from a ½" Storm). Dry weather runoff management potential: 25 MGD (26%) to 41 MG (42%). Wet weather runoff management potential varies from 660 MGD (39%) to 800 MGD (47%). Runoff management includes smart irrigation devices, dry weather runoff diversion to sewers, more green space, use of porous pavements, treat/beneficial use through a constructed wetlands or urban runoff plant, onsite treatment/discharge or percolation for new or redeveloped areas, schools and government properties, onsite storage and beneficial use, neighborhood and non-urban recharge.
- Increase water conservation potential by more than 15 MGD
- The estimated cost for the IRP with full implementation of planned elements for the IRP alternatives vary from \$2.9 Billion to \$3.6 Billion. The estimated breakdown is 62% for runoff management, 15% for recycled water enhancements and 23% for wastewater system upgrades

Multi-Benefit Transformation Opportunities

Creating Green Space, Reducing Polluted Runoff and Beneficially Using Runoff

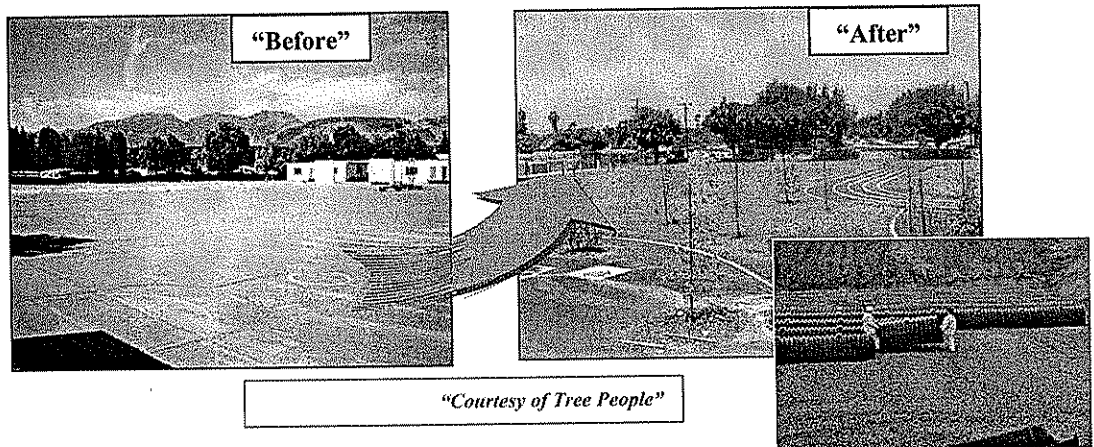


EXHIBIT F - 5

Los Angeles County-Wide
Structural BMP Prioritization Methodology
Ballona Creek Watershed Demonstration
UPDATED SUMMARY REPORT

SWRCB Agreement Number: 03-203-554-0

June 1, 2006

Submitted by:

County of Los Angeles – Department of Public Works
Heal the Bay
City of Los Angeles – Bureau of Sanitation

Prepared by:

GeoSyntec Consultants
6601 Center Drive West, Suite 500
Los Angeles, CA 90045

GeoSyntec Project: LA0104

Overview of Project Area Screening Step

To facilitate the identification of BMP placement opportunities, the Methodology provides for the calculation of “opportunity scores” for both regional and distributed BMPs on the basis of land ownership, available open space, land use, roadway type, and physical constraints (e.g., liquefaction zone). For this GIS-based analysis, parcel data is screened for attributes that are desirable for regional and/or distributed BMP implementation. These attributes include size, land use, ownership type (i.e., public vs private), and proximity to storm drains. BMP opportunity scores are then computed for parcels and catchments based on how they meet these various criteria or attributes.

The following regional and distributed BMP opportunity scoring approach is taken from Step 2 of the Guidance Manual:

a.1 BMP Opportunities Maps:

Generate maps and catchment scores for two types of BMP opportunities: regional/subregional and distributed/onsite. Regional/sub-regional BMPs are defined here as structural treatment or volume mitigation BMPs implemented at the subwatershed or catchment scales. Distributed/onsite BMPs are defined here as structural treatment or volume mitigation BMPs implemented at the neighborhood, parcel or site scale. The following represent recommended criteria developed by the Project Team, but may be adjusted by the user.

a.2 Regional/Subregional BMP Opportunity Scoring:

1. Identify large (e.g., >1 acre) open space¹ parcels located near storm drains or channels, assigning 0 to all areas not selected;
2. For selected parcels, assign individual regional opportunity scores: 5 for all City- or County-owned public parcels, 4 for all other-owned public parcels (schools/universities, state and federal facilities, utilities, and highway corridors), and 2 for all private commercial or industrial parcels; assign 0 for all others (e.g., residential).

a.3 Distributed/Onsite BMP Opportunity Scoring:

1. Identify large (i.e., >1 acre area) developed² parcels, including all roadway areas;
2. For these parcels, assign individual distributed opportunity scores of 5 for all large City- or County-owned public parcels or “major” roadways, 4 for all other-owned public parcels (schools/universities, state and federal facilities, utilities, and “minor” roadways), and 2 for all private commercial or industrial parcels; assign 0 for all non-highlighted distributed opportunity parcels.

a.4 Generate BMP Opportunity Maps:

¹ Open space parcels are to be identified by intersecting the parcel theme with the land-use theme, and then sorting for vacant and open space/recreational land-use categories. Parcel ownership fields should also be queried to select utility easement areas or corridors to ensure that these regional BMP opportunity parcel types are not missed. As an alternative to an open space analysis, an identification of pervious areas could be done using remote sensing (commercial satellite imagery) data and spatial feature extraction software (Rogers *et al.*, 2004).

² Developed parcels identified by unioning parcel GIS theme with land-use theme, using all non-residential and non-open/vacant land use categories.

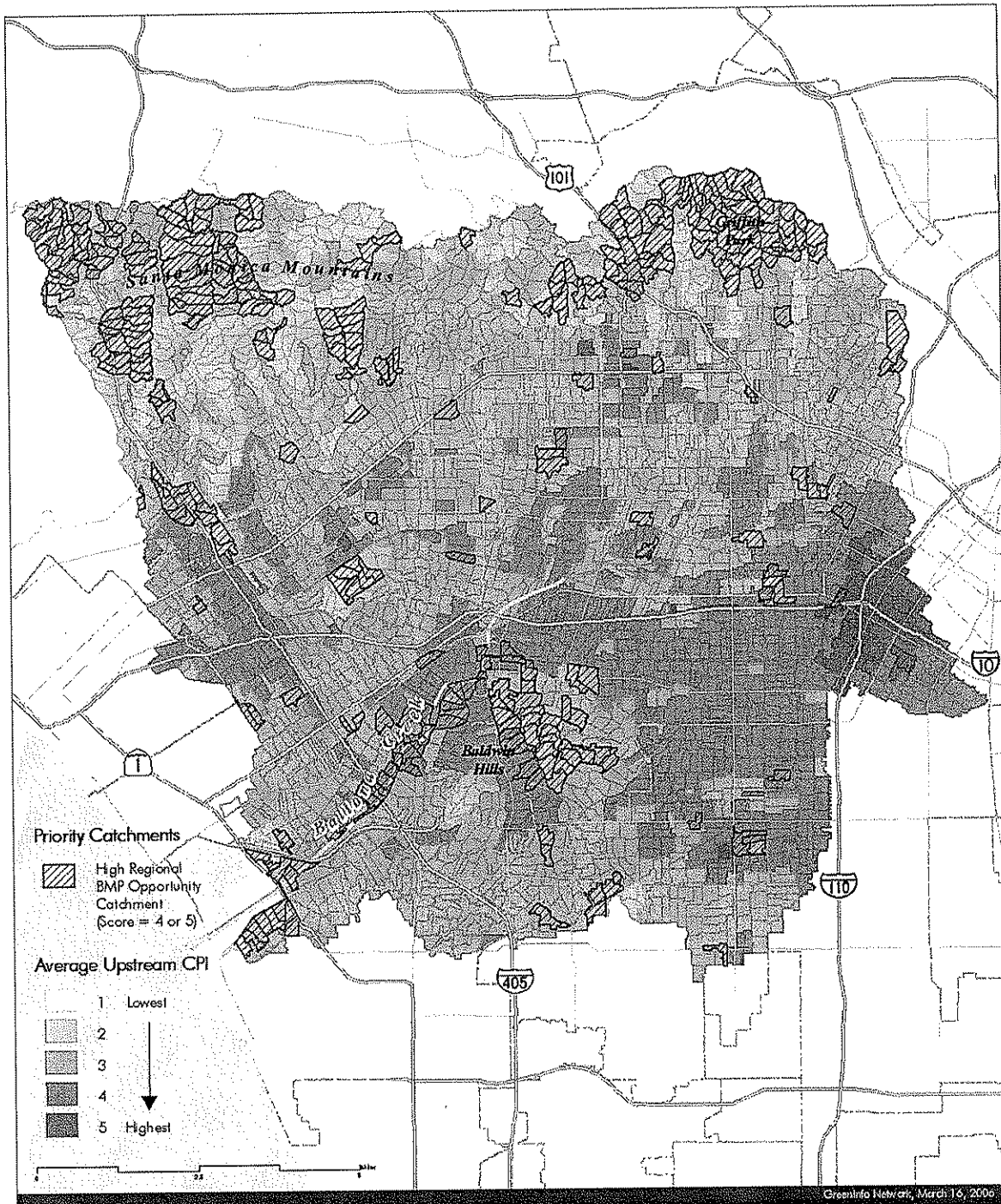
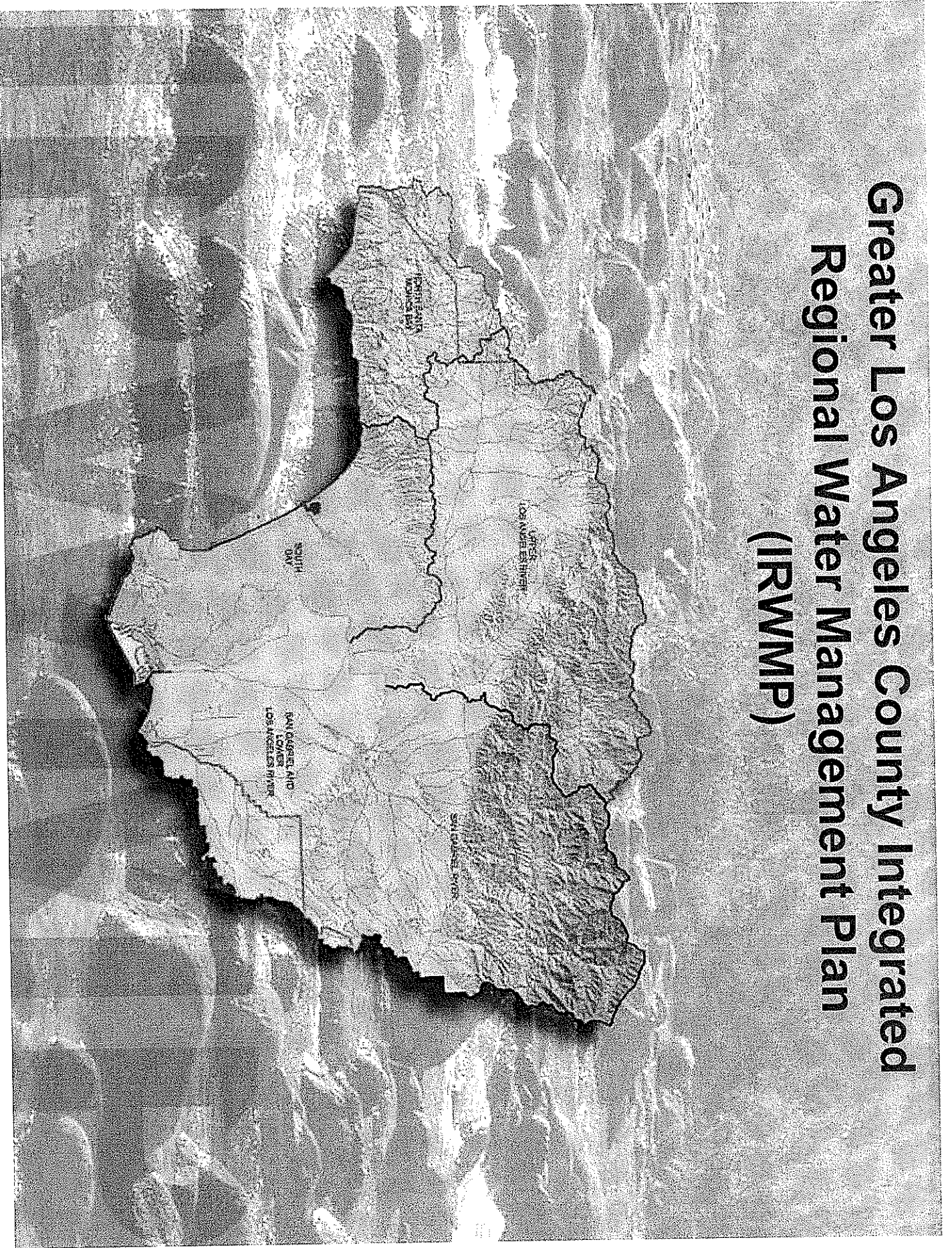


Figure 9. High Regional BMP Scoring Catchments plus Nodal CPIs.

EXHIBIT F - 6

Greater Los Angeles County Integrated Regional Water Management Plan (IRWMP)

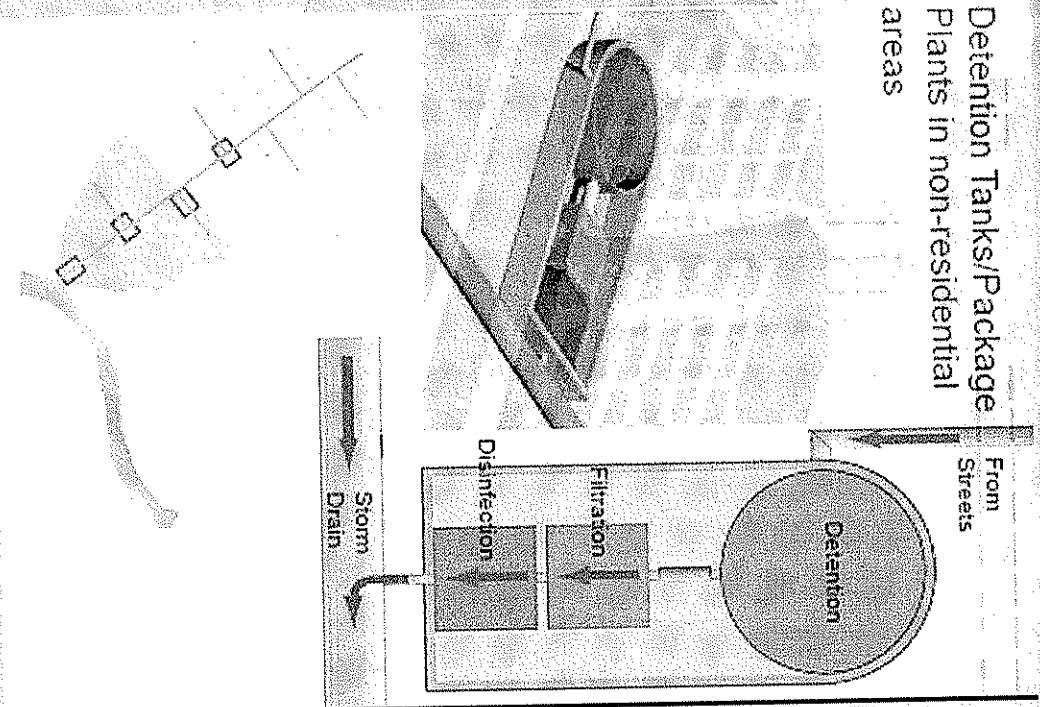


Scenario 1

Onsite BMP Emphasis

- Onsite BMPs in residential area
- Package treatment facilities in other developed areas
- Detention basins/tanks to minimize land acquisition in developed areas
- Onsite BMPs provide limited reuse and/or recharge in residential areas
- Discharge of treated water to creeks and rivers from non-residential areas

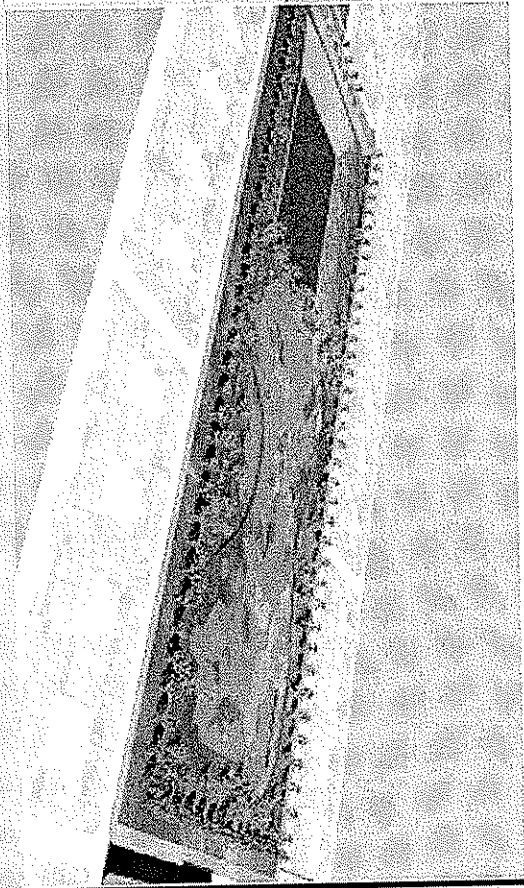
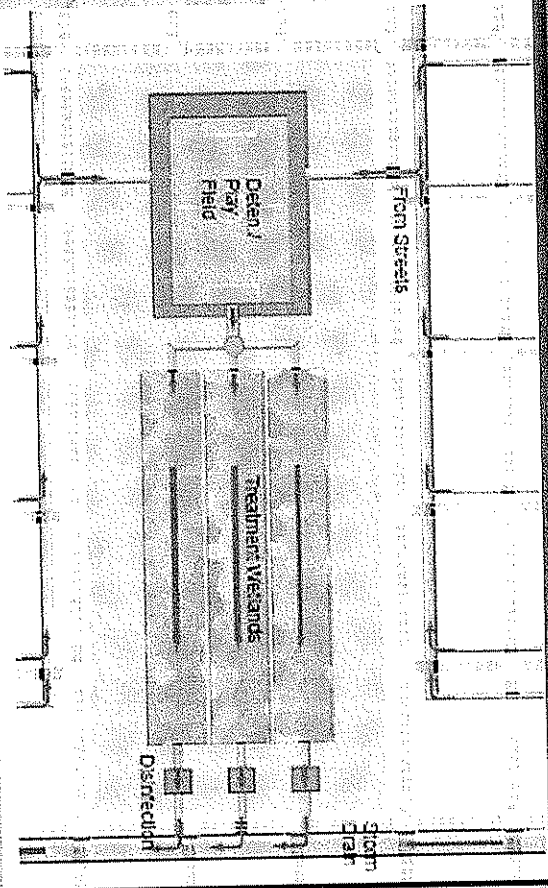
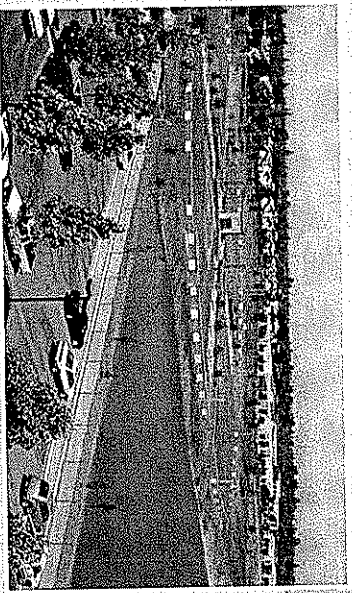
Detention Tanks/Package
Plants in non-residential
areas



Scenario 2

Decentralized Neighborhood Treatment

- Decentralized WQ Facilities
- Detention Basins/Ballfields (to capture 3/4-inch storm event)
- Natural Water Quality Treatment
- Some Local Non-Potable Reuse
- Remainder Discharged to Rivers & Creeks

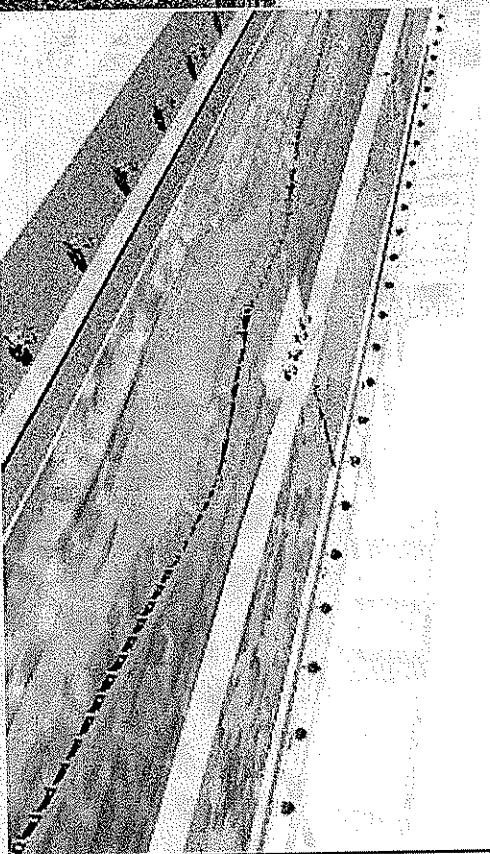
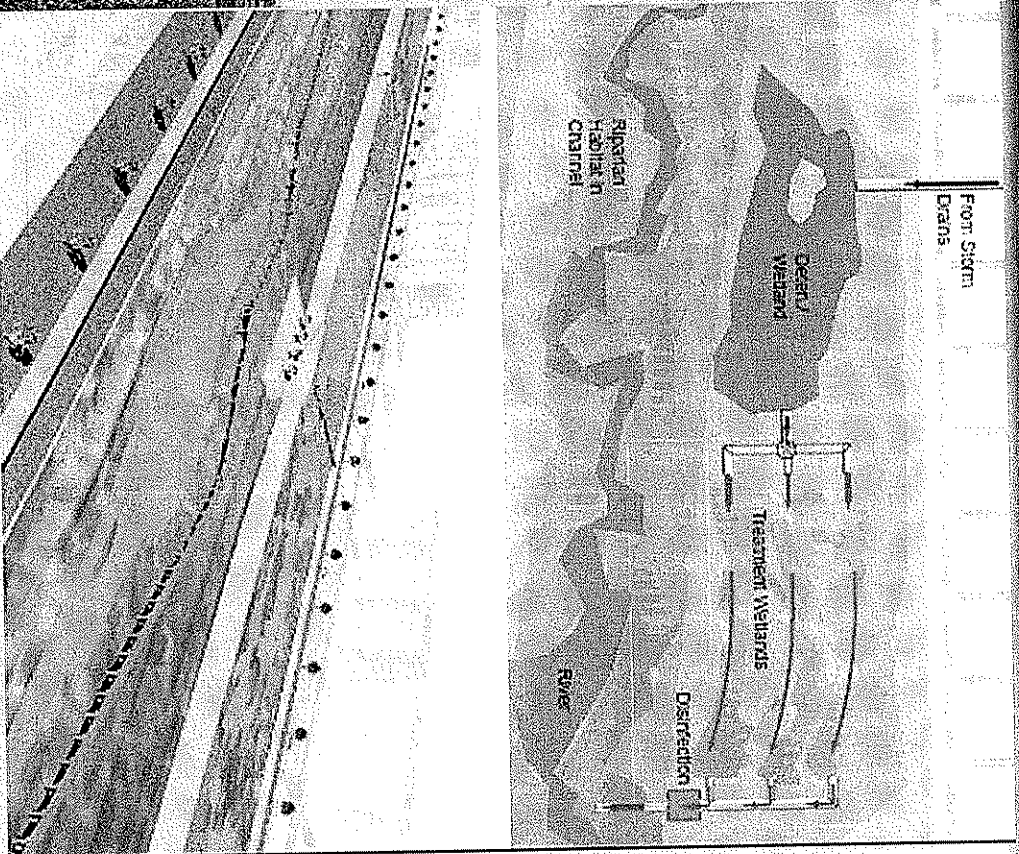
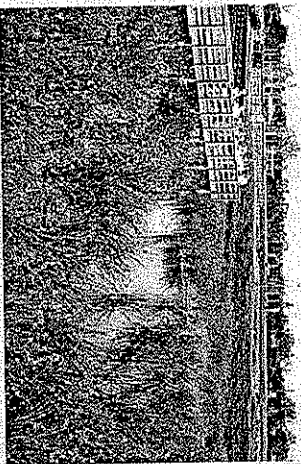


Scenario 3

Scenario 3: Centralized

River Greenway

- Supply: Urban & Stormwater Runoff
- Centralized Regional WQ Facilities
- Detention Basin (to Reduce Peak Flow)
- Natural Water Quality Treatment
- Some Non-Potable Reuse
- Some Groundwater Recharge
- Remainder Discharged to Rivers & Creeks



Cost Estimate - Preliminary Results - DRAFT

Features	Scenario 1	#1 Cost	Scenario 2	#2 Cost	Scenario 3	#3 Cost
Treatment capacity-- total	3260 MG (BMPs) + 5140 MG (pkg plant)		8400 MG		8400 MG	
Treatment capacity per plant	5 MG/1030 total		5.25 MG/1600 total		100 MG/ 84 total	
BMPs	Residential	\$3,360	None		None	
Level 1	Screening/Det Basin	\$7,875	Screening/Det Basin	\$12,604	Screening/Det Basin	\$3,876
Level 2	Sand Filtration/Disinfection	\$3,762	Wetland/Disinfection	\$1,183	Wetland/Disinfection	\$767
Level 3	Reverse Osmosis	\$13,474	Reverse Osmosis	\$21,567	Reverse Osmosis	\$5,202
Land	3100 acres total	\$7,908	8000 acres total	\$7,571	8000 acres total	\$6,108
Collection	Use existing		Use existing		Use existing	
Water Supply		\$9,499		\$8,487		\$9,842
O&M		\$1,247		\$1,738		\$472
Distribution						
Recharge						
Total		\$47,000		\$53,000		\$26,000

Note: All \$ in millions

EXHIBIT F - 7



Proposition O – Clean Water Bond Program

March 2009 Monthly Report



Westside Park Rainwater Irrigation Project Aerial Rendering of the Project Location

Administrative Oversight Committee

Raymond P. Ciranna, Interim City Administrative Officer, Chair
Gerry Miller, Chief Legislative Analyst
H. David Nahai, Department of Water and Power
Romel Pascual, Office of the Mayor
Cynthia Ruiz, Board of Public Works

Citizens Oversight Advisory Committee

Adi Liberman, Vice Chair
Francine Diamond
Mark Gold
Tiger Kang
Gideon Kracov
Miguel Luna
Cynthia McClain-Hill
Craig A. Perkins
M. Teresa Villegas

PREPARED BY
BUREAU OF ENGINEERING
PROP O - CLEAN WATER BOND TEAM





1.1.2 Key Issues

- **Projects with State Prop 12, 40 and/or 50 Grant Funding**
 - **Peck Park Canyon Enhancement (Peck Park)**
 - **South Los Angeles Wetlands Park (So. LA Wetlands)**
 - **Issue:** Suspension of State grant reimbursements in December 2008. Funding for Peck Park includes \$1,921,118 from Prop 50. Funding for So. LA Wetlands includes \$3,344,221 from Prop 12 and 40, and \$3,300,000 from Prop 50. Grant reimbursements are at risk of not being paid.
 - **Status:** Proposition O loan of \$2.0 million was provided to RAP to complete land acquisition of the So. LA Wetlands project. RAP has completed the documentation to request reimbursement from the State for this loan. Peck Park design continues, but RAP has suspended reimbursement of design services for park scope. BOE is evaluating this issue on a month-to-month basis.
 - **Action:** BOE continues design for both So. LA Wetlands and Peck Park with AOC concurrence.

- **Projects with State Prop 50 Grant Funding**
 - **Grand Blvd. Tree Wells**
 - **Mar Vista Recreation Center Stormwater BMP**
 - **La Cienega/Fairfax Stormwater BMP Project (Westside Park Rainwater Concept)**
 - **Santa Monica Bay Low Flow Diversion Upgrades (Packages 1 & 4)**
 - **Machado Lake Phase I – Wilmington Drain Multiuse**
 - **Issue:** Suspension of State grant reimbursement in December 2008. Grant reimbursement is at risk of not being paid.
 - **Status:** These projects are funded by Proposition O and there is no immediate impact to project implementation at this time. BOE is evaluating this issue on a month-to-month basis.
 - **Action:** Per instruction from the State, BOE and BOS staff will continue to submit reimbursement requests. Requests will be processed when grant funding suspension is resolved. BOE continues work activity on these projects with AOC concurrence.

- **Hansen Dam Wetlands Restoration Project**
 - **Issue:** Mountains Recreation Conservation Authority (MRCA) is unable to execute a contract with their selected design consultant due to the State's budget impact on MRCA's budget (cash flow). This is impacting the schedule.
 - **Status:** MRCA has invoices pending payment by the State. There is no timeline for when the invoices will be paid.
 - **Action:** MRCA has not identified any other source of funds to perform the design for this project. BOE is investigating how to best resolve this issue.



1.3.2 Projects in Implementation (Approved by City Council & Mayor)

The following table lists the projects approved for Proposition O funding by the City Council and the Mayor.

PROJECTS IN IMPLEMENTATION				
Project Title	Prop O Funding Approved	Prop O Set Aside Approved	Total Project Budget	Potential Funds From Other Sources
Projects in Pre-Design				
Cabrillo Paseo Walkway/Bike Path	\$1,337,696	\$0	\$4,463,009	\$3,125,313
Hansen Dam Wetlands Restoration	\$2,220,702	\$0	\$2,220,702	\$0
Machado Lake Ecosystem Rehabilitation	\$10,124,312 (Pre-design/Design)	\$89,399,585	\$99,523,897	\$1,000,000
Machado Lake Phase I (Wilmington Drain Multiuse)	\$2,200,613 (Pre-design/Design)	\$15,741,921	\$17,942,534	\$4,387,500*
Penmar Water Quality Improvement Phase II	\$2,830,200	\$0	\$2,830,200	\$0
Temescal Canyon Park Stormwater BMP Phase II	\$3,698,564	\$0	\$3,698,564	\$0
Land Acquisition Projects				
Albion Dairy Park	\$5,000,000	\$0	TBD	TBD
Strathern Pit Multiuse	\$17,800,000	\$0	\$22,505,000	\$4,705,000
Taylor Yard River Park – Parcel G2 Land Acquisition	\$0	\$25,000,000	TBD	TBD
Projects in Design				
Echo Park Lake Rehabilitation	\$10,997,899 (Pre-design/Design)	\$73,265,414	\$84,263,313	\$600,000
La Cienega/Fairfax Stormwater BMP (ON HOLD)	\$7,667,887	\$0	\$7,667,887	\$2,000,000*
Los Angeles Zoo Parking Lot	\$13,904,243	\$0	\$13,904,243	\$0
Peck Park Canyon Enhancement	\$6,190,000	\$0	\$8,231,118	\$2,041,118*
Penmar Water Quality Improvement Phase I	\$20,754,800	\$0	\$20,754,800	\$0
Rosecrans Recreation Center Stormwater Enhancements	\$4,829,119	\$0	\$6,754,033	\$1,924,914
Santa Monica Bay Low Flow Diversion Upgrades Pkg. 3	\$3,324,213 (Pre-design/Design)	\$17,309,823**	\$20,634,036	\$7,000,000
Santa Monica Bay Low Flow Diversion Upgrades Pkg. 4	\$1,013,421 (Pre-design/Design)	\$5,277,083**	\$6,290,504	\$1,250,000*
South Los Angeles Wetlands Park (includes Site Readiness)	\$8,100,000	\$5,278,202**	\$25,662,130	\$11,950,708*
Temescal Canyon Park Stormwater BMP Phase I	\$14,947,436	\$0	\$14,947,436	\$0
Westchester Stormwater BMP	\$32,722,000	\$0	\$32,722,000	\$0
Projects in Bid & Award				
Imperial Highway Sunken Median Stormwater BMP	\$2,723,403	\$0	\$2,723,403	\$0
Mar Vista Recreation Center Stormwater BMP	\$4,556,186	\$0	\$4,556,186	\$2,000,000*
Santa Monica Bay Low Flow Diversion Upgrades Pkg. 1	\$1,097,819 (Pre-design/Design)	\$5,716,558**	\$6,814,377	\$3,750,000*
Santa Monica Bay Low Flow Diversion Upgrades Pkg. 2	\$544,547 (Pre-design/Design)	\$2,835,564**	\$3,380,111	\$0
Projects in Construction				
Catch Basin Opening Screen Covers Phase III	\$44,500,000	\$0	\$44,500,000	\$0
Cesar Chavez Ground Water Improvement (a.k.a Sheldon Arleta)	\$3,040,000	\$0	\$9,841,230	\$6,801,230
Grand Blvd. Tree Wells	\$1,075,927	\$0	\$1,075,927	\$350,000*
Inner Cabrillo Beach Bacterial Water Quality Improvement	\$8,000,000	\$0	\$16,000,000	\$8,000,000
Westminster Dog Park Stormwater BMP	\$1,438,755	\$0	\$1,438,755	\$0
Projects in Post Construction				
Catch Basin Inserts and Coverings Phase I	\$17,000,000	\$0	\$17,000,000	\$600,000*
Catch Basin Opening Screen Covers Phase II	\$10,000,000	\$0	\$10,000,000	\$0
Oros Green Street	\$386,000	\$0	\$972,651	\$586,651
TOTALS				
	\$264,025,742	\$239,824,150	\$513,318,046	\$62,072,434

*Estimated grant funds/reimbursements that may be available

**These set aside amounts are pending consideration by the City Council & Mayor. The set aside funding for the Santa Monica Bay Low Flow Diversion Upgrades Pkgs. 1-4 totals \$31,139,028.

Prop O - Program Budget Summary

1.3.4.2

Funding Category	1	2	3	4	Total Prop O Funding
Bond Amount	\$ 250,000,000	\$ 75,000,000	\$ 100,000,000	\$ 75,000,000	\$ 500,000,000
Projects in Implementation					
Albion Dairy Park Project - Land Acquisition					\$ 5,000,000
Cabrillo Paseo Walkway/Bike Path		\$ 1,337,696			\$ 1,337,696
Catch Basin Inserts and Coverings Ph I	\$ 17,000,000				\$ 17,000,000
Catch Basin Opening Screen Covers Ph II	\$ 10,000,000				\$ 10,000,000
Catch Basin Opening Screen Covers Ph III	\$ 15,000,000		\$ 29,500,000		\$ 44,500,000
Cesar Chavez Ground Water Improvement	\$ 3,040,000				\$ 3,040,000
Echo Park Lake Rehabilitation	\$ 10,997,899				\$ 10,997,899
Grand Blvd. Tree Wells	\$ 1,075,927				\$ 1,075,927
Hansen Dam Wetlands Restoration		\$ 2,220,702			\$ 2,220,702
Imperial Highway Sunken Median Stormwater BMP	\$ 2,723,403				\$ 2,723,403
Inner Cabrillo Beach Bacterial Water Quality Improvement	\$ 8,000,000				\$ 8,000,000
La Cienega/Fairfax Stormwater BMP	\$ 7,667,887				\$ 7,667,887
Los Angeles Zoo Parking Lot	\$ 4,876,916		\$ 9,027,327		\$ 13,904,243
Machado Lake-Phase I (Wilmington Drain)	\$ 2,200,613				\$ 2,200,613
Machado Lake Ecosystem Rehabilitation	\$ 10,124,312				\$ 10,124,312
Mar Vista Recreation Center Stormwater BMP	\$ 4,556,186				\$ 4,556,186
Oros Green Street		\$ 386,000			\$ 386,000
Peck Park Canyon Enhancement		\$ 6,190,000			\$ 6,190,000
Penmar Water Quality Improvement (Phase I & II)		\$ 13,585,000		\$ 10,000,000	\$ 23,585,000
Rosecrans Recreation Center Stormwater Enhancements		\$ 4,829,119			\$ 4,829,119
Santa Monica Bay Low Flow Diversions Upgrades P 1-4	\$ 5,980,000				\$ 5,980,000
South Los Angeles Wetlands Park	\$ 8,100,000				\$ 8,100,000
Strathern Pt Multiuse	\$ 17,800,000				\$ 17,800,000
Temescal Canyon Park Stormwater BMP (Phase I & II)		\$ 18,646,000			\$ 18,646,000
Westchester Stormwater BMP	\$ 32,722,000				\$ 32,722,000
Westminster Dog Park Stormwater BMP		\$ 1,438,755			\$ 1,438,755
SUBTOTAL					\$ 264,025,742
Council Approved Set Asides					
Echo Park Lake Rehabilitation	\$ 53,265,414	\$ 10,000,000	\$ 10,000,000		\$ 73,265,414
Machado Lake Ecosystem Rehabilitation	\$ 86,607,440		\$ 30,797,145		\$ 89,399,585
Machado Lake Phase I (Wilmington Drain)	\$ 7,995,387		\$ 7,942,534		\$ 15,741,921
Taylor Yard River Park - Parcel G2 Land Acquisition	\$ 25,000,000				\$ 25,000,000
SUBTOTAL					\$ 203,406,920
Proposition O Funded Project Budget Adjustment / Pending City Council & Mayor Approval					
Santa Monica Bay Low Flow Diversions Upgrades P 1-4					\$ 31,139,028
South Los Angeles Wetlands Park (includes Site Readiness)					\$ 5,278,202
SUBTOTAL					\$ 36,417,230
TOTALS	\$ 244,370,384	\$ 64,347,000	\$ 98,244,523	\$ 59,970,755	\$ 503,849,892
Program Planning					\$ 600,000
Program Development					\$ 360,000
Full Proposal Development					\$ 960,000
SUBTOTAL					\$ 1,920,000
City Staff / Program Overhead					\$ 748,836
Office of Accounting					\$ 3,376,793
Bureau of Engineering					\$ 4,407,944
Bureau of Sanitation					\$ 5,423,325
Indirect costs					\$ 13,956,899
SUBTOTAL					\$ 27,165,767
TOTAL PROP O OBLIGATED AMOUNT					\$ 518,766,790
Prop O Bond Amount					\$ 500,000,000
Available Prop O Funding (Funding Gap)					\$ (18,766,790)
Other Funding					\$ 4,800,814
Total Bond Interest Earnings (as of March 2009)					TBD
Future Bond Interest Earnings Anticipated					\$ 950,000
Grant Reimbursements Received (as of March 2009)					\$ 26,587,500
Future Grant and Other Reimbursements Anticipated					\$

* Project Categories: 1. Rivers, Lakes, Beaches, Bays, & Ocean Water Quality Protection Projects; 2. Water Conservation, Drinking Water, & Source Protection; 3. Flood Water Reduction, River & Neighborhood Parks that Prevent Polluted Runoff & Improve Water Quality; and 4. Stormwater Capture, Clean-up, & Reuse.

Project Funding Summary

1.3.4.3

Project Title	Budget	Prop O Funding (with set asides)	Other Direct Funding	Potential Reimbursements	Source	Status
Albion Dairy Park Project - Land Acquisition	TBD	\$ 5,000,000	TBD	TBD	TBD	TBD
Cabrillo Paseo Walkway/Bike Path	\$ 4,463,009	\$ 1,337,696	\$ 15,000	\$ -	Kaiser Foundation	Secured
Catch Basin Inserts and Coverings Phase I	\$ 17,000,000	\$ 17,000,000	\$ 3,110,313	\$ -	TBD	LANL to find funding or down scope project \$600,000 of grant funding received
Catch Basin Opening Screen Covers Phase II	\$ 10,000,000	\$ 10,000,000	\$ -	\$ 600,000	Prop 40	N/A
Catch Basin Opening Screen Covers Phase III	\$ 44,500,000	\$ 44,500,000	\$ -	\$ -	N/A	N/A
Cesar Chavez Ground Water Improvement	\$ 9,841,230	\$ 3,040,000	\$ -	\$ -	DWP	Secured
Echo Park Lake Rehabilitation	\$ 84,263,313	\$ 84,263,313	\$ -	\$ -	CIWMB	Secured
Grand Blvd. Tree Wells	\$ 1,075,927	\$ 1,075,927	\$ -	\$ 350,000	UDAG	Secured
Hansen Dam Wetlands Restoration	\$ 2,220,702	\$ 2,220,702	\$ -	\$ -	CIEP	Secured
Imperial Highway Sunken Median Stormwater BMP	\$ 2,723,403	\$ 2,723,403	\$ -	\$ -	Prop K	Secured. \$50,000 of grant funding received; remaining funds currently suspended by the State of CA.
Inner Cabrillo Beach Bacterial Water Quality Improvement	\$ 16,000,000	\$ 8,000,000	\$ 8,000,000	\$ -	Port of Los Angeles	Secured
La Cienega Fairfax Stormwater BMP	\$ 7,667,887	\$ 7,667,887	\$ -	\$ 2,000,000	Prop 50-SMBRRP	N/A
Los Angeles Zoo Parking Lot	\$ 13,904,243	\$ 13,904,243	\$ -	\$ -	N/A	Secured; currently suspended by the State of CA.
Machado Lake-Phase I (Wilmington Drain)	\$ 17,942,534	\$ 17,942,534	\$ -	\$ 4,387,500	Prop 50-IRWMP	TBD
Machado Lake Ecosystem Rehabilitation	\$ 99,523,897	\$ 99,523,897	\$ 1,000,000	\$ -	Prop K	Secured. \$300,000 of grant funding received; remaining funds currently suspended by the State of CA.
Mar Vista Recreation Center Stormwater BMP	\$ 4,556,186	\$ 4,556,186	\$ -	\$ 2,000,000	Prop 50-SMBRRP	Secured
Oros Green Street	\$ 972,651	\$ 386,000	\$ 586,651	\$ -	Prop 13 & CWA 319h	Secured
Peck Park Canyon Enhancement	\$ 8,231,118	\$ 6,190,000	\$ 1,921,118	\$ -	Prop 50	Secured; currently suspended by the State of CA.
Pearmar Water Quality Improvement (Phase I & II)	\$ 23,565,000	\$ 23,565,000	\$ -	\$ -	Rec & Trails Grant	Secured
Rosecrans Recreation Center Stormwater Enhancements	\$ 6,754,033	\$ 4,829,119	\$ 1,356,224	\$ -	N/A	N/A
Santa Monica Bay Low Flow Diversion Upgrades Pkg. 1-4	\$ 37,119,028	\$ 5,980,000	\$ -	\$ -	Prop K	Secured
South Los Angeles Wetlands Park (includes Site Readiness)	\$ 25,662,130	\$ 8,100,000	\$ -	\$ -	Prop K to find funding or down scope project	Secured
					SCM Fund	Secured
					Prop 50-CBI	Secured; currently suspended by the State of CA.
					Prop O	Set aside pending Council & Mayor consideration
					Prop 12 (RZH) - for Land Acquisition	Secured; currently suspended by the State of CA.
					Prop 40 (RZH)	Secured; currently suspended by the State of CA.
					Collection System Settlement Agreement - Supplemental Environmental Project	Secured
					Prop K	Secured
					MFA - max potential reimbursement	Secured
					Prop O	Set aside pending Council & Mayor consideration
					LA County Flood Control District	Secured
Strathern Pit Multiuse	TBD	\$ 25,000,000	TBD	TBD	TBD	TBD
LARRMP-Taylor Yard River Park - Parcel G2 Land Acquisition	\$ 18,646,000	\$ 18,646,000	\$ -	\$ -	N/A	N/A
Temescal Canyon Park Stormwater BMP (Phase I & II)	\$ 32,722,000	\$ 32,722,000	\$ -	\$ -	N/A	N/A
Westchester Stormwater BMP	\$ 1,438,755	\$ 1,438,755	\$ -	\$ -	N/A	N/A
Westminster Dog Park Stormwater BMP						
TOTALS	\$ 513,318,046	\$ 503,849,892	\$ 34,868,154	\$ 27,537,500		

*These set aside amounts are pending consideration by the City Council & Mayor. The set aside funding is for the Santa Monica Bay Low Flow Diversion Upgrades Pkgs. 1-4 totals \$31,139,028 and is for construction.

EXHIBIT F - 8



American Recovery and Reinvestment Act Funds (ARRA)
\$281 Million for California's
 Clean Water State Revolving Fund (CWSRF)



Subsidy Funds
(\$140 Million*)

Project Category	Funds Available	Conditions
Wastewater Projects for Communities with a Median Household Income (MHI) less than 80 percent of statewide MHI. Currently, community median income would need to be less than \$46,731.20	\$ 70 million	<ul style="list-style-type: none"> ▪ Maximum per Projects of \$10 million. ▪ Projects must meet CWSRF and ARRA eligibility requirements. ▪ Financing agreement must be executable before September 1, 2009. ▪ Complete Approval of Award request must be received before January 1, 2010. ▪ Copy of an executed construction contract must be received before February 1, 2010.
Restart – Projects that lost previously committed Water Board grant funding	\$ 70 million	<ul style="list-style-type: none"> ▪ Maximum: \$5 million or the amount needed to replace grant funds. ▪ Projects may not receive more than 100 percent subsidy financing. ▪ Projects must meet CWSRF and ARRA eligibility requirements. ▪ Projects must have an executed State Water Board grant agreement that was suspended and an executed construction contract or proof of project initiation received before May 17, 2009.

* The Executive Director, in consultation with the State Water Board Chair and Vice Chair, may allocate an additional 15% of ARRA funds to the two categories above, not to exceed 65% of total ARRA funds.

Interest and Service Rate Incentives
(\$140 Million ARRA Funds & \$220 Million Revolving Funds)

Project Category	Interest/Service Rate	Conditions
Innovation and efficiency projects	Zero (0) Percent	<ul style="list-style-type: none"> ▪ Up to a total of \$60 million in cumulative financing. ▪ Financing agreement must be executable between March 17, 2009 and July 18, 2009. ▪ Complete Approval of Award request must be received before January 1, 2010. ▪ Copy of an executed construction contract must be received before February 1, 2010.
All projects	One (1) Percent	<ul style="list-style-type: none"> ▪ Up to a total of \$300 million in cumulative financing. ▪ Financing agreement must be executable between March 17, 2009 and September 1, 2009. ▪ Complete Approval of Award request must be received before January 1, 2010. ▪ Copy of an executed construction contract must be received before February 1, 2010.

For more information please go to:

http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/index.shtml

Or contact us at: CleanWaterSRF@waterboards.ca.gov or (916) 327-9978

EXHIBIT F - 9



NOAA NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

UNITED STATES DEPARTMENT OF COMMERCE

NOAA Seeks Proposals That Will Restore Coastal Habitat, Create Jobs, Stimulate Economy

Office of Habitat currently seeking project proposals from coastal and Great Lakes communities

March 23, 2009



High resolution (Credit: NOAA)

NOAA has begun accepting proposals for coastal habitat restoration projects under the American Recovery and Reinvestment Act of 2009. The effort will foster healthy and resilient American communities while generating and protecting jobs for the thousands of people whose task it will be to restore valuable coastal and marine habitat.

NOAA anticipates that up to \$170 million may be available for coastal and marine habitat restoration; typical awards are expected to range between \$1.5 million and \$10 million.

"Restoration of coastal wetlands, shellfish, coral ecosystems and fish migration routes along coastal rivers is a significant source of green jobs," NOAA Administrator Janie Lubchenco said. "Habitat restoration also provides long-term natural, health and economic benefits to communities, including improved recreational and commercial fishing, improved water quality and more resilient coastal areas."

NOAA is formally seeking proposals through April 6 for a variety of habitat restoration projects – including wetlands restoration, removal of unsafe, obsolete dams, construction of fish passages, oyster and other shellfish restoration and coral reef restoration. To ensure relevance, readiness and accountability to the American public, the solicitation requires that projects be "shovel-ready."

For more information about this federal funding opportunity, please visit the [NOAA habitat recovery Web site](#).

Coastal communities are America's economic engines, with more than half of the nation's Gross Domestic Product generated in coastal counties. However, these areas also face great threats related to severe storms, development, wetlands loss, and the long-term effects of climate change, including sea level rise. President Obama has shown his commitment to addressing these growing threats by investing substantial recovery funds in coastal restoration.

Restoration projects employ people with a wide range of skills, including laborers, engineers, ecologists, landscapers, hydrologists and nursery workers who provide local seedlings and other plants for wetland and coastal restoration.

NOAA understands and predicts changes in the Earth's environment, from the depths of the ocean to the surface of the sun, and conserves and manages our coastal and marine resources. To learn more about the Recovery Act's work across the country, visit the [Recovery.gov Web site](#).



High resolution (Credit: NOAA)

EXHIBIT F - 10

SOUTHERN CALIFORNIA HOME RESALE ACTIVITY

L.A. Times Sunday Edition Charts - Data for March 2009

% Change is from the same month last year
 Past Issues are available from DQNews Custom Reports

Community Name	ZIP Code	Single Family Homes			Condominiums			SFR Only Median Home Price/Sq. Ft.
		Sales of Single Family Homes	Price Median SFR (\$1,000)	Price % Chg from March 2008	Sales Court Condos	Price Median Condos (\$1,000)	Price % Chg from March 2008	
LOS ANGELES COUNTY								
Countywide		4,418	\$295	-34.4%	1,231	\$295	-21.3%	\$216
Acton	93510	8	\$427	24.5%	n/a	n/a	n/a	\$160
Agoura Hills	91301	3	\$660	-47.4%	13	\$616	21.4%	\$266
Alhambra	91801	7	\$471	-3.9%	8	\$330	-15.2%	\$372
Alhambra	91803	3	\$455	-1.1%	2	\$290	n/a	\$262
Altadena	91001	28	\$309	-42.6%	1	\$180	n/a	\$242
Arcadia	91006	13	\$518	-5.0%	4	\$430	-34.9%	\$373
Arcadia	91007	8	\$843	-13.1%	10	\$450	-12.5%	\$418
Artesia	90701	4	\$228	-49.3%	1	\$246	n/a	\$160
Avalon	90704	n/a	n/a	n/a	1	\$104	n/a	n/a
Azusa	91702	31	\$287	-13.0%	9	\$268	13.4%	\$213
Baldwin Park	91706	43	\$258	-21.8%	16	\$196	-17.5%	\$207
Bell	90201	8	\$264	-47.8%	1	\$170	n/a	\$199
Bellflower	90706	35	\$299	-25.1%	3	\$202	-3.8%	\$238
Beverly Hills	90210	16	\$2,269	-31.3%	1	\$780	-42.9%	\$711
Beverly Hills	90211	1	\$73	-94.8%	4	\$650	-28.7%	\$26
Beverly Hills	90212	2	\$2,212	81.3%	1	\$1,470	-31.2%	\$747
Burbank	91501	5	\$480	-33.8%	7	\$395	-24.4%	\$279
Burbank	91502	1	\$400	n/a	4	\$392	5.9%	\$267
Burbank	91504	7	\$515	-23.1%	5	\$382	-12.2%	\$352
Burbank	91505	16	\$441	-16.8%	4	\$415	38.3%	\$382
Burbank	91506	8	\$448	-9.4%	3	\$345	-9.0%	\$353
Calabasas	91302	5	\$1,956	94.3%	8	\$900	-15.5%	\$359
Canoga Park	91303	13	\$260	-33.3%	6	\$176	-46.5%	\$223
Canoga Park	91304	19	\$368	-21.4%	9	\$125	-45.3%	\$229
Canyon Country	91351	23	\$293	-11.4%	19	\$320	33.6%	\$215
Canyon Country	91387	18	\$405	-2.5%	19	\$204	-33.0%	\$163
Carson	90745	26	\$298	-30.7%	13	\$190	-26.9%	\$225
Carson	90746	18	\$325	-18.2%	n/a	n/a	n/a	\$203
Carson	91384	18	\$386	9.8%	4	\$310	-24.2%	\$205
Castaic	90703	16	\$486	-15.9%	9	\$272	-13.1%	\$342
Cerritos	91311	22	\$458	-10.7%	11	\$309	17.7%	\$218
Chatsworth	91711	15	\$499	6.2%	6	\$428	12.8%	\$237
Claremont	91711	15	\$499	6.2%	6	\$428	12.8%	\$237
Compton	90220	41	\$175	-43.5%	1	\$215	n/a	\$131
Compton	90221	33	\$198	-43.4%	1	\$340	6.3%	\$157
Compton	90222	23	\$120	-66.7%	n/a	n/a	n/a	\$106
Covina	91722	27	\$290	-21.8%	1	\$350	n/a	\$236
Covina	91723	11	\$356	-10.7%	n/a	n/a	n/a	\$220
Covina	91724	14	\$440	-11.8%	7	\$200	-39.5%	\$226
Culver City	90230	12	\$549	-9.9%	18	\$339	-3.7%	\$437
Culver City	90232	1	\$715	16.3%	n/a	n/a	n/a	\$414
Diamond Bar	91765	33	\$534	-3.8%	10	\$222	-30.8%	\$255
Downey	90240	16	\$350	-21.0%	n/a	n/a	n/a	\$252
Downey	90241	18	\$457	-8.5%	n/a	n/a	n/a	\$252
Downey	90242	21	\$306	-28.5%	1	\$175	-39.7%	\$218
Duarte	91010	7	\$319	-20.3%	11	\$242	-26.8%	\$264
El Monte	91731	7	\$290	-9.4%	2	\$300	n/a	\$232
El Monte	91732	10	\$281	-38.2%	15	\$260	-16.1%	\$258
El Monte - South	91733	10	\$292	-17.7%	n/a	n/a	n/a	\$223
El Segundo	90245	7	\$620	-43.1%	3	\$510	6.3%	\$573
Encino	91316	20	\$480	-8.4%	10	\$253	-17.2%	\$328
Encino	91436	8	\$653	-44.3%	1	\$246	-63.1%	\$300
Gardena	90247	11	\$317	-13.7%	7	\$365	2.2%	\$215
Gardena	90248	6	\$268	-40.7%	1	\$235	n/a	\$195
Gardena	90249	10	\$370	1.2%	1	\$137	n/a	\$292
Glendale	91201	11	\$533	-21.9%	2	\$323	n/a	\$349
Glendale	91202	10	\$733	18.1%	1	\$352	-20.0%	\$345
Glendale	91203	1	\$290	-40.2%	5	\$285	-28.1%	\$378
Glendale	91204	1	\$401	n/a	1	\$345	42.3%	\$379
Glendale	91205	5	\$465	-5.1%	2	\$328	23.6%	\$287
Glendale	91206	8	\$630	25.9%	7	\$347	6.0%	\$329
Glendale	91207	3	\$1,166	83.6%	2	\$372	6.7%	\$418
Glendale	91208	7	\$633	-12.8%	n/a	n/a	n/a	\$390
Glendora	91740	19	\$365	-12.3%	2	\$375	-4.5%	\$257
Glendora	91741	11	\$518	-13.6%	1	\$975	n/a	\$295
Granada Hills	91344	47	\$375	-14.3%	1	\$220	-31.3%	\$236
Haselton Heights	91745	31	\$420	-23.6%	7	\$304	-10.2%	\$235
Harbor City	90710	8	\$415	-20.0%	3	\$310	0.8%	\$260
Hawaiian Gardens	90716	5	\$220	-50.0%	4	\$114	-41.8%	\$178
Hawthorne	90250	18	\$345	-14.1%	5	\$250	n/a	\$272
Hermosa Beach	90254	5	\$1,389	21.7%	n/a	n/a	n/a	\$537
Huntington Park	90255	13	\$270	-20.7%	2	\$195	n/a	\$200
Inglewood	90301	4	\$240	-24.8%	2	\$155	-46.6%	\$272
Inglewood	90302	5	\$257	-39.5%	3	\$120	-54.3%	\$242

Inglewood	90303	8	\$208	-50.4%	n/a	n/a	n/a	\$175
Inglewood	90304	2	\$180	n/a	n/a	n/a	n/a	\$276
Inglewood	90305	7	\$339	-18.7%	n/a	n/a	n/a	\$188
LA	90003	21	\$125	-41.9%	n/a	n/a	n/a	\$131
LA	90004	10	\$1,076	17.0%	n/a	n/a	n/a	\$482
LA	90006	2	\$231	-67.1%	3	\$350	-27.8%	\$162
LA	90010	n/a	n/a	n/a	1	\$470	-36.1%	n/a
LA	90011	17	\$150	-39.6%	n/a	n/a	n/a	\$126
LA	90012	n/a	n/a	n/a	2	\$303	-28.0%	n/a
LA	90015	n/a	n/a	n/a	3	\$450	18.0%	n/a
LA	90016	15	\$285	-28.6%	5	\$263	50.0%	\$285
LA	90018	6	\$263	-15.3%	n/a	n/a	n/a	\$194
LA	90019	17	\$403	-34.7%	4	\$380	-6.2%	\$309
LA	90020	2	\$1,756	-5.0%	8	\$324	-10.9%	\$448
LA	90023	4	\$189	-50.6%	n/a	n/a	n/a	\$183
LA	90027	11	\$855	14.8%	n/a	n/a	n/a	\$501
LA	90029	2	\$476	-67.0%	n/a	n/a	n/a	\$243
LA	90034	7	\$560	-25.8%	2	\$529	n/a	\$332
LA	90035	5	\$1,100	16.1%	1	\$565	16.5%	\$560
LA	90036	6	\$1,275	22.1%	n/a	n/a	n/a	\$459
LA	90037	9	\$145	-59.2%	n/a	n/a	n/a	\$129
LA	90039	13	\$420	-34.6%	2	\$390	-27.8%	\$397
LA	90047	30	\$219	-44.4%	n/a	n/a	n/a	\$187
LA	90057	2	\$318	n/a	2	\$198	n/a	\$202
LA	90062	11	\$201	-43.4%	n/a	n/a	n/a	\$175
LA	90063	10	\$185	-35.1%	n/a	n/a	n/a	\$141
LACanadaFmtrdg	91011	11	\$1,388	28.5%	1	\$350	n/a	\$576
La Crescenta	91214	19	\$649	4.9%	3	\$300	-33.3%	\$388
La Mirada	90638	27	\$372	-9.6%	7	\$495	13.8%	\$265
La Puente	91744	54	\$245	-24.4%	2	\$213	-34.1%	\$197
La Puente	91746	21	\$240	-27.3%	n/a	n/a	n/a	\$208
La Verne	91750	17	\$425	-34.6%	2	\$236	-27.4%	\$227
LA/August F. Haw	90044	30	\$180	-46.7%	n/a	n/a	n/a	\$158
LA/August F. Haw	90059	16	\$120	-68.8%	n/a	n/a	n/a	\$98
LA/August F. Haw	90061	2	\$140	-58.1%	n/a	n/a	n/a	\$176
LA/Baldwin Hills	90008	10	\$320	-37.8%	n/a	n/a	n/a	\$238
LA/Bel-Air	90077	7	\$1,550	-15.8%	1	\$555	-58.9%	\$550
LA/Boyle Heights	90033	4	\$230	-22.5%	n/a	n/a	n/a	\$228
LA/Brentwood	90049	12	\$1,567	-32.4%	9	\$725	-20.2%	\$707
LA/Century City	90067	n/a	n/a	n/a	6	\$700	-12.4%	n/a
LA/CityofCmmrc	90040	4	\$228	n/a	n/a	n/a	n/a	\$195
LA/Dockweiler	90007	3	\$235	n/a	n/a	n/a	n/a	\$227
LA/Eagle Rock	90041	13	\$400	-24.2%	n/a	n/a	n/a	\$363
LA/East L.A.	90022	10	\$260	-18.1%	n/a	n/a	n/a	\$234
LA/Echo Park	90026	9	\$350	-44.6%	n/a	n/a	n/a	\$287
LA/EI Sereno	90032	16	\$325	2.7%	1	\$345	n/a	\$208
LA/Firestone PK	90001	17	\$170	-40.4%	n/a	n/a	n/a	\$161
LA/Glassell	90065	20	\$335	-18.3%	n/a	n/a	n/a	\$273
LA/Highland Park	90042	17	\$290	-33.7%	6	\$289	-18.3%	\$253
LA/Hollywood	90028	1	\$420	-40.8%	2	\$665	130.9%	\$387
LA/Hollywood	90068	16	\$950	-13.4%	1	\$552	30.8%	\$458
LA/Ladera Hgts	90056	5	\$635	-47.1%	n/a	n/a	n/a	\$316
LA/Lincoln Hgts	90031	9	\$429	32.0%	n/a	n/a	n/a	\$240
LA/Mar Vista	90066	22	\$730	-8.9%	3	\$250	-53.3%	\$489
LA/Rancho Park	90064	11	\$683	-50.2%	2	\$553	-9.0%	\$606
LA/Sanford	90005	2	\$810	-42.1%	3	\$333	-41.7%	\$329
LA/VPh/WdsrHills	90043	25	\$310	-31.0%	n/a	n/a	n/a	\$214
LA/Watts	90002	29	\$120	-66.7%	n/a	n/a	n/a	\$115
LA/West LA	90025	5	\$970	-10.2%	14	\$665	23.7%	\$663
LA/Westchester	90045	19	\$607	-22.2%	2	\$253	-12.6%	\$453
LA/Westwood	90024	3	\$2,525	57.9%	9	\$560	-16.7%	\$755
Lake Hughes	93532	5	\$150	-44.2%	n/a	n/a	n/a	\$107
Lakewood	90712	22	\$389	-13.5%	n/a	n/a	n/a	\$308
Lakewood	90713	20	\$400	-11.1%	n/a	n/a	n/a	\$324
Lakewood	90715	14	\$315	-17.3%	4	\$252	n/a	\$240
Lancaster	93534	77	\$80	-50.6%	2	\$39	-70.4%	\$61
Lancaster	93535	194	\$90	-51.6%	6	\$47	-62.9%	\$57
Lancaster	93536	119	\$196	-28.7%	6	\$51	-70.0%	\$78
Lawndale	90260	2	\$245	-42.4%	4	\$283	-38.0%	\$271
Littlerock	93543	23	\$115	-41.0%	n/a	n/a	n/a	\$70
Llano	93544	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lomita	90717	8	\$425	-6.6%	1	\$315	-26.7%	\$319
Long Beach	90802	3	\$236	-29.4%	36	\$255	-20.3%	\$228
Long Beach	90803	8	\$619	-16.6%	5	\$505	5.8%	\$488
Long Beach	90804	7	\$235	-68.6%	7	\$190	26.7%	\$214
Long Beach	90805	61	\$200	-35.2%	7	\$84	-54.6%	\$209
Long Beach	90806	14	\$285	-30.2%	2	\$248	n/a	\$193
Long Beach	90807	14	\$375	-25.0%	9	\$290	15.9%	\$274
Long Beach	90808	30	\$460	-7.9%	n/a	n/a	n/a	\$355
Long Beach	90810	16	\$240	-13.2%	2	\$68	-69.4%	\$209
Long Beach	90813	12	\$168	-42.7%	6	\$75	-67.0%	\$157
Long Beach	90814	5	\$615	7.9%	4	\$317	0.3%	\$495
Long Beach	90815	14	\$510	3.0%	3	\$319	17.1%	\$345
Los Angeles	90021	n/a	n/a	n/a	3	\$350	n/a	n/a
Los Angeles	90058	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Lynwood	90262	23	\$226	-31.0%	n/a	n/a	n/a	\$208
Malibu	90265	9	\$1,895	-20.4%	4	\$800	-16.2%	\$657
Manhattan Beach	90266	16	\$1,400	-9.7%	2	\$1,263	-8.2%	\$512
Marina del Rey	90292	1	\$1,200	-51.0%	17	\$587	-42.3%	\$567

Maywood	90270	3	\$290	9.4%	n/a	n/a	n/a	\$268
Mission Hills	91345	10	\$302	-22.7%	2	\$205	n/a	\$193
Monrovia	91016	17	\$465	-22.8%	8	\$310	-18.4%	\$301
Montebello	90640	20	\$934	-26.6%	5	\$170	-40.4%	\$257
Monterey Park	91754	15	\$443	-11.5%	1	\$362	-2.2%	\$301
Monterey Park	91755	6	\$469	n/a	7	\$398	-25.6%	\$323
Mortrose	91020	1	\$581	5.6%	1	\$500	-11.0%	\$472
Newhall	91321	14	\$335	-22.7%	17	\$163	-37.3%	\$203
North Hills	91343	30	\$348	-20.5%	16	\$160	-28.1%	\$198
North Hollywood	91601	6	\$322	-41.0%	2	\$251	-6.3%	\$255
North Hollywood	91602	6	\$631	-16.4%	2	\$465	9.2%	\$411
North Hollywood	91605	27	\$315	-11.3%	1	n/a	n/a	\$216
North Hollywood	91606	17	\$310	-27.1%	6	\$230	-35.7%	\$280
Northridge	91324	20	\$380	-25.0%	3	\$290	-20.5%	\$232
Northridge	91325	20	\$358	-33.3%	6	\$310	-10.9%	\$238
Northridge	91326	12	\$513	-16.6%	15	\$695	42.6%	\$234
Norwalk	90650	85	\$275	-23.6%	12	\$184	-40.2%	\$224
Pacific Palisades	90272	12	\$1,875	-8.5%	4	\$783	7.9%	\$712
Pacoima	91331	67	\$235	-34.6%	19	\$160	-18.3%	\$179
Palmdale	93550	165	\$99	-46.6%	13	\$65	-62.9%	\$66
Palmdale	93551	95	\$200	-33.3%	2	\$140	-44.9%	\$93
Palmdale	93552	96	\$136	-39.1%	n/a	n/a	n/a	\$77
Palmdale	93591	29	\$55	-70.1%	n/a	n/a	n/a	\$43
Palos Verdes Pen.	90274	11	\$1,850	-7.5%	4	\$457	-40.1%	\$592
Panorama City	91402	27	\$238	-42.0%	29	\$140	-43.4%	\$203
Paramount	90723	15	\$242	-21.9%	18	\$140	-35.9%	\$199
Pasadena	91191	n/a	n/a	n/a	7	\$345	-23.3%	n/a
Pasadena	91103	15	\$325	-40.9%	4	\$401	n/a	\$283
Pasadena	91104	12	\$480	-16.5%	1	\$340	23.6%	\$374
Pasadena	91105	12	\$830	-28.7%	5	\$615	2.7%	\$476
Pasadena	91106	4	\$1,000	9.9%	14	\$340	-23.4%	\$383
Pasadena	91107	16	\$650	-2.6%	4	\$475	69.6%	\$373
Pearblossom	93553	1	\$109	-46.8%	n/a	n/a	n/a	\$48
Pico Rivera	90660	27	\$288	-16.7%	5	\$235	-7.5%	\$233
Playa del Rey	90293	n/a	n/a	n/a	6	\$433	-6.0%	n/a
Playa Vista	90094	n/a	n/a	n/a	4	\$521	-18.7%	n/a
Pomona	91766	51	\$197	-49.6%	9	\$180	-44.8%	\$152
Pomona	91767	26	\$190	-33.3%	10	\$258	7.5%	\$147
Pomona	91768	24	\$178	-37.2%	2	\$343	n/a	\$143
Rancho P.V.	90275	24	\$905	-18.8%	5	\$460	2.2%	\$462
Redondo Beach	90277	13	\$1,000	25.0%	13	\$588	-35.1%	\$595
Redondo Beach	90278	11	\$628	-16.3%	27	\$583	-24.7%	\$397
Reseda	91335	57	\$290	-24.7%	16	\$207	-22.0%	\$213
Rosemead	91770	21	\$413	-12.4%	3	\$277	-49.6%	\$262
Rowland Heights	91748	31	\$385	-12.5%	5	\$178	-64.6%	\$254
San Dimas	91773	22	\$412	-17.6%	4	\$299	-23.3%	\$247
San Fernando	91340	19	\$235	-34.7%	2	\$215	n/a	\$197
San Gabriel	91775	12	\$548	-27.8%	3	\$339	-27.6%	\$386
San Gabriel	91776	17	\$368	-23.0%	3	\$400	33.3%	\$313
San Marino	91108	3	\$1,850	-6.1%	n/a	n/a	n/a	\$669
San Pedro	90731	16	\$405	1.3%	4	\$358	-10.6%	\$307
San Pedro	90732	5	\$556	-15.8%	8	\$375	-15.7%	\$366
Santa Clarita	91350	20	\$389	-17.2%	15	\$198	-31.9%	\$189
Santa Clarita	91390	23	\$490	-9.6%	2	\$286	-19.6%	\$187
Santa Fe Springs	90670	7	\$290	-29.2%	n/a	n/a	n/a	\$224
Santa Monica	90401	n/a	n/a	n/a	1	\$650	n/a	n/a
Santa Monica	90402	4	\$2,698	14.8%	2	\$1,030	-31.6%	\$1,136
Santa Monica	90403	2	n/a	n/a	11	\$740	-15.4%	n/a
Santa Monica	90404	n/a	n/a	n/a	8	\$548	22.1%	n/a
Santa Monica	90405	3	\$825	-19.7%	3	\$550	-12.7%	\$859
Sherman Oaks	91403	21	\$645	-46.1%	7	\$375	-13.8%	\$312
Sherman Oaks	91423	16	\$637	-18.4%	7	\$362	-18.7%	\$393
Sierra Madre	91024	6	\$750	-27.2%	2	\$521	14.3%	\$424
Signal Hill	90755	2	\$400	-66.7%	9	\$401	26.5%	\$294
South Gate	90280	33	\$229	-27.3%	2	\$224	-35.6%	\$207
South Pasadena	91030	9	\$863	-9.6%	n/a	n/a	n/a	\$520
Stevenson Ranch	91381	9	\$650	-39.3%	13	\$382	-24.0%	\$227
Studio City	91604	13	\$750	-14.8%	1	\$380	-12.6%	\$357
Sun Valley	91352	28	\$260	-31.6%	5	\$216	-43.2%	\$235
Sunland	91040	10	\$265	-40.1%	2	\$210	-29.9%	\$264
Sylmar	91342	59	\$270	-34.9%	27	\$187	-36.6%	\$190
Tarzana	91356	13	\$797	11.8%	10	\$237	-31.4%	\$324
Temple City	91780	20	\$479	-15.4%	3	\$425	-23.6%	\$374
Topanga	90290	4	\$530	-16.2%	1	n/a	n/a	\$387
Torrance	90501	9	\$485	-14.5%	11	\$390	-19.3%	\$288
Torrance	90502	2	\$330	-9.6%	3	\$172	-41.2%	\$247
Torrance	90503	10	\$594	-7.2%	5	\$408	-34.3%	\$450
Torrance	90504	22	\$454	-13.3%	2	\$410	6.5%	\$356
Torrance	90505	8	\$643	-14.3%	4	\$393	6.8%	\$422
Tujunga	91042	14	\$355	-34.0%	3	\$208	n/a	\$273
Valencia	91354	14	\$482	12.1%	20	\$370	-16.9%	\$209
Valencia	91355	11	\$427	-23.4%	15	\$290	-19.4%	\$198
Valley Village	91607	6	\$492	-31.0%	3	\$325	-21.7%	\$338
Van Nuys	91401	15	\$450	-39.6%	11	\$389	29.7%	\$265
Van Nuys	91405	20	\$330	-21.0%	8	\$133	n/a	\$201
Van Nuys	91406	36	\$312	-24.9%	7	\$265	n/a	\$228
Van Nuys	91411	3	\$435	-5.4%	3	\$210	n/a	\$297
Verice	80291	4	\$853	-25.8%	1	\$975	-25.0%	\$709
Walnut	91789	23	\$483	-14.6%	n/a	n/a	n/a	\$268

EXHIBIT F - 11

U.S. Census Bureau News
Joint Release
U.S. Department of Housing and Urban Development

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FOR IMMEDIATE RELEASE FRIDAY, APRIL 24, 2009 AT 10:00 A.M. EDT

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NEW RESIDENTIAL SALES IN MARCH 2009

Sales of new one-family houses in March 2009 were at a seasonally adjusted annual rate of 356,000, according to estimates released jointly today by the U.S. Census Bureau and the Department of Housing and Urban Development. This is 0.6 percent ($\pm 19.0\%$)* below the revised February rate of 358,000 and is 30.6 percent ($\pm 10.7\%$) below the March 2008 estimate of 513,000.

The median sales price of new houses sold in March 2009 was \$201,400; the average sales price was \$258,000. The seasonally adjusted estimate of new houses for sale at the end of March was 311,000. This represents a supply of 10.7 months at the current sales rate.

New Residential Sales data for April 2009 will be released on Thursday, May 28, 2009, at 10:00 A.M. EDT.

Our Internet site is: <http://www.census.gov/newhomesales>

EXPLANATORY NOTES

These statistics are estimated from sample surveys. They are subject to sampling variability as well as nonsampling error including bias and variance from response, nonreporting, and undercoverage. Estimated average relative standard errors of the preliminary data are shown in the tables. Whenever a statement such as "2.5 percent ($\pm 3.2\%$) above" appears in the text, this indicates the range (-0.7 to +5.7 percent) in which the actual percent change is likely to have occurred. All ranges given for percent changes are 90-percent confidence intervals and account only for sampling variability. If a range does not contain zero, the change is statistically significant. If it does contain zero, the change is not statistically significant; that is, it is uncertain whether there was an increase or decrease. The same policies apply to the confidence intervals for percent changes shown in the tables. Changes in seasonally adjusted statistics often show irregular movement. It takes 5 months to establish a trend for new houses sold. Preliminary new home sales figures are subject to revision due to the survey methodology and definitions used. The survey is primarily based on a sample of houses selected from building permits. Since a "sale" is defined as a deposit taken or sales agreement signed, this can occur prior to a permit being issued. An estimate of these prior sales is included in the sales figure. On average, the preliminary seasonally adjusted estimate of total sales is revised about 3 percent. Changes in sales price data reflect changes in the distribution of houses by region, size, etc., as well as changes in the prices of houses with identical characteristics. Explanations of confidence intervals and sampling variability can be found on our web site listed above.

* 90% confidence interval includes zero. The Census Bureau does not have sufficient statistical evidence to conclude that the actual change is different from zero.

Table 1. New Houses Sold and For Sale

[Thousands of houses. Detail may not add to total because of rounding]

Period	Sold during period ¹					For sale at end of period					Months' supply ²	Median sales price (\$)	Average sales price (\$)	
	United States	North-east	Mid-west	South	West	United States	North-east	Mid-west	South	West				
Seasonally adjusted														
2008: March	513	28	70	293	122	469						11.2		
April	542	40	82	294	126	458						10.2		
May	515	31	76	292	116	452						10.7		
June	499	35	70	279	115	435						10.7		
July	505	41	66	274	124	419						10.3		
August	448	29	74	252	93	412						11.3		
September	434	25	65	242	102	395						10.9		
October	404	35	63	221	85	379						11.6		
November	387	39	54	207	87	369						11.8		
December ^f	372	30	58	192	92	350						11.4		
2009: January ^f	331	30	51	185	65	339						12.5		
February ^f	358	28	51	206	73	328						11.2		
March ^p	356	19	47	206	84	311						10.7		
Average RSE (%) ³	8	32	19	12	16	4						8		
Percent Change:														
March 2009 from February 2009	-0.6%	-32.1%	-7.8%	0.0%	15.1%	-5.2%						-4.5%		
90% Confidence Interval ⁴	± 19.0	± 52.1	± 49.6	± 27.2	± 40.9	± 1.1						± 13.5		
March 2009 from March 2008	-30.6%	-32.1%	-32.9%	-29.7%	-31.1%	-33.7%						-4.5%		
90% Confidence Interval ⁴	± 10.7	± 42.6	± 17.6	± 15.1	± 19.5	± 2.5						± 15.6		
Not seasonally adjusted														
2007:	776	65	118	411	181	496	48	79	248	121	(X)	247,900	313,600	
2008: ^f	485	35	70	266	114	352	37	57	175	83	(X)	232,100	292,600	
RSE (%)	3	9	11	4	4	3	12	8	5	7	(X)	3	3	
2008: Year to Date	141	9	18	78	36	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	
2009: Year to Date	87	6	12	50	20	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	
RSE (%)	5	22	12	7	8	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	
Year to Date Percent Change ⁵	-38.2%	-36.0%	-34.0%	-36.3%	-45.0%	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	
90% Confidence Interval ⁴	± 4.7	± 25.4	± 9.9	± 6.9	± 8.4	(X)	(X)	(X)	(X)	(X)	(X)	(X)	(X)	
2008: March	49	2	7	28	12	465	46	74	233	113	9.5	229,300	287,600	
April	49	4	8	25	12	458	44	73	230	110	9.3	246,400	314,300	
May	49	3	7	27	11	451	44	72	227	107	9.3	229,300	298,200	
June	45	3	7	25	10	435	43	69	218	104	9.6	234,300	299,400	
July	43	3	6	24	11	421	42	69	210	100	9.8	237,300	301,900	
August	38	2	7	21	8	411	42	67	205	98	10.8	221,000	265,500	
September	35	2	5	20	8	398	41	65	198	94	11.4	225,200	287,100	
October	32	3	5	17	7	384	39	62	192	91	12.0	213,200	274,000	
November	27	3	4	15	6	369	38	61	183	87	13.6	221,600	290,100	
December ^f	26	2	4	14	6	352	37	57	175	83	13.6	229,600	263,100	
2009: January ^f	24	2	3	14	5	339	36	54	169	79	14.2	209,600	244,100	
February ^f	29	2	4	16	6	324	35	52	162	75	11.2	208,700	255,100	
March ^p	34	2	4	19	9	308	34	51	155	68	9.0	201,400	258,000	
Average RSE (%) ³	8	32	19	12	16	4	14	11	4	8	8	5	5	

^fPreliminary. ^rRevised. RSE Relative standard error. X Not applicable. Z Less than 0.5 percent.

¹Seasonally adjusted houses sold are published at annual rates. ²Ratio of houses for sale to houses sold. ³Average RSE for the latest 6-month period.

⁴See the Explanatory Notes in the accompanying text for an explanation of 90% confidence intervals. ⁵Computed using unrounded data.

Note: The sales price includes the land.

Table 2. New Houses Sold, by Sales Price

[Thousands of houses. Components may not add to total because of rounding. Percents computed from unrounded figures]

Period	Total	Under	\$150,000 to	\$200,000 to	\$300,000 to	\$400,000 to	\$500,000 to	\$750,000
		\$150,000	\$199,999	\$299,999	\$399,999	\$499,999	\$749,999	and over
Number of houses ¹								
2007:	776	106	162	227	121	65	62	32
2008: ^f	485	77	106	149	69	35	31	18
RSE (%)	3	11	7	4	7	8	9	15
2008: March	49	7	11	17	7	2	3	2
April	49	5	10	15	9	3	5	2
May	49	9	11	15	5	4	3	2
June	45	8	9	14	7	2	2	2
July	43	8	9	12	6	4	3	2
August	38	7	9	12	5	3	1	1
September	35	7	8	10	4	2	3	1
October	32	6	8	10	4	2	1	1
November	27	5	6	8	4	1	2	1
December ^f	26	4	6	9	4	2	1	(Z)
2009: January ^f	24	5	6	8	3	1	1	(Z)
February ^f	29	6	7	9	3	2	2	(Z)
March ^p	34	7	10	9	4	1	2	1
Average RSE (%) ²	8	20	17	15	22	27	33	49
Percent distribution								
2007:	100	14	21	29	16	8	8	4
2008: ^f	100	16	22	31	14	7	6	4
2008: March	100	14	23	34	15	5	6	3
April	100	11	21	31	18	6	9	4
May	100	18	22	31	11	7	6	5
June	100	17	20	32	16	5	5	5
July	100	18	20	27	14	10	7	5
August	100	17	23	31	14	9	4	2
September	100	19	24	29	10	6	8	4
October	100	18	24	32	12	7	4	4
November	100	19	22	28	14	5	8	4
December ^f	100	15	25	33	15	7	4	1
2009: January ^f	100	20	27	32	12	6	3	1
February ^f	100	20	25	30	12	7	6	1
March ^p	100	20	29	28	12	3	6	2

^pPreliminary. ^rRevised. RSE Relative standard error. X Not applicable. Z Less than 0.5 percent.

¹Houses for which sales price was not reported have been distributed proportionally to those for which sales price was reported.

²Average RSE for the latest 6-month period.

Note: The sales price includes the land.

Table 3. New Houses Sold and For Sale by Stage of Construction and Median Number of Months on Sales Market

[Thousands of houses. Detail may not add to total because of rounding]

Period	Sold during period				For sale at end of period				Median months for sale ¹
	Total	Not started	Under construction	Completed	Total	Not started	Under construction	Completed	
2007:	776	196	255	325	496	69	228	198	6.2
2008: ^f	485	104	134	247	352	41	139	172	9.2
RSE (%)	3	7	5	6	3	5	4	6	8
2008: March	49	12	12	25	465	66	212	187	7.4
April	49	13	14	22	458	64	213	181	7.7
May	49	11	16	22	451	63	209	180	8.3
June	45	10	13	22	435	59	201	175	8.4
July	43	9	13	21	421	56	192	173	8.5
August	38	8	11	19	411	54	186	171	9.0
September	35	5	10	19	398	50	175	173	9.1
October	32	5	9	18	384	46	166	172	9.1
November	27	4	7	16	369	43	155	171	9.2
December ^f	26	4	6	16	352	41	139	172	9.2
2009: January ^f	24	6	5	13	339	40	132	167	9.3
February ^f	29	6	7	15	324	40	126	158	9.8
March ^p	34	10	8	16	308	42	118	149	10.2
Average RSE (%) ²	8	9	12	10	4	8	5	5	6

^pPreliminary. ^fRevised. RSE Relative standard error. Z Less than 0.5 percent.

¹Median number of months for sale since completion.

²Average RSE for the latest 6-month period.

EXHIBIT F - 12

SPECIAL REPORT REAL ESTATE QUARTERLY

Lots of Lots

Los Angeles County's slowing residential market has left builders with scores of unfinished projects. There were 102 detached subdivisions with 608 homes for sale and another 3,257 undeveloped lots at the end of the third quarter.

Development, Location Developer	Houses	Total Sold	Unsold Houses	Remaining Lots	Development, Location Developer	Houses	Total Sold	Unsold Houses	Remaining Lots	Development, Location Developer	Houses	Total Sold	Unsold Houses	Remaining Lots
Star Point Ranch, Acton	19	17	2	0	Sandalwood - Lancaster, Lancaster	100	98	2	0	Kenan Way, Pomona	23	20	3	0
Harwood Homes					Richmond American					1053 Kenan Way Llc				
Vintage @ Hidden Park, Agoura Hills	18	5	5	8	Silver Oaks Estates - Lancaster, Lancaster	12	4	8	0	Montecito Villas, Pomona	23	7	16	0
Vintage Communities					Wells Eason Development					Telacu Development Corp.				
Laurel Village, Arleta	69	52	17	0	Stratman Lane @ The Reserve, Lancaster	80	47	0	33	Reservoir Village, Pomona	20	2	18	0
Montage Development					Capital Pacific Homes					Montage Development				
Edgemont @ Rosedale, Azusa	117	26	9	82	Sunridge Estates - Lancaster, Lancaster	39	38	1	0	Sierra Vista Court, Pomona	12	8	4	0
Christopher Homes					D.R. Horton					Bowden Development				
Garnet Hill @ Rosedale, Azusa	31	26	5	0	Terreno Vista, Lancaster	96	30	6	60	Fairmont @ Fair Oaks Ranch, Santa Clarita	179	38	8	133
Taylor Woodrow					KB Home					Pardee Homes				
The Reserve @ The Oaks	85	84	1	0	Tierra Del Sol - Lancaster, Lancaster	123	121	2	0	Hearthstone @ Fair Oaks Ranch, Santa Clarita	262	49	8	205
Of Calabasas, Calabasas					KB Home					Pardee Homes				
New Millennium Homes					Tierra Del Sol @ Terreno Vista, Lancaster	30	10	4	16	Laurel Park @ Fair Oaks Ranch, Santa Clarita	112	5	3	104
The Chase Collection, Canoga Park	12	1	4	7	Elite Homes					Pardee Homes				
LI Development					The Villas @ Genoa, Monrovia	14	8	6	0	Milestone - Santa Clarita, Santa Clarita	166	135	10	21
The Grove @ Salicoy, Canoga Park	8	7	1	0	Bowden Development					Centex Homes				
D&S Homes Inc.					Milky Way, North Hills	10	8	2	0	Oak Crest @ Fair Oaks Ranch, Santa Clarita	75	1	4	70
Blackhawk Estates, Chatsworth	9	8	1	0	Bonham Construction					Pardee Homes				
Blackhawk Estates LLC					Cortile @ Porter Ranch, Northridge	143	73	5	65	Remington @ Stetson Ranch, Santa Clarita	132	60	4	68
Rancho Paso Fino, Chatsworth	18	14	4	0	S & S Construction					K. Hovnanian				
Richmond American					Halsted Collection I, Northridge	15	11	4	0	Winchester @ Stetson Ranch, Santa Clarita	132	58	7	67
Stone Haven Estates, Chatsworth	30	7	11	12	Halsted Homes					K. Hovnanian				
Rwr Companies					Renaissance Summit @ Porter Ranch, Northridge	100	49	3	48	Cambria Village - Sylmar, Sylmar	52	17	0	35
Birchbark Villas, Downey	34	33	1	0	S & S Construction					MWH Development Corp.				
Birchbark Villas LLC					Sorrento Meadows @ Porter Ranch, Northridge	216	186	8	22	Deluca Court, Sylmar	23	6	4	13
Duarte Huntington Courts, Duarte	51	10	11	30	S & S Construction					Db Builders Inc.				
Mur-Sol Construction					Sorrento Pointe @ Porter Ranch, Northridge	143	126	4	13	Forest Edge, Sylmar	24	21	3	0
Live Oak Estates, Glendora	10	1	9	0	S & S Construction					Shield & Turner Homes				
Patriot Homes					Verona @ Porter Ranch, Northridge	54	53	1	0	Hubbard Village, Sylmar	16	15	1	0
Tradition @ Arboreta, Glendora	53	37	10	6	S & S Construction					Montage Development				
William Lyon Homes					Calico Terrace II - Palmdale, Palmdale	93	25	9	59	Stonebridge Place, Sylmar	47	31	6	10
Aliso @ Cagney Ranch, Granada Hills	45	44	1	0	KB Home					Richmond American				
K. Hovnanian					Desert Rose @ Anaverde, Palmdale	131	74	2	55	Monte Verde Estates, Tarzana	30	28	2	0
Ashton Place II, Lancaster	128	126	2	0	John Laing Homes					Manhattan Holding Co.				
Pulte Homes					Madeline Court, Palmdale	235	232	3	0	Serenade, Torrance	35	27	8	0
Capistrano @ Quartz Hill, Lancaster	118	111	7	0	Madeline Court II, Palmdale	170	15	7	148	Watt Communities				
Richmond American					Magnolia @ Anaverde, Palmdale	150	144	6	0	Brookville @ River Village, Valencia	117	24	11	82
Cooperstown, Lancaster	337	320	3	14	Beazer Homes					Lennar Homes				
K. Hovnanian					Pacific Garden, Palmdale	123	69	6	48	Castillo @ West Hills, Valencia	142	71	13	58
Crescent Court - Quartz Hill, Lancaster	35	29	6	0	Pacific Communities Builder Inc.					Lennar Homes				
Pinnacle Communities					Pacific Highland, Palmdale	482	164	14	314	Heirloom @ River Village, Valencia	96	27	16	53
Crest View In Lancaster, Lancaster	20	18	2	0	Pacific Communities Builder Inc.					Lennar Homes				
Crest View Homes					Silver Leaf, Palmdale	169	74	15	80	Patina @ West Creek, Valencia	95	15	9	71
Daybreak II, Lancaster	40	38	2	0	Beazer Homes					Lennar Homes				
Richmond American					Somerset Creek, Palmdale	230	135	4	91	Patina @ West Hills, Valencia	67	8	0	59
Eastbrooke Estates, Lancaster	126	18	15	93	Beazer Homes					Lennar Homes				
American Premiere Homes					Sonoma Ranch - Palmdale, Palmdale	90	47	7	36	De Celis Court, Van Nuys	36	13	1	22
Emily's Garden, Lancaster	62	18	2	42	Pulte Homes					Richmond American				
Gibraltar Homes					The Bellagio of Palmdale, Palmdale	24	14	10	0	Sunshine on Stearnman Way, Van Nuys	7	1	6	0
Heirloom Rose, Lancaster	77	52	2	23	Stanley Homes LLC					Sunshine R. E. Holdings LLC				
Independence, Lancaster	200	49	16	135	The Vineyards - Palmdale, Palmdale	204	149	15	40	Saddlewood @ Three Oaks, Walnut	95	17	10	68
American Premiere Homes					KB Home					Standard Pacific				
Jamestown - East, Lancaster	80	16	4	60	Casa Bella Townhomes, Panorama City	26	18	8	0	Traipoint @ Three Oaks, Walnut	94	12	5	77
Cambridge Homes					The Life Group					Standard Pacific				
Jamestown - West, Lancaster	54	0	9	45	Villas Del Valle, Panorama City	26	23	3	0	Windcroft @ Three Oaks, Walnut	79	11	5	63
Cambridge Homes					Telacu Development Corp.					Standard Pacific				
Las Colinas @ The Reserve, Lancaster	77	17	3	57	Icon @ Playa Vista, Playa Vista	62	28	8	26	Pacific Park West, West Covina	46	18	14	14
Hearthside Homes					John Laing Homes					Pacific Communities				
Mariposa @ Sierra Vista, Lancaster	77	76	1	0	Grand Palomares Villas, Pomona	9	2	7	0	Morea @ One Westbluff, Westchester	68	55	10	3
Warmington Homes					Grand Palomares LLC					Standard Pacific				
Montecito West @	17	12	5	0						The Village @ Stratham, Winnetka	12	1	11	0
Providence Ranch, Lancaster										Village At Stratham LLC				
Stratham Homes										Cantara - Woodland Hills, Woodland Hills	7	5	1	1
Pacific Tapestry, Lancaster	218	49	13	156						Farralone Estates LLC	44	41	3	0
Pacific Communities Builder, Inc.										Sierra, Woodland Hills				
Pavilion - Lancaster, Lancaster	30	12	18	0						Lee Homes				
Matthews Homes														
Pinnacle - Quartz Hill, Lancaster	65	39	5	21										
Pinnacle Communities														
Premiere Collection @ Quartz Hill, Lancaster	64	34	7	23										
American Premiere Homes														
Sagewood - Lancaster, Lancaster	35	32	3	0										
Richmond American														
										102 Total Projects	8,199	4,334	608	3,257

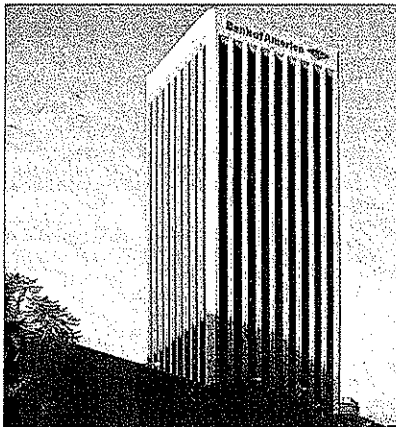
Note: The list represents "actively selling" detached subdivisions as of Sept. 30, 2008, the latest available data. It does not include condominiums. The Business Journal does not make any claims as to the accuracy of this data.

Source: Park Place Partners Inc. & MarketPointe Realty Advisors

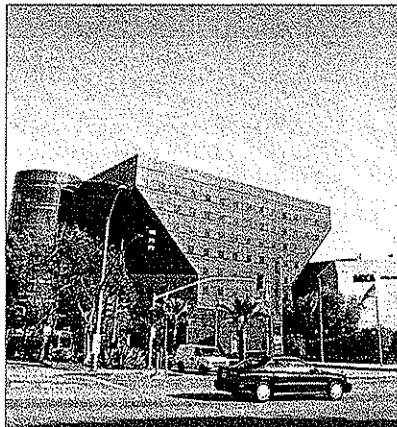
EXHIBIT F - 13

Los Angeles County Office Market, 4th Quarter 2008

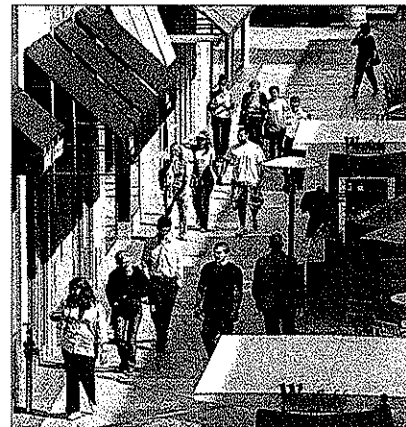
Market/Submarket	Total Inventory	Vacant Space (square ft.)	Vacancy Rate			Under Construction (square ft.)	Net Absorption (square ft.)			Class A Asking Rent ²		
			4th Qtr. 2008	3rd Qtr. 2008	4th Qtr. 2007		4th Qtr. 2008	3rd Qtr. 2008	4th Qtr. 2007	4th Qtr. 2008	3rd Qtr. 2008	4th Qtr. 2007
Downtown L.A.	32,140,473	4,421,284	13.8%	13.1%	12.6%	0	(336,231)	(313,619)	(27,433)	\$3.28	\$3.23	\$3.00
Wilshire Center	8,203,459	822,003	10.0%	9.4%	7.3%	0	(48,115)	(106,455)	(55,269)	\$1.87	\$1.87	\$1.85
Miracle/Park Mile	5,914,995	560,402	9.5%	9.8%	9.2%	0	19,349	(115,911)	4,023	\$3.45	\$3.53	\$3.36
Wilshire Corridor	14,118,454	1,382,405	9.8%	9.6%	8.1%	0	(28,766)	(222,366)	(51,246)	\$2.86	\$2.91	\$2.75
San Gabriel Valley	13,919,923	1,056,429	7.6%	7.7%	6.4%	20,046	(34,003)	28,353	22,782	\$2.70	\$2.72	\$2.73
Burbank	5,356,562	214,454	4.0%	3.5%	3.8%	817,400	(26,330)	84,733	(23,017)	\$3.14	\$3.17	\$3.26
Glendale	6,155,911	1,035,121	16.8%	14.9%	14.1%	0	(120,466)	(5,738)	(52,850)	\$2.77	\$2.84	\$2.91
Pasadena	7,066,018	791,363	11.2%	10.8%	10.1%	0	(29,470)	(57,408)	(261,410)	\$3.22	\$3.51	\$3.94
Tri-Cities	18,578,491	2,040,938	11.0%	10.0%	9.6%	817,400	(176,266)	21,587	(337,277)	\$2.96	\$3.12	\$3.28
Hollywood/WeHo	3,900,838	415,148	10.6%	6.0%	4.2%	400,000	(38,103)	(17,510)	(117,794)	\$3.92	\$3.97	\$4.08
Beverly Hills	6,278,080	627,135	10.0%	7.7%	3.6%	0	(146,727)	(43,132)	38,519	\$4.27	\$4.52	\$4.16
Brentwood	3,520,978	297,024	8.4%	7.5%	6.1%	0	(31,538)	(30,482)	(48,786)	\$4.25	\$4.61	\$4.76
Century City	10,328,379	1,023,098	9.9%	8.1%	9.5%	0	(181,898)	32,165	(23,637)	\$4.89	\$5.17	\$5.14
Marina/Culver City	5,849,212	896,806	15.3%	15.5%	15.4%	783,917	8,547	37,900	(19,104)	\$3.37	\$3.56	\$3.81
Santa Monica	8,259,843	992,390	12.0%	11.2%	8.4%	0	(63,946)	32,763	(33,869)	\$5.55	\$5.82	\$6.03
West Los Angeles	5,864,543	553,748	9.4%	8.8%	5.8%	0	(35,108)	(101,474)	(6,768)	\$3.83	\$3.92	\$3.95
Westwood	3,112,243	386,503	12.4%	9.6%	7.0%	0	(87,333)	(34,919)	(12,533)	\$4.63	\$5.34	\$6.05
Westside	43,213,278	4,776,704	11.1%	9.8%	8.3%	783,917	(538,003)	(107,179)	(106,198)	\$4.53	\$4.79	\$4.92
Santa Clarita Valley	2,685,883	647,975	24.1%	22.3%	14.6%	105,139	(15,606)	(3,072)	7,133	\$2.80	\$2.80	\$2.91
Central Valley	7,920,619	718,226	9.1%	8.6%	7.4%	0	(39,904)	(25,820)	(48,240)	\$2.75	\$2.78	\$2.75
Conejo Valley*	7,533,416	1,224,858	16.3%	15.8%	8.5%	78,601	49,694	(45,777)	(5,572)	\$2.64	\$2.66	\$2.72
East Valley	2,936,213	233,077	7.9%	8.0%	6.7%	5,239	2,416	(14,772)	(130,934)	\$3.52	\$3.57	\$3.80
West Valley	9,694,943	1,652,760	17.0%	16.6%	10.6%	0	11,975	27,514	(30,970)	\$2.57	\$2.66	\$2.63
San Fernando Valley	28,085,191	3,828,921	13.6%	13.2%	8.7%	83,840	24,181	(58,855)	(215,716)	\$2.74	\$2.80	\$2.82
190th Street Corridor	3,321,852	449,732	13.5%	13.7%	13.0%	0	5,430	(69,348)	138,957	\$2.58	\$2.60	\$2.52
Carson	1,121,668	108,087	9.6%	5.8%	4.9%	0	(43,122)	(7,740)	(6,844)	\$1.95	\$1.95	\$1.89
El Seg./Beach Cities	10,817,347	1,058,995	9.8%	10.7%	12.0%	0	96,247	167,413	(79,960)	\$2.74	\$2.79	\$2.57
LAX/Century Blvd.	3,913,487	1,170,349	29.9%	30.9%	23.8%	0	39,760	(49,560)	81,684	\$1.54	\$1.61	\$1.58
Long Beach Downtown	4,067,138	518,041	12.7%	12.0%	10.5%	0	(30,263)	2,929	(15,337)	\$2.60	\$2.60	\$2.57
Long Beach Suburban	4,627,665	562,763	12.2%	9.4%	8.0%	0	31,723	(32,307)	(16,996)	\$2.58	\$2.67	\$2.72
Torrance Central	3,115,540	370,220	11.9%	12.3%	6.9%	0	14,398	(131,207)	(54,071)	\$2.50	\$2.57	\$2.50
South Bay	30,984,697	4,238,187	13.7%	13.5%	12.0%	0	114,173	(119,820)	47,433	\$2.45	\$2.51	\$2.39
Los Angeles Total	187,627,228	22,807,991	12.2%	11.4%	9.7%	2,210,342	(1,028,624)	(792,481)	(778,316)	\$3.41	\$3.49	\$3.49



Downtown: Two national law firms that liquidated closed their offices at 333 S. Hope St., vacating 125,000 square feet of space.



West Hollywood: Construction continues at the Pacific Design Center, where a final red building will complement existing blue and green buildings.



Century City: Westfield received approval in November to move ahead with an \$800 million mixed-used project next to its mall.

Los Angeles County Industrial Market, 4th Quarter 2008

Market	Total Inventory (square ft.)	Vacant Space (square ft.)	Vacancy Rate			Under Construction (square ft.)	Sold & Leased (square ft.)			Asking Rent ²		
			4th Qtr. 2008	3rd Qtr. 2008	4th Qtr. 2007		4th Qtr. 2008	3rd Qtr. 2008	4th Qtr. 2007	4th Qtr. 2008	3rd Qtr. 2008	4th Qtr. 2007
Central L.A.	302,679,814	5,191,542	1.7%	1.8%	0.8%	145,981	1,756,659	1,695,419	1,466,114	\$0.49	\$0.51	\$0.52
Mid-Cities	106,658,722	2,405,648	2.3%	2.5%	1.7%	67,360	833,636	999,797	810,715	\$0.55	\$0.59	\$0.57
North Los Angeles*	184,403,860	4,772,161	2.6%	2.5%	2.7%	430,631	855,701	1,305,002	708,490	\$0.63	\$0.62	\$0.76
San Gabriel Valley	172,539,617	3,746,206	2.2%	2.5%	1.2%	625,880	606,665	627,733	2,750,830	\$0.50	\$0.55	\$0.56
South Bay	219,864,486	5,415,377	2.5%	2.4%	1.5%	1,701,245	2,535,434	2,139,732	3,658,692	\$0.69	\$0.67	\$0.65
Los Angeles Total	586,146,499	21,530,934	2.2%	2.3%	1.5%	2,971,097	6,588,095	9,423,013	9,394,841	\$0.57	\$0.57	\$0.61

¹ Net Absorption is the change in occupied space for a given period of time, excluding sublet space and renewals.

² Average monthly, per-square-foot rents.

³ Average monthly, triple-net rents.

Due to the transfer of owner/occupied space to competitively leasable space and/or the delivery of new construction in the market, discrepancies may occur in the relation between vacancy rates and net absorption.

* Portions are in Ventura County

Source: Grubb & Ellis Co.

EXHIBIT F - 14

LOS ANGELES BUSINESS JOURNAL

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Offices Empty Out, Setting Q4 Record

By CHARLES PROCTOR - 1/26/2009

Los Angeles Business Journal Staff

The fourth quarter was a record setter in Los Angeles County for the commercial office market, but it wasn't the kind anyone wanted to see.

A bit more than 1 million net square feet of office space was dumped onto the market during the last three months of 2008 – more even than at the height of the dot-com bust and the most since Grubb & Ellis Co. started compiling local quarterly data in 1983.

The figure was sobering in another respect: It was the worst quarter of a terrible year. In all, a net of about 3.28 million square feet was vacated in all of 2008 – also a record for one year.

"We haven't seen numbers this big, even during the last recession," said J.C. Casillas, associate vice president and client services manager at Grubb & Ellis Research Services.

By comparison, in the trough of the tech wreck in the second quarter of 2001, the county gave back about 955,000 square feet as scores of Web companies shuttered.

The countywide office vacancy rate hit 12.2 percent in the fourth quarter, nearly a point higher than in the third quarter and two and a half points more than a year earlier. While that's not a record – in the fourth quarter of 2002 vacancies hit 16.7 percent – it's still high. The damage spread to just about every corner of the county, although the Westside and downtown were hit hardest.

Experts cited a confluence of factors to explain the brutality of last quarter, but pointed mostly to rising unemployment, which in November hit 8.9 percent in L.A. County, the highest rate in 14 years. That has led to a corresponding rise in vacancies as more companies closed or contracted.

Meanwhile, the volatility of the economy has made many prospective tenants tepid when it comes to committing to long-term decisions about real estate. That has forced landlords to lower rents, often just to retain their tenants. Countywide, Class A asking rents fell 8 cents to \$3.41 a square foot a month since the third quarter, and brokers and other industry professionals expect they'll fall further as the year progresses.

"If you talk to landlords today, their mantra is all about tenant retention," said David Doupe, West Coast team leader for the capital markets group at Jones Lang LaSalle Inc.

"Companies are saying to the landlords, 'Look, I don't want to make a decision right now, and if you force me to make a decision, I'm going to leave.'"

Falling down

The freefall was led last quarter by the previously red-hot Westside market, which gave back about 538,000 square feet of space and saw its vacancy rate jump to 11.1 percent from 9.8 percent in the third quarter.

Much of the spike in vacancy came from media, entertainment and financial services companies, and was spearheaded by Yahoo Inc., which dumped about 100,000 square feet when it laid off staff at its Colorado Boulevard offices in Santa Monica. That kind of give-back contributed to a significant softening of asking rents, which fell by more than 25 cents to \$4.53 per square foot.

Also faring poorly was the downtown submarket, which saw about 336,000 square feet pop back on the market. One-third of that damage could be chalked up to two national law firms – Thelen Reid & Priest LLP

and Heller Ehrman White & McAuliffe LLP – that liquidated in the fall. That left a total of 125,000 square feet of prime real estate at Bank of America Plaza, 333 S. Hope St., vacant.

The San Fernando Valley saw its vacancy rate rise nearly a half-point to 13.6 percent for the quarter, capping off a year in which more than 633,000 square feet was vacated. The main culprits? Crippled financial services companies, such as Countrywide Financial, Washington Mutual and AIG, which occupied millions of square feet and are now abandoning offices.

Even the handful of bright spots generally came with caveats.

The South Bay submarket, for instance, absorbed about 114,000 square feet in the fourth quarter, but that was buoyed in large part by a 330,000-square-foot lease signed by Northrop Grumman Corp. for an El Segundo office tower previously occupied by Continental Airlines. Without that huge deal, the story would have been worse, and even with it the South Bay had a bad year. It saw about 355,000 square feet cumulatively open up.

One portion of the commercial real estate market, however, did escape last quarter relatively unscathed: L.A. County's historically strong 1 billion-square-foot industrial market, one of the nation's largest.

While the market is not nearly as strong as it was two years ago, when foreign trade was sky high and filled the region's warehouses to the brim, it did pretty well. In fact, the countywide industrial vacancy rate fell one-tenth of a point to 2.2 percent as the market absorbed 621,000 square feet of space. Asking rents held the line at 57 cents per square foot a month.

To a certain extent, the industrial market may have simply settled after a horrible third quarter that saw 3.1 million square feet of space open up when trade at the ports of Los Angeles and Long Beach slowed dramatically.

The county remains the largest manufacturing center in the United States, and its ports are still the largest. As a result, the industrial market remains active. In September, Storm Properties Inc., a Torrance-based developer, sold a 16-building portfolio of industrial properties to TA Associates Realty of Boston for about \$54 million. The 545,000-square-foot portfolio includes 10 local properties, including several at the Storm Business Park in Torrance.

Indeed, Los Angeles' industrial vacancy rate puts it among the lowest in the country, beating out other regions such as Houston, Seattle and the San Francisco Bay Area, said Craig Meyer, the national head of real estate services firm Jones Lang LaSalle's industrial brokerage unit.

Now, that does not mean more pain does not lie ahead. Traffic at the ports continues to decline – in December year-over-year shipments were down 15 percent at the L.A. port – but Meyer said the area's industrial base will help it weather the economic storm better than other regions.

Flip side

Of course, there is a flip side to the carnage for landlords: The thousands of office and industrial tenants who keep the L.A. economy running are looking at signing new leases at sharply lower rates. That will help keep them afloat during the tough times.

Some aren't waiting for their leases to expire. Doupe of Jones Lang LaSalle said he's seen many tenants halfway through leases that were signed when real estate prices were high "blend and extend." That is they commit to a lease extension in exchange for the landlord knocking their rents down to current market rates.

"It's definitely a market conducive to tenants right now," said Lewis Horne, executive managing director for Southern California at CB Richard Ellis Group Inc.

Most agree that it's unlikely the office market will rebound in 2009.

Paul Habibi, a professor of real estate at the UCLA Anderson School of Management, said he expects the unemployment rate will climb before it trends back down. That will likely be reflected in the office market.

"I think we're poised to witness the next stage in increases in vacancy and drops in rental rates," he said.

And while it's hard to say whether this year will be worse than last, experts agreed that at least the market is braced for bad news, unlike 2008 when the abrupt financial collapse took it by surprise.

"The real good news about 2009," Horne said, "is that we'll be comparing it to 2008."

ADDITIONAL RESOURCES:

- [Table: Los Angeles County Office Market, 4th Quarter 2008.](#)

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EXHIBIT F - 15

The New York Times

Raising the Roof

Buying, Renting—and Just Looking—Around the World

SEPTEMBER 30, 2008, 3:59 PM

New study finds value for developable land off more than 30 percent in many areas of U.K.

By KEVIN BRASS

With developers increasingly sitting on the sidelines, the value of developable land in the U.K. is plummeting, according to a new study. Outside of London, prices for urban residential land dropped by 33 percent in the last year and 15 percent in the last quarter alone, according to the newly established Knight Frank Residential Development Land Index.

The results were only slightly better in so-called “greenfield” areas, where values have dropped 30 percent in the last year and 13 percent in the quarter, the study found.

“Developers have found it almost impossible to access finance to buy land, while the pronounced slowdown in the sale of new homes has prompted them to reconsider the size of their future needs,” said Jon Neale, head of development research at Knight Frank, in a statement. Many developers are instead selling property, which has “dramatically increased the supply of land on the market, further depressing values,” Neale said.

So far, London—where demand remains high and developable land is scarce—has managed to avoid the dramatic drop. Values in inner London have fallen by only 10 percent, with outer London area dropping 15 percent.

Although interest for “super-prime” sites has dropped by as much as half, demand “still vastly exceeds supply, with some sites still capable of fetching the equivalent of £100m+ per acre,” the report says.

The worst hit areas were Yorkshire, Humberside and the northwest, where values have dropped by anywhere from 35 to 50 percent in the last year, the report found.

“Values are likely to continue to fall, albeit at a lower rate of around 10 percent over the next 12 months,” Neale said.

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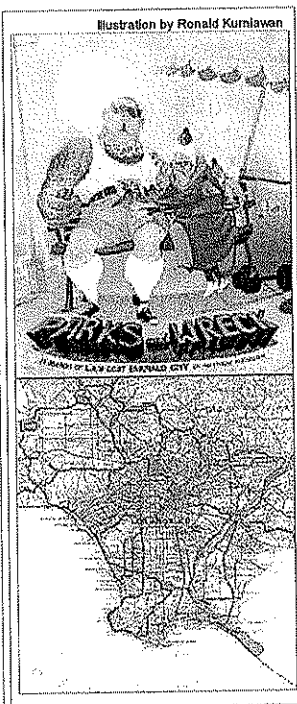
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PARKS AND WRECK: L.A.'S FIGHT FOR PUBLIC GREEN SPACE

In search of the Emerald City
 BY MATTHEW FLEISCHER
 Published on July 16, 2008 at 7:12pm

There's a foul smell in Pershing Square. Well, several foul smells, really. Most prominently, there's the smell of urine. It wafts in all directions, emanating from a dozen dark, hidden recesses spread throughout the square. There's the smell of the fountain, a giant purple modernist abomination that every so often belches a tiny stream of liquid into a stagnant brown pool below. There's the smell of a small colony of homeless, who have made this place their bathroom. They occupy nearly every bench in sight, baking and sweating in the treeless glare of the unforgiving sun. At noon, in the largest public space in the downtown business district of the country's second largest city, these men and women are the area's sole occupants.

Illustration by Ronald Kurniawan



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A rendering of a re-imagined Cornfield

Meanwhile, two blocks away, a group of businesspeople in sleek skirts and tailored suits enjoy a quiet lunch at the packed Café Pinot in the L.A. Public Library's Maguire Gardens. Next to the café, a multiethnic band of children play in and around a series of three tastefully tiled fountains. More than a dozen homeless congregate nearby. Some inevitably work the grounds, meekly asking for change, but most take quiet naps in the shady grass. Others read library books on benches. The wealthy and the destitute, young and old, black, white, brown and yellow — coexisting and enjoying the day in peace.

Not all spaces are created equal.

That's especially true in Los Angeles, where, when it comes to public space, the Maguire Gardens are the exception rather than the rule. The most park-impooverished major city in America, Los Angeles devotes only 4 percent of its land to public greenery. By contrast, parkland comprises 17 percent of New York City and 9 percent of Boston (where 97 percent of the city's children have immediate access to a park — as opposed to one-third of kids in Los Angeles). Even in San Diego, often dismissed as L.A.'s cultureless, beer-buzzed little brother, parks make up 16 percent of the landscape.

Of the parks L.A. does have, many are caught in varying states of detritus. The jewel of our system, Griffith Park, is less park than wilderness area, and subject to the wildfires that devastated it last year. Elysian Park is beautiful but isolated and underused. And not only have Echo Park's famous paddleboats been sporadically removed from service due to budgetary woes, but Echo Park Lake has become so foul that the park's stunning lotus flowers have all but disappeared.

"Los Angeles isn't just park-poor," says Marta Segura of the public-space advocacy group Los Angeles Neighborhood Land Trust, "many of the parks we do have are failed spaces. They're completely abandoned."

Pershing Square is one of the worst, but it wasn't always that way. In the 1920s, the square was lush with trees and walking paths. News

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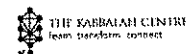
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L.A. WEEKLY

kiosks had set up shop, and the elegant Biltmore Hotel had its main entrance overlooking the grounds. The square was alive. Unfortunately, a little too alive for some. City officials claimed it was a site for gay cruising, and in 1950, they bulldozed the park to make way for an 1,800-car underground parking garage. The once beautiful square was left barren, and the Biltmore moved its entrance to the Grand Avenue side of the building.

Though it received a brief face-lift in time for the '84 Olympics, Pershing Square stayed as it was until 1993, when a public/private partnership was established to refurbish the grounds. The Community Redevelopment Agency, the Pershing Square Property Owners' Association and Maguire Thomas Partners — the same development firm that years later built the Maguire Gardens — collaborated to build the purple nightmare we've come to know today.

So how is it that the Maguire Gardens and Pershing Square, two parks located only blocks apart, catering to the same patrons and built by the same developer, can have such drastically different results? Clearly, the nature of a space impacts its success.

What defines good space?

“Most importantly, permeability,” says landscape architect Mia Lehrer, designer of the Los Angeles River Revitalization Master Plan. “For instance, you can go to Olvera Street at any time of night and feel safe — it's well lit, it's open, it's easily accessible. Pershing Square is completely isolated from the street. It's elevated and hidden behind those huge walls.

“You don't need bells and whistles to make a park work,” Lehrer adds. “Look at Bryant Park in New York. It's pretty simple — trees, grass and places to sit.”

If building beautiful and functional public space is so simple, why doesn't Los Angeles have more of it?

Look No Further Than Paris

When was the last time you made out in your front yard? I mean really went for it — tongue, teeth, sweat — neighbors be damned. Has it been a while? Has it ever even happened? Until fairly recently, public green space in Los Angeles has been dismissed as an unnecessary luxury. After all, our single-family homes have yards and gardens. What more could one possibly want?

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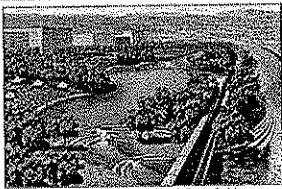
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PARKS AND WRECK: L.A.'S FIGHT FOR PUBLIC GREEN SPACE

Continued from page 1
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But the yard, for all its virtues, is neither sexy nor romantic. It's a rare Angeleno, I would imagine, who would trade a stroll along the Seine for an evening at home in a lawn chair. There's something undeniably sensual and exciting about the anonymity of the commons — being surrounded by people and yet alone. All the world's great cities have this feeling. Of course, New York, the ultimate source of Los Angeles' civic anxiety, has it — but nowhere is it more profound than in Paris.



A rendering of a re-imagined Cornfield



Mia Lehrer, architect of the Los Angeles River Revitalization Master Plan

Relatively speaking, Paris' global reputation as a city of romance is an entirely modern one. Only a century and a half ago, Paris was widely considered a slum-infested pit — rotting from its core. Under Napoleon III, the city underwent sweeping urban renewal, aimed primarily at revitalizing its public sphere. In just two decades, from 1850 to 1870, Paris' network of parks jumped from 45 to 4,500 acres, and the city went from a filth-strewn collection of alleyways to one of majestic boulevards and promenades.

Paris' rise to global cultural dominance was achieved through the use of space and the creation of parks. Like 19th-century Paris, Los Angeles is in the midst of a similar cultural ascent. But for all the strides this city has made in the worlds of art, theater, music and cuisine, the final impediment to Los Angeles' arrival as a world-class destination — one capable of competing with the likes of the City of Light — is still the city

itself.

(Click to enlarge)

Mia Lehrer, architect of the Los Angeles River Revitalization Master Plan

Ted Soqui

(Click to enlarge)

Union Pacific "piggyback" yard

(Click to enlarge)

"Imagine a 100-acre park this close to downtown. This can be our Central Park." —Lewis MacAdams, founder, Friends of the Los Angeles River

As anyone involved in a long-term relationship knows, romance requires effort, and, historically speaking, Los Angeles has been a lazy lover.

Of course, L.A.'s development failures haven't entirely escaped the notice of City Hall. After decades of unceasing sprawl, the city is finally attempting to rebrand itself through the use of space. Since Mayor Antonio Villaraigosa took office in 2005, backed by the likes of council members Jan Perry and Eric Garcetti, smart growth and transit-oriented development have been touted as the city's new urban-planning panaceas. Under the rubric of these strategies, Los Angeles, it is promised, will become walkable and dense — its citizens reliant on public transportation, just like in Paris.

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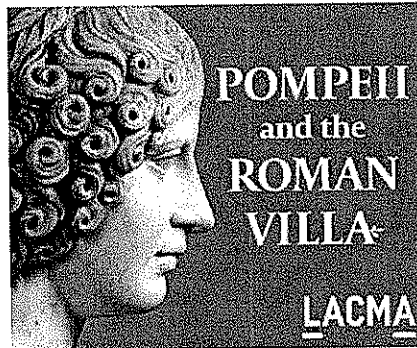
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LAWEEKLY

To help market this philosophy of density, the promise of green space has never been far behind. “Under my leadership,” Villaraigosa promised in 2005, days after he was first elected, “we will create an emerald necklace of parks along the [Los Angeles] river, and dot our neighborhoods with new emeralds — neighborhood parks.”

Villaraigosa’s words were an overt reference to Frederick Law Olmsted, the pioneering American landscape architect who designed Boston’s famed Emerald Necklace park system, New York’s Central Park and dozens of other notable green spaces across the country, and to the legendary plan that the sons of Olmsted drew up for Los Angeles in 1930 — a plan that was subsequently abandoned and that urban theorist Mike Davis famously labeled, “a window into a lost future.”

Since the mayor’s initial pledge to reinstitute L.A.’s lost green vision, the name *Olmsted* has become a fashionable signifier in city-planning circles — with everyone from Garcetti and fellow councilman Jack Weiss to anyone else wanting to sound visionary name-dropping the plan. City Councilman Tom LaBonge keeps a copy in his office.

Such rhetoric couldn’t come at a better time. Los Angeles stands at a historical crossroads: its push toward density, opening up large tracts of land for redevelopment, land that could be used for parks and civic space.

Unfortunately, rhetoric and action are distant cousins.

The irony in all the Olmsted referencing is that nearly 80 years after the original Olmsted plan was released, and three years into the green mayor’s term, Los Angeles still lacks both a master plan and a general maintenance routine for its park system. Neither the Department of Recreation and Parks nor the City Council parks committee has a master list of city-owned property that could be converted to park space. The Los Angeles River Revitalization Master Plan, much lauded and doted on by the City Council, still hasn’t been signed off on by either of the major players who control the L.A. River — the Army Corps of Engineers and the L.A. County Board of Supervisors.

L.A.’s supposedly new “Central Park,” in the Grand Avenue redevelopment project (of which 13 of the 16 acres are already public green space), may be our next Pershing Square. World-renowned landscape architect Laurie Olin, brought on to create a “Ramblas” on Grand Avenue, has dropped out; the developer, Related Companies, is crying poverty; and such critics as the *L.A. Times*’ Christopher Hawthorne have called the design uninspired.

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EXECUTIVE SUMMARY

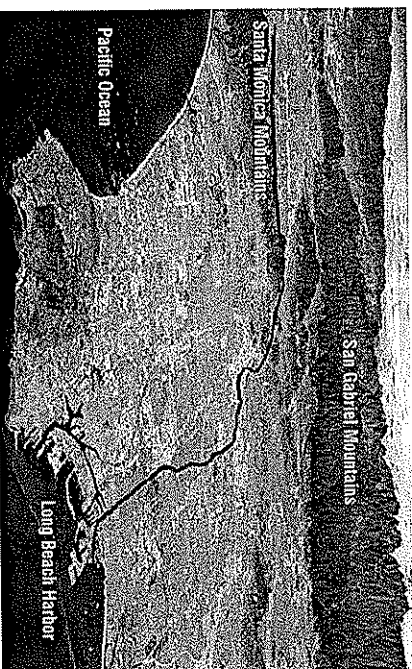
GEOGRAPHIC CONTEXT OF THE LOS ANGELES RIVER

The 32 miles of the River that flow within the City of Los Angeles represent more than 750 contiguous acres of real estate. In the very heart of the City, Transforming even a small portion of that land for new, multiple-benefit uses, including natural system restoration, treatment of storm water runoff, establishment of a continuous River gateway, and an interconnected network of parks and trails, could indeed revive the River. These changes would go a long way in not only restoring the ecological function of the River, but also in restoring the River's identity to one that celebrates the past and the future of Los Angeles—one that significantly enhances the quality of life for Angelenos, that becomes an important destination for visitors, and that survives as a symbol of natural resilience and revival for the City itself.

The discussion of the Opportunity Areas that follows describes how habitat zones might be integrated into designs for these areas.

The Los Angeles River flows approximately 51 miles from its origin in the San Fernando Valley region of the City of Los Angeles, to Long Beach Harbor and the Pacific Ocean. The River runs east/southeastward through Los Angeles and along the cities of Burbank and Glendale in its northern reaches, and then heads southward, flowing through the cities of Vernon, Commerce, Maywood, Bell, Bell Gardens, South Gate, Lynwood, Compton, Paramount, Carson, and Long Beach, respectively. The first 32 miles of the River flows through the City of Los Angeles, intersecting 10 Council Districts (Districts 3, 12, 6, 2, 5, 4, 13, 1, 9, and 14, respectively), 20 Neighborhood Councils and 10 community planning areas as follows (in geographic order from north/northwest to south/southeast): Canoga Park/Winnemka-Woodland Hills-West Hills; Reseda-West Van Nuys; Encino-Tarzana; Van Nuys-North Sherman Oaks; Sherman Oaks-Studio City-Toluca Lake-Cahuenga Pass; Hollywood; Northfast Los Angeles; Silver Lake-Echo Park; Central City North; and Boyle Heights.

The River begins in the Canoga Park community at the confluence of Bell Creek and the Arroyo Calabasas—approximately two miles north of the northern foothills of the Santa Monica Mountains. The River extends east/southeastward through the communities of Reseda-West Van Nuys, and Encino-Tarzana toward the Sepulveda Dam Recreational Area and Flood Control Basin. From the Sepulveda Basin, the River continues eastward through the communities of Van Nuys, Sherman Oaks, and Studio City. The Central Branch of the Tujunga Wash joins the River from the north in Studio City. From this point, the River continues approximately 6 miles eastward along the southern border of the City of Burbank and the northern border of Griffith Park. At this point, the Verdugo Wash joins the River from the northeast. Here, the River is approximately 1.5 miles south of the southern foothills of the Verdugo Mountains and bends sharply southward, roughly paralleling the Golden State (5) Freeway. The River continues southward between Griffith Park to the west and the Atwater community to the east, through Elysian Valley, Lincoln Heights, Boyle Heights, and Downtown before flowing out of the City of Los Angeles, into the City of Vernon.



THE RIVER'S PAST

The Los Angeles River is the original source of life for the City of Los Angeles. It is where first the Native Americans and later the Spanish built the City's earliest settlements. In the 19th and 20th centuries, the River powered the City's industry and served as an important transportation corridor, creating economic value and growth. With extensive building in the growing City came the encroachment into the River's floodplain and the inevitable damage from floods. Homes and businesses were flooded on numerous occasions in the first half of the 20th Century. In 1914, 1934, and 1938, devastating floods prompted the U.S. Army Corps of Engineers and the Los Angeles County Flood Control District to construct the concrete-lined channel that now conveys the River for most of its 51-mile length.

Over time, with the rail yards, warehouses, and other industrial uses that line the River's edge, the River has become both literally and figuratively isolated from most people and communities. Most residents cannot see the River, let alone enjoy it as a valuable public resource. For the six decades since the River was paved, it has been treated as an unwelcome guest in many neighborhoods.

GROUNDWORK FOR THE REVITALIZATION MASTER PLAN

Over the past two decades, Los Angeles communities, with many local, state, and federal government agencies and nongovernmental organizations, have engaged in efforts to revitalize the Los Angeles River and its watershed. The City of Los Angeles has invested in parks, bike paths, bridges, street improvements, and other projects. The County of Los Angeles has begun to implement the Los Angeles River Master Plan, adopted by the County Board of Supervisors in 1996. California's Conservancies and California State Parks have fostered the creation of numerous new open space amenities in the River Corridor—notably the establishment of the Los Angeles State Historic Park at the Comfields and the Río de Los Angeles State Park at Taylor Yard. The U.S. Army Corps of Engineers is engaged in several studies to restore a functioning ecosystem within selected areas of the channel. Many nonprofit groups, including the Friends of the Los Angeles River (FoLAR), Tree People, North East Trees, The River Project, the Los Angeles and San Gabriel Rivers Watershed Council, the Trust for Public Land, and others have also worked tirelessly to raise public and civic awareness of the River's potential and to implement revitalization projects. Several research endeavors and associated data have been made available by educational institutes, including those of the University of Southern California's Center for Sustainable Cities, GreenVisions program and the University of California at Los Angeles Institute of the Environment.

In June 2002, the Los Angeles City Council approved establishment of the Ad Hoc Committee on the Los Angeles River to focus on the revitalization of the Los Angeles River and its tributaries. The Committee coordinates and partners with other stakeholders on major revitalization efforts, identifies linkages between projects and communities, recommends policy changes, and creates a City role for River revitalization. Chartered by Councilmember Ed Reyes, the Committee has focused on major revitalization issues, including opportunities for implementing projects, such as bridges, parks, bicycle paths, pedestrian trails, other recreational amenities, and programs to encourage public education, litter removal, job creation, community

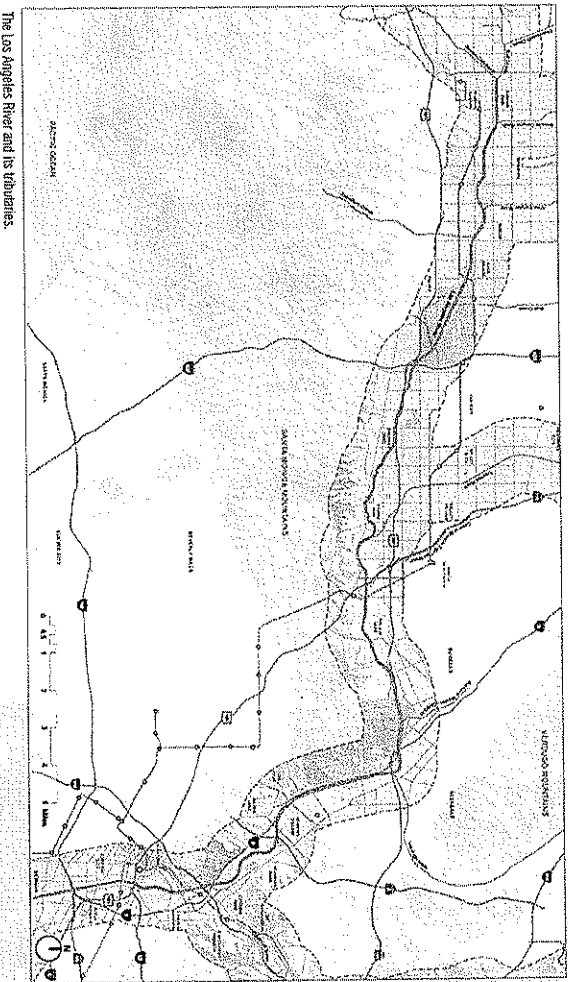
development, tourism, civic pride, and improved water quality. Together these actions have served to bring value to neglected spaces and foster a sense of place along the River throughout the City.

In 2005, Mayor Antonio Villaraigosa formally endorsed the City Council's motion to develop this Los Angeles River Revitalization Master Plan (LARRMP). The LARRMP represents a milestone achievement for the City in its massive scope—coalescing diverse stakeholders around a revitalization agenda for the still often-overlooked Los Angeles River. The Plan is intended to be a 25 to 50-year blueprint for implementing a variety of comprehensive improvements that would make the River one of the City's most treasured landmarks and a catalyst for a sustainable environment.

REVITALIZATION MASTER PLAN: A FRAMEWORK FOR CHANGE

The Los Angeles River Revitalization Master Plan provides a framework for restoring the River's ecological function and for transforming it into an amenity for residents and visitors to the City.

- The Plan includes:
- Recommendations for physical improvements to the River corridor, and to the green space network in adjacent neighborhoods;
 - Recommendations at a policy level for managing public access and ensuring public health and safety;
 - Recommendations for a River governance and management structure; and
 - Recommendations for short- and long-term priority projects and potential funding strategies.



The Los Angeles River and its tributaries.

REVITALIZATION MASTER PLAN GOALS

REVITALIZE THE RIVER

- Enhance Flood Storage
- Enhance Water Quality
- Enable Safe Public Access
- Restore a Functional Ecosystem

GREEN THE NEIGHBORHOODS

- Create a Continuous River Greenway
- Connect Neighborhoods to the River
- Extend Open Space, Recreation, and Water Quality Features into Neighborhoods
- Enhance River Identity
- Incorporate Public Art Along the River

CAPTURE COMMUNITY OPPORTUNITIES

- Make the River the Focus of Activity
- Foster Civic Pride
- Engage Residents in the Community Planning Process and Consensus Building
- Provide Opportunities for Educational and Public Facilities
- Celebrate the Cultural Heritage of the River

CREATE VALUE

- Improve the Quality of Life
- Increase Employment, Housing, and Retail Space Opportunities
- Create Environmentally-Sensitive Urban Design and Land Use Opportunities and Guidelines
- Focus Attention on Underused Areas and Disadvantaged Communities

THE RIVER'S FUTURE: A VISION FOR REVITALIZATION

Six decades after the River was first channelized, the City of Los Angeles faces an unprecedented opportunity to reverse the past and re-envision the River with promise and determination. The LARRMf presents a bold vision for transforming the River over the next several generations. Like Daniel Burnham's ambitious plans for Chicago at the turn of the last century, this Plan acknowledges that great and transformative change may not be accomplished in one lifetime; it must remain in the minds of the people who will carry it forward. This Plan includes bold, long-term visions in addition to a series of practical and near-term steps that would make the River a much better place for today's Angelenos. The vision for the River's revitalization includes four core principles:

REVITALIZE THE RIVER

The Los Angeles River Revitalization Master Plan provides opportunities to address a renewal of the River's environmental qualities that can catalyze change in diverse communities throughout its 32-mile corridor. As a long-term goal, the River's ecological and hydrological functioning can be restored through re-creation of a continuous riparian habitat corridor within the channel, and through removal of the concrete walls where feasible. If one completely restored the River to a naturalized condition throughout its entire length, it would be very difficult to achieve flood control requirements and maintain current urban development. However, bold thinking and big ideas can guide the realization of this kind of long-range vision.

In addition to restoring ecological function, revitalizing the River includes storing peak flows to reduce flow velocities in the channel in order to facilitate ecological restoration and access. The changes can enable the development of multi-benefit green spaces within the River channel that simultaneously provide open space and water quality benefits, and further provide examples of revitalization features that can be applied throughout the watershed.

GREEN THE NEIGHBORHOODS

This second idea focuses on creating a green ribbon through the City, with green strands extending the River's influence into adjacent neighborhoods in order to reconnect communities to the River and to each other. A continuous River Greenway would link a reliable network of "green connections," bikeways, and pedestrian paths to the River and to public open space, "repurposing" schoolyards, vacant lots and educational campuses could help serve open space and recreation needs, as well as hold and clean stormwater. The River's identity could be strengthened with signature elements, such as new signage, bridges, and gateway entrances.

CAPTURE COMMUNITY OPPORTUNITIES

Since the City's early years, neighborhoods have turned their backs to the River. Now the people of Los Angeles have the opportunity to enjoy the River as a safe, accessible, healthy, sustainable, and celebrated place. The opportunities that emerge would vary from neighborhood to neighborhood, but in all cases new benefits can be created that would encourage neighborhood enhancement, empowerment, and reinvestment where appropriate. The Plan's multi-purpose recommendations also address important environmental justice issues by targeting brownfields for redevelopment, offering opportunities for non-vehicular commuting, and encouraging the creation of new recreational spaces for people of all ages. Further, natural spaces and trails would provide outdoor fitness and environmental education opportunities in neighborhoods that currently lack these amenities.

CREATE VALUE

This Plan's vision is also about creating value—improving the quality of life for residents, increasing the attractiveness of the City as a place to live and work, and increasing economic prosperity. Core elements of this idea include empowering communities by encouraging participation and consensus-building, creating opportunities for sustainable, economic reinvestment, and adding value and providing an equitable distribution of opportunities to underserved neighborhoods along the River.

As a symbol of a renewed, green City, the revitalized River would foster community identity and civic pride, thereby bringing communities together. As a recreational and commuter bikeway, the revitalized River would lead to a healthier lifestyle for many, reducing dependence on the automobile. As a functioning ecosystem, the revitalized River would provide habitat value and nature's services. As a living river, the revitalized River would play a role in educating young people about water, plants and animals. And, as a linear park, the revitalized River would provide park frontage and park access, including new residential, commercial, and "eco-industrial" development with its associated economic benefits.

SPECIFIC RECOMMENDATIONS FOR REVITALIZING THE LOS ANGELES RIVER

The long-term vision for the River involves restoring a continuous, functioning riparian ecosystem along the River Corridor. This would involve restoring riparian vegetation to support birds and mammals, and ideally, developing fish passages, fish ladders, and riffle pools to allow for restoration of steelhead trout habitat.

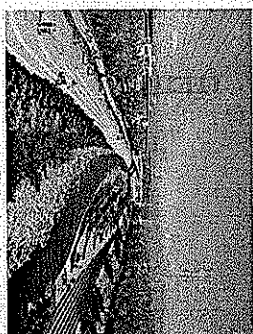
In the short-term, channel walls can be modified to provide green landscaped terraces for wildlife habitat, water quality treatment, and increased public enjoyment. A system of pathways and overlooks can provide safe public access. Accomplishing long-term improvements would involve expansion of channel capacity and reduction in flow velocity. These can be achieved through a combination of flood storage outside the channel, underground flow diversions, and, over the long-term, land acquisition including purchase of private property to allow for channel widening.

SPECIFIC RECOMMENDATIONS FOR GREENING THE NEIGHBORHOODS

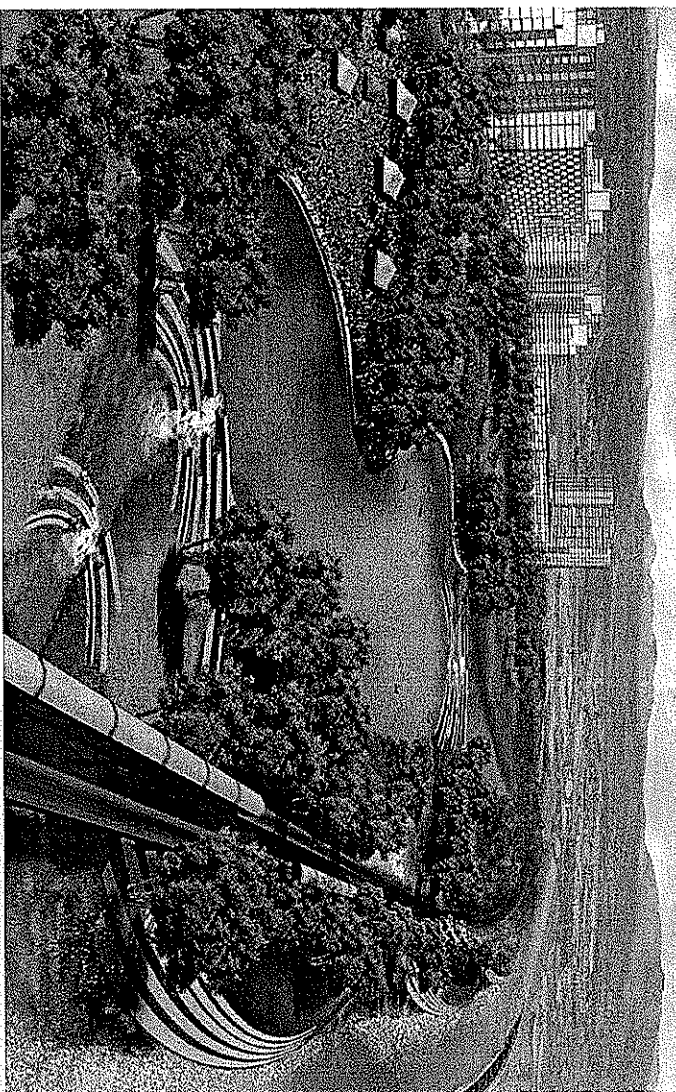
A major element of reconnecting neighborhoods to the Los Angeles River is the transformation of the River Corridor into a continuous River Greenway that functions as the "green spine" of the City. Safe, pedestrian-friendly connections to the Greenway can be provided via a system of arterial and local "green streets" that are bicycle- and pedestrian-friendly, and paseos with wide sidewalks and shady tree canopies. To

improve habitat connectivity, specific recommendations are presented to aid in the restoration and creation of habitat linkages throughout the River Corridor.

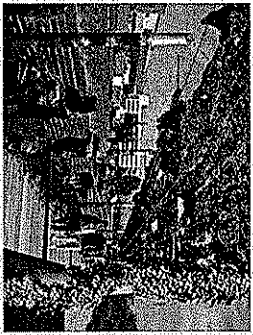
As this system develops, signature elements—gateways, bridges, paseos, plazas, and other landmarks—can be added to reinforce the River's identity. Building on past efforts, public art can be a major component of this system. Within neighborhoods, underused or vacant space, as well as existing public spaces such as schoolyards, can be refurbished and made a part of the emerging green network and enhanced cultural landscape.



Long-term improvements modify the channel to restore habitat and provide terraced access to the River's edge.



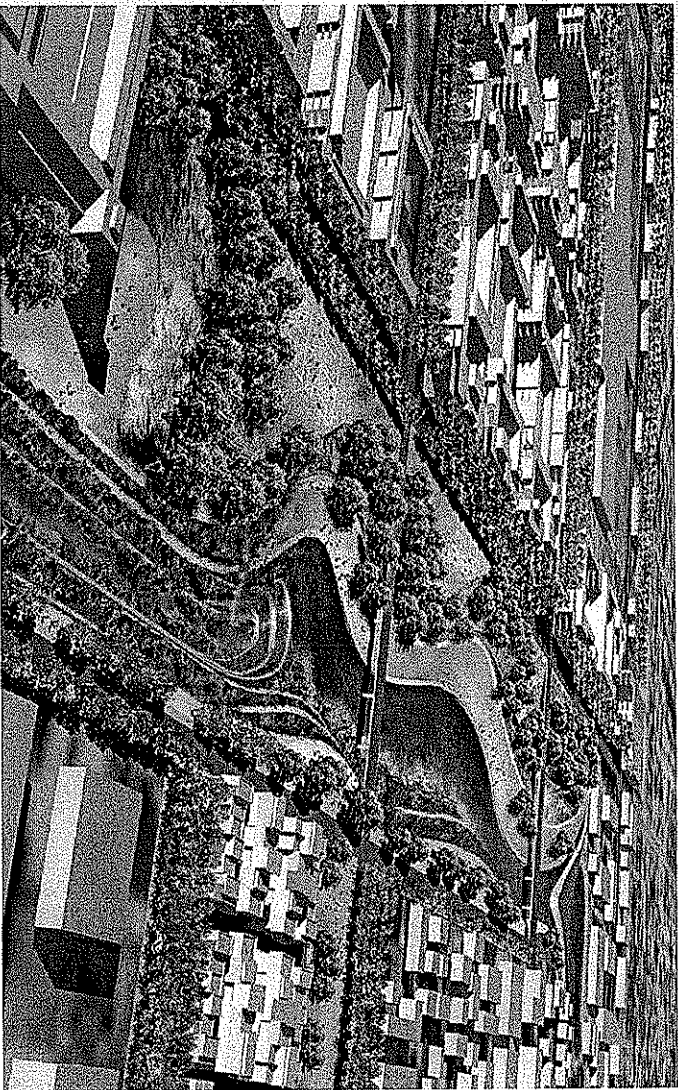
A proposed secondary channel in the Chinatown-Cornfields Opportunity Area could provide an accessible and active river edge.



A Canoga Park Opportunity Area provides much needed open space adjacent to the River, an existing public high school, and upland areas that provide habitat for birds and small mammals.

OPPORTUNITY AREAS CAN DEMONSTRATE REVITALIZATION

One revitalization strategy critical to realizing the goals of the Plan is the implementation of early examples that can exhibit cross-cutting development possibilities. To demonstrate opportunities made possible with a revitalized River, 20 "Opportunity Areas" were identified along the River corridor to illustrate what might be feasible through implementation of various River improvement scenarios. The Opportunity Areas also represent approaches to address conditions that recur along the River, for example, construction of the River corridor by rail lines, limited right-of-way (ROW) through residential neighborhoods, and physical barriers in areas of industrial development.



A proposed Rivardent Park in the Canoga Park Opportunity Area provides much needed open space adjacent to the River, an existing public high school, and upland areas that provide habitat for birds and small mammals.

Five of the Opportunity Areas were selected for more detailed development of revitalization concepts, including economic analysis:

Canoga Park: Creation of a community park and restoration of the River's ecological function, including naturalization of the concrete channel, and a ponded area extending from Canoga Avenue to Owensmouth Avenue.

River Glen: Restoration of riparian habitat and creation of a large water quality treatment wetland at the confluence of the River with Verdugo Wash. An alternative scenario also incorporates parkland and a portion of the proposed River Greenway.

Taylor Yard: Restoration of riparian habitat, naturalization of the River channel, and creation of a large water quality treatment wetland.

Chinatown-Cornfields: Realignment of the River channel to create a naturalized diversion channel and riparian island that would allow ponding water for recreation, along with a large community park on an opposite bank. An alternative scenario creates a more urban river edge featuring a pond area with promenades and overlooks.

Downtown Industrial Area: Creation of three street-end parks on the east side of the River, connecting the Boyle Heights community and the emerging Arts District to the water's edge with terraces. An alternative scenario would create more urban plazas and promenades along the eastern edge of the River. A ponded area would be established in both alternatives.

The drawings that illustrate these ideas are intended to be conceptual in nature and to represent a range of possibilities. Improvements that may be proposed for individual neighborhoods will be developed through an extensive Community Planning process with active involvement of neighborhood residents.

CREATING VALUE: THE BENEFITS OF REVITALIZATION

Making the River green and accessible is expected to transform an undervalued asset into a valued amenity. Revitalization offers the opportunity for communities to engage in development that leads to an improved natural environment while also attracting investment that leads to new jobs, increased property values, more livable streets, and sustainable growth.

To assess the potential benefits of revitalization and to illustrate possible design ideas, different land use possibilities were explored for some of the Opportunity Areas and developed into hypothetical designs and three-dimensional models. Each of these models retains existing significant buildings, and proposes building typologies and massing that are realistic in the prevailing market. The Taylor Yard Opportunity Area's analysis was devoted primarily to natural and open space considerations. This Area presents great promise as an early example of concrete removal that can result in significant water quality, habitat, and recreation benefits. Additionally, the Area's close proximity to a planned high school makes it an ideal location to create outdoor classrooms and other environmental education features.

Estimates of economic benefits accruing to the proposed revitalization concepts for the selected Opportunity Areas (combined, at full build-out) range from \$2.7 to \$5.4 billion in new development, 11,000 to 18,000 new jobs, and a long-term tax revenue increase ranging from \$47 to \$81 million, annually.

A COMMUNITY PLANNING FRAMEWORK FOR REVITALIZATION

Implementation of this Revitalization Master Plan would take place within the existing City planning and zoning context. An important next step, following adoption of this Plan, would be to update existing Community Plans in areas that include the River, through an inclusive community involvement process. The City's established community planning process is the most appropriate way to formalize revitalization proposals because it gives each unique neighborhood an opportunity to tailor River developments to the

sentiments expressed by local stakeholders. Zoning changes may also follow these Plan updates.

To complement the Community Plan process, a River Improvement Overlay (RIO) district would be created, with three important functions:

- Establish a high-quality interface between private property and the River;
- Increase open space and improve environmental quality; and
- Create active pedestrian streets leading to the River.

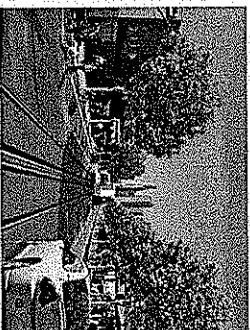
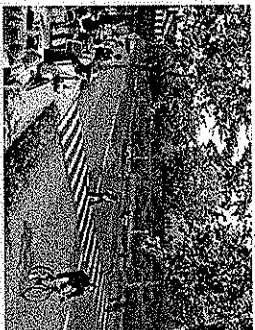
A MANAGEMENT STRUCTURE FOR A REVITALIZED RIVER

A three-tiered structure is proposed for managing a revitalized Los Angeles River. Because of the multiple public entities with jurisdiction over various aspects of the River, the management structure must be comprehensive, flexible enough to allow these entities to work in collaboration, and comprehensive enough to proceed independently when necessary.

The Plan's proposed River management structure includes three elements:

- **Governmental:** The Los Angeles River Authority, a joint powers authority (JPA) that includes the City of Los Angeles, the County of Los Angeles, and through a memorandum of understanding (MOU), the U.S. Army Corps of Engineers. The JPA would serve as the principal entity with authority and responsibility for River reconstruction, right-of-way management and maintenance, assuming responsibilities for public liability, permitting, and land development.
- **Entrepreneurial:** The Los Angeles River Revitalization Corporation would be a not-for-profit entity charged with directing public and private financing for River-related and neighborhood revitalization projects.
- **Philanthropic:** The Los Angeles River Foundation would be a not-for-profit body established by private individuals to support the Plan's revitalization goals.

This new management structure would enable the City and its partners to maintain a long-term focus on River revitalization in order to ensure that the River remains a priority for future generations.



top - The proposed Riverside Street typology activates River-adjacent streets with a retail edge including sidewalk cafes throughout the River Corridor.
bottom - Proposed Green Streets throughout the River Corridor improve non-motorized connectivity to the River.

EXHIBIT F - 18

Press Releases and Statements

For Immediate Release
August 4, 2007

Contact: Sonia
Melendez
(202) 225-5464;
(202) 225-4573

HOUSE PASSES SOLIS' GREEN JOBS BILL

Legislation Provides Workforce Training for the "Green Economy"

- [Learn more about Green Jobs](#)

Washington, D.C. - Today, the U.S. House of Representative approved the Green Jobs Act of 2007, legislation introduced by Congresswoman Hilda L. Solis (D-CA) to help train American workers for jobs in the renewable energy and energy-efficiency industries – industries that are key to U.S. and world efforts to combat global warming. The bill was passed as part of H.R. 3221, the New Direction for Energy Independence, National Security, and Consumer Protection Act.

“This legislation is an opportunity to advance not only the energy security of our nation, but also the economic security of our families,” said Congresswoman Solis. “Through targeted job training efforts, we can support both our nation’s innovation and technological leadership and lift people out of poverty.”

The Green Jobs Act (H.R. 2847) authorizes up to \$125 million in funding to establish national and state job training programs, administered by the U.S. Department of Labor, to help address job shortages that are impairing growth in green industries, such as energy efficient buildings and construction, renewable electric power, energy efficient vehicles, and biofuels development. It also helps to identify and track the new jobs and skills needed to grow the renewable energy and energy efficiency industries. Among other things, this effort would link research and development in the green industry to job standards and training curricula.

The new job training programs would create jobs that put workers on a path to financial self-sufficiency. Funding for pathways out of poverty programs could be used to pay for the occupational training itself, as well for support services for workers while they are in the training, like child care. Priority for these training programs would be given to veterans, displaced workers, and at-risk young people.

The Senate-passed version of the energy bill (H.R. 6) includes language similar to the Green Jobs Act (introduced by Sen. Sanders (I-VT) and Clinton (D-NY). A conference committee will meet to work out differences between the House and Senate passed versions of the energy bill. To be enacted into law, the final version of the energy bill must be approved by the House and Senate and signed by the President.

The Green Jobs Act is supported by a broad coalition of business, labor, environmental and civil rights organizations, including: Apollo Alliance, Los Angeles County Federation of Labor, Ella Baker Center for Human Rights, National Association of Energy Service Companies, Labor Council for Latin American Advancement, the Natural Resources Defense Council, Public Citizen, and Sierra Club.

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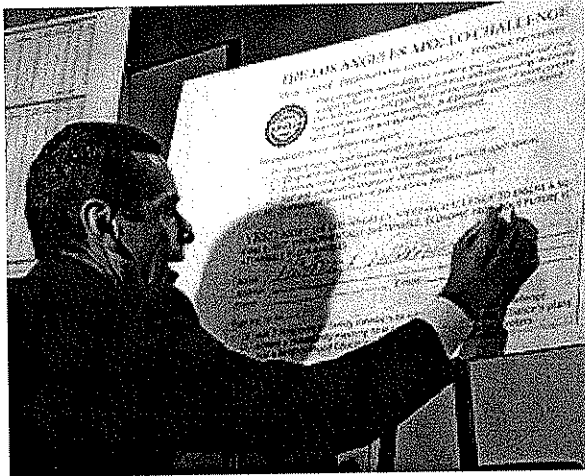
EXHIBIT F - 19

LA Apollo Helps City Adopt Landmark Green Jobs Ordinance

April 9, 2009

By Keith Schneider

Apollo News Service



Los Angeles made green history on April 8 when its City Council approved a first-in-the-nation plan to create jobs, cut carbon emissions, and revitalize the inner city. The council voted to support a green retrofit of city buildings that will create hundreds of new jobs at a time when Angelenos are confronting 11 percent unemployment, and federal officials are looking to cities and states for “shovel ready” projects to boost the economy.

The ordinance, which was brought to the council by the LA Apollo Alliance, will also connect the retrofitting to green jobs training programs to link underserved communities to careers in the new green economy and has the potential to create hundreds of good jobs.

The Los Angeles Apollo Alliance, a coalition of 25 local community, labor, and environmental organizations developed the Green Jobs Ordinance as part of the national organization’s New Apollo Program. The national plan calls for investing \$500 billion in clean energy solutions over the next ten years and create more than 5 million high quality green-collar jobs. The ordinance is the latest achievement of the *New Apollo Program*, which also played an influential role in shaping the development and enactment of the more than \$100 billion in clean energy investment and green-collar job training contained in the American Recovery and Reinvestment Act, which was signed by President Barack Obama in February.

Product of Three-Year Partnership

The Los Angeles ordinance reflects the successful partnership between Mayor Antonio Villaraigosa — who nearly three years ago signed the Apollo Challenge (*see pix above*) and agreed to shape a green workforce development strategy — and the Los Angeles Apollo Alliance. Since August 2006, when Mayor Villaraigosa, City Council President Eric Garcetti, and City Councilman Herb Wesson signed the Apollo Challenge, the city has moved steadily to enact and implement a number of its key steps in collaboration with the Los Angeles Apollo Alliance. The Alliance has built a potent grassroots organizing program, and combined it with research and policy expertise. Its particular focus is on developing jobs and prosperity in low-income neighborhoods, and helping the city establish solid benchmarks for accountability.

The new Green Jobs Ordinance calls for retrofitting all city-owned buildings over 7,500 square feet or built before 1978, using energy efficient and environmentally sensitive guidelines from the U.S. Green Business Council and others. It sets a goal of starting 100 retrofits annually and priority will be given to projects with significant consequences for communities. The program also focuses on career training and placement for local, low-income and underemployed workers.

The ordinance creates two management positions, an interdepartmental taskforce, and an advisory council of experts and stakeholders to oversee, guide and report on progress. Moreover, it represents the first municipal investment that combines energy efficiency retrofitting with green jobs training in a way that creates quality union jobs, pathways out of poverty for city residents, and significant savings in municipal energy costs.

A Strong Example of Clean Energy, Good Jobs Policy At Work

“L.A.’s green retrofit program is truly a national model,” said Kate Gordon, co-director of the Apollo Alliance. “In passing this program, the L.A. City Council has recognized that it is possible to achieve both environmental and economic development goals through one comprehensive effort that puts Angelenos to work greening their own city buildings. The Apollo Alliance is thrilled to be part of this historic event.”

“The Green Building Retrofit Ordinance shows how environment and energy policies can stimulate California’s economy. It will put people to work in green jobs, generate revenue for local businesses, save L.A. taxpayers up to \$6 million in energy costs and cut global warming pollution,” Derek Walker, director of the Environmental Defense Fund’s California Climate Initiative, said in a statement supporting the ordinance. “Los Angeles is setting an example that cities nationwide can follow.”

According to Greenbiz.com, “the retrofit ordinance is just the latest in Los Angeles’ green plans: In addition to striving to be the country’s greenest city, in February of this year the city launched a plan to replace all 140,000 of its streetlights with long-lasting, energy efficient LEDs, a move that will save \$48 million in energy and maintenance costs and cut carbon emissions by 197,000 tons over a seven-year period.”

EXHIBIT F - 20

Dear Council Member _____,

WHEREAS, the Ballona Creek Watershed is one of the most urbanized watersheds in the country and includes the areas of Hollywood, West Hollywood, Beverly Hills, Baldwin Hills, Bel-Are, Crenshaw, Culver City, Echo Park, Fairfax District, Inglewood, Koreatown, Los Angeles, Mid-Wilshire, Pico-Union, Santa Monica, Silverlake, Venice, Westchester, and West Los Angeles;

WHEREAS, the largest source of pollution in Santa Monica Bay is untreated urban runoff from Ballona Creek;

WHEREAS, the contaminants from said runoff pose a serious threat to the health of Los Angeles residents and the environment;

WHEREAS, the City and County of Los Angeles are in violation of the Federal Clean Water Act;

WHEREAS, the Los Angeles Regional Water Quality Control Board has directed the City and County of Los Angeles to immediately and drastically reduce the pollutant loads of urban runoff entering Santa Monica Bay;

WHEREAS, the City and County of Los Angeles have not produced urban runoff improvement plans that adequately address the scope of the pollution problem;

WHEREAS, the establishment of a Constructed Natural Treatment Wetland in the lower Ballona Creek Watershed would remove pollutants from storm and dry-weather urban runoff before reaching Santa Monica Bay, thus making the water cleaner for the people of Los Angeles;

WHEREAS, constructing, operating and maintaining traditional mechanical treatment plants to treat polluted urban runoff would be substantially more expensive when compared to the natural biological treatment provided by a well constructed treatment wetland;

WHEREAS, Constructed Natural Treatment Wetlands rely on natural processes and not large amounts of fossil fuels otherwise required by mechanical treatment plants;

WHEREAS, Constructed Natural Treatment Wetlands are a more sustainable and cost-effective means of removing pollutants from urban runoff and achieving compliance with the Federal Clean Water Act;

WHEREAS, the 111 acres of vacant land slated for development at "Ballona Southeast" by Playa Vista's proposed "Phase 2" comprise the only viable site in the lower Ballona Creek Watershed for a Constructed Natural Treatment Wetland of significant capacity;

In accordance with Mayor Villaraigosa's goal to transform Los Angeles into "the greenest, big city in America" as set forth in his May, 2007, GREEN LA action plan;

NOW BE IT THEREFORE RESOLVED, if Playa Capital, LLC, or any other entity, requests building entitlements for the 111 acres of vacant land known as "*Ballona Southeast*," for anything other than community-serving retail needed by the Playa Vista Phase 1 residents and workers, that the Mayor, City Council and Planning Commission:

- 1) abide by the existing Playa Vista Area D Specific Plan (enacted in 1985 (L.A.Ord. No. 160523), as amended in 1996 (L.A.Ord. No. 170785), which limits development to 108,050 square feet of commercial development and nothing else, and
- 2) support a local, state, and/or federal partnership to acquire the remaining said land for the purposes of creating a Constructed Natural Treatment Wetland should the land owners elect to sell it for that purpose.

Sincerely,

Signature:

Name:

Title:

Name of Organization:

Address of Organization:

Letter No. 31

From: Marcia Hanscom <wetlandact@earthlink.net>
To: <david.somers@lacity.org>
Date: 3/12/2009 2:12 PM
Subject: Playa Vista EIR - Phase 2

Hello David,

I understand that you are responsible at the City for planning issues re: Playa Vista Phase 2. We were not notified of the new EIR documents, and would like to be able to access those documents. Can you please let me know if there is a way to obtain a hard copy of these documents? And also possibly an internet link? And please include us on your list of organizations for all notifications related to Playa Vista.

Thank you.

~

Marcia Hanscom
Managing Director
CLEAN ~ Coastal Law Enforcement Action Network

enforcing laws protecting the California coast

322 Culver Blvd., #317
Playa del Rey, CA 90293
(310) 821-9045 (telephone)
(310) 448-1219 (facsimile)

a biodiversity project of the International Humanities Center

Letter No. 32

From: Marcia Hanscom <wetlandact@earthlink.net>
To: <david.somers@lacity.org>
CC: Grieg Asher <grieg.asher@lacity.org>, Norman Kulla <norman.kulla@lacity....>
Date: 4/30/2009 5:06 PM
Subject: Phase 2 Playa Vista comments
Attachments: PVphase2.pdf; CANADAGOOSE00000061.JPG; CANADAGOOSE200000059.JPG

David,

Please accept these comments related to the Phase 2 Playa Vista project. The comments are on behalf of CLEAN, Ballona Institute and Wetlands Defense Fund. Also attached are two photographs of a flock of Canada Goose feeding on the proposed Phase 2 Playa Vista site this last winter.

I am sending you under a subsequent email message one more photograph attachment of an Osprey eating a fish on the Phase 2 site. (I can only send three attachments at a time in this program.)

Thank you very much.

~ Marcia Hanscom



Wetlands Defense Fund

April 30, 2009

David J. Somers
City Planning Department, Room 750
City of Los Angeles - City Hall
200 No. Spring Street
Los Angeles, CA 90012

*re: Playa Vista Phase 2 - RS-DEIR - ENV-2002-6129- EIR
State Clearinghouse No. 2002111065*

Dear Mr. Somers:

On behalf of CLEAN (Coastal Law Enforcement Action Network), Wetlands Defense Fund and the Ballona Institute, thank you for the opportunity to comment on the recirculated draft EIR for Playa Vista's Phase 2, which they call "The Village."

We appreciate the efforts the City has made to comply with the California Environmental Quality Act (CEQA), however we believe in order to comply fully with CEQA, the City is required to circulate a complete new Environmental Impact Report, based on the fact that circumstances have changed significantly and significant new information has come forth since the initial EIR was completed, circulated and approved. Such changed circumstances and new information include the following:

1. **ECOLOGICAL RESERVE:** More than 500 acres of the Ballona Wetlands ecosystem were designated by the State of California as "Ecological Reserve" lands. Nothing in the original EIR discussed the potential impacts of The Village, its attendant traffic, air quality, diminishment of open space, and other impacts on this newly created Ecological Reserve. These impacts must be discussed and mitigated, according to CEQA.

more...

322 Culver Blvd., #317, Playa del Rey, CA 90293 ~ fax: (310) 448-1219
Ballona Institute: (310) 823-7040; CLEAN & Wetlands Defense Fund: (310) 821-9045

Ballona Institute, CLEAN and Wetlands Defense Fund are public benefit charitable trust 501(c)(3) projects of the International Humanities Center



Wetlands Defense Fund

Playa Vista Phase 2 COMMENTS

April 30, 2009

page 2

As you know, Public Resources Code Section 21092.1; 14 CCR 15088.5 requires that a new EIR be recirculated for public comment and agency consultation whenever there is "significant new information" regarding a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect (including a feasible project alternative.)"

There are numerous agencies contemplating and involved with restoration of the Ballona Wetlands Ecological Reserve, and these agencies, including the California Dept. of Fish & Game, California Coastal Commission, State Coastal Conservancy, California State Parks Department, US Fish & Wildlife Service, US Army Corps of Engineers, National Marine Fisheries Service and the US Environmental Protection Agency should be notified and in receipt of a complete EIR for the entire Phase 2 project. Jefferson Boulevard, which runs directly through the Ecological Reserve is also directly adjacent to the Phase 2 "Village" proposed site, and traffic and other impacts from the proposed development will clearly impact this new Ecological Reserve.

2. WILDLIFE IMPACTS Wildlife impacts must be discussed and mitigated, especially related to the Ecological Reserve. We have reviewed photographs (see attached) showing the American Osprey (which is a rare bird species protected by the Migratory Bird Treaty Act) and Canada Goose (also a bird protected by the Migratory Bird Treaty Act) feeding DIRECTLY ON THE PHASE 2 site -- these photos were taken within the last year by Ballona naturalist Jonathan Coffin and are attached to this letter.

In spite of this evidence of birds still using this part of the Ballona Wetlands historical floodplain, there is no discussion of mitigation for Phase 2 impacts, some impacts of which were already inflicted upon the wildlife when native willows and other habitat were removed by Playa Vista prior to an injunction being placed on the property, and some impacts of which are yet to come, as evidenced by wildlife still using the site for foraging. Mitigation for these and other wildlife impacts must be discussed and implemented if this project is to be approved lawfully under CEQA.

3. PLAYA DEL REY PARKING Due to the Ecological Reserve now enforcing laws previously not enforced when the land was in private hands, parking impacts to businesses in Playa



Wetlands Defense Fund

Playa Vista Phase 2 COMMENTS
April 30, 2009
page 3

del Rey already being felt and will likely be increased by The Village and its future inhabitants. These impacts must be discussed and mitigated for in order to comply with CEQA.

4. **SEA-LEVEL RISE:** Due to Global Warming and Climate Change, new Sea Level Rise and Inundation maps were recently released by the State of California. These maps show The Village and other areas to the west of The Village at high risk for inundation due to climate change predictions. Impacts to the surrounding areas, residents, businesses and transportation corridors, as well as the Ecological Reserve, must be analyzed, disclosed and commented on by relevant agencies and the public and considered for mitigation or alternative project potentials. This is significant new information which triggers the requirement for a new EIR.

5. **SURROUNDING DEVELOPMENT:** Numerous other development projects, some not contemplated when Phase 2 was originally conceived and analyzed, have been built or approved since this time. It is crucial that these developments and a comprehensive cumulative impact review be completed and analyzed and then commented on by the public and the appropriate agencies in order for CEQA to be complied with.

We appreciate your attention to these important issues which we think make the recirculated EIR deficient and not in compliance with the California Environmental Quality Act (CEQA).

Thank you for the opportunity to comment.

With best regards,

Marcia Hanscom
on behalf of
Ballona Institute
CLEAN
&
Wetlands Defense Fund





From: Marcia Hanscom <wetlandact@earthlink.net>
To: <david.somers@lacity.org>
CC: Norman Kulla <norman.kulla@lacity.org>, Grieg Asher <grieg.asher@lacity....>
Date: 4/30/2009 5:10 PM
Subject: photo to go with comments on Playa Vista Phase 2
Attachments: 2285146304_93281d80bb_o.jpg

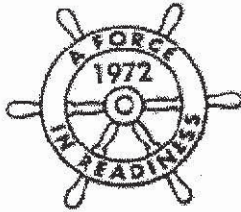
David,

Here is the photo I said I would attach in another email. It is a photo of an American Osprey eating a fish (likely a Striped Mullet) on the Phase 2 Playa Vista proposed project site. The fish would have been caught in the Ballona Creek Estuary, and this area was needed by the Osprey to have its dinner.

Marcia Hanscom



Letter No. 33



DEL REY HOMEOWNERS AND NEIGHBORS ASSOCIATION

Post Office Box 661450 – Los Angeles, CA 90066
www.delrehome.org

April 24, 2009

VIA EMAIL AND U.S.P.S.
David J. Somers
City Planning Department
City Hall, Room 750
200 N. Spring St.
Los Angeles, CA 90012

Re: Recirculated Section of Draft Environmental Impact Report No.
ENV-2002-6129-EIR
State Clearinghouse No. 2002111065

Project Name: The Village at Playa Vista Project

Dear Mr. Somers:

Del Rey is the neighborhood directly across Jefferson Blvd. from the Proposed Project, and yet the Proposed Project was reviewed in connection with the Westchester/Playa del Rey Community Plan. The Proposed Project should have been considered in light of the Palms/Mar Vista/Del Rey Community Plan because our area is much more directly affected than the communities on the plateau above the Proposed Project. People living and working in The Village will have to drive through Del Rey to get to the 405 and 90 freeway onramps and to reach the stores in Del Rey, Culver City, Marina del Rey and Westchester/Playa del Rey. The revised environmental impact report (R-EIR) wrongly concludes that the Proposed Project would not have a significant impact on land use compatibility. It would most definitely "disrupt, divide or isolate" our existing community.

The R-EIR, page I-3, states that the Specific Plan for The Village was originally adopted back in 1986. On September 13, 2007, the appellate court correctly pointed out that if the Proposed Project were allowed, Playa Vista would be able to add the following development that was not contemplated by the Specific Plan:

- 66,950 sq. ft. of office and light industrial
- 2600 dwelling units
- 150,000 sq. ft. of retail

- 40,000 sq. ft. of community serving uses.

Under the Specific Plan, The Village should only be entitled to build 108,050 square feet of office and light industrial space.¹ That would be in addition to the four large office buildings, the Clippers training center and other buildings currently under construction in Phase III of the Playa Vista property.

Before any of Playa Vista had been built (early 1990s), there were no signal lights on Jefferson Boulevard between Lincoln Boulevard and Inglewood Boulevard (1.6 miles); now there are seven. There are now **10** traffic signals in the two miles of Jefferson Blvd. between Lincoln Blvd. and the 405 freeway onramp, and at least one additional signal at Grosvenor Blvd. is anticipated. There is no reason to allow additional development outside the scope of the original Specific Plan. It flies in the face of reason for the R-EIR to conclude that development of the Proposed Project "is not anticipated to alter the general land use patterns and relationships in the Proposed Project vicinity." (R-EIR I-21)

Furthermore, the Court of Appeal correctly pointed out that if The Village were only developed to the extent contemplated by the Specific Plan, there would be office space on Jefferson Blvd. and undeveloped land, instead of residences, below the Westchester Bluffs. That land could be used to help the City of Los Angeles to implement its Standard Urban Storm Water Mitigation Plan for the Ballona Watershed in compliance with State Water Resources Control Board Order WQ 2000-11. Not only that, but if the City were to be given an easement over the property, the land could be used to help create the hoped-for Green Corridor from the Baldwin Hills to Santa Monica Bay.² For the City of Los Angeles as a whole, that would be a far better land use than the generation of additional wastewater from residences and businesses.

The City of Los Angeles should refuse to adopt the R-EIR and limit development of The Village to the terms of the 1986 Specific Plan.

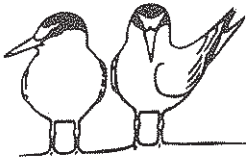
Very truly yours,

DEL REY HOMEOWNERS & NEIGHBORS ASSOCIATION

Elizabeth Zamora, President

¹ To provide some perspective, the current redevelopment of the nearby Fox Hills Mall includes the addition of a 156,000 square foot Target anchor store.

² It should be noted that the R-EIR contains contradictory statements as to total amount of acreage in the Proposed Project (99.3 acres or 111.0 acres) and how much parkland/open space will be included in the Proposed Project (11.7(11.4 + 0.4 = 11.8 acres), or 17 acres) (p. I-18).



Letter No. 34

Friends of Ballona Wetlands

7740 W. Manchester Ave., Suite 210
Playa del Rey, CA 90293
Tel 310/306-5994
Fax 310/574-9434

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Michael Swimmer

Emeritus Board
Tim Rudnick
Ed Taryd

March 12, 2009

Mr. David J. Somers
City Planning Department
Room 750, City Hall
200 North Spring Street
Los Angeles, CA 90012

RE: Comments on EIR File No. ENV-2002-6129-EIR (Recirculated DEIR for The Village at Playa Vista)

Dear Mr. Somers:

The Friends of Ballona Wetlands (FBW) is a non-profit 501(c)(3) membership organization with more than 6,000 individuals participating in our education and restoration programs each year. We represent the single largest group of stakeholders involved in the Ballona Wetlands Restoration Project. FBW has been dedicated to protecting and restoring the Ballona Wetlands for over 30 years with the help of more than 60,000 volunteers. Our mission is to champion the restoration and protection of the Ballona Wetlands. As part of this mission we were instrumental in protecting the Ballona Wetlands from development through designation of the Wetlands as a State Ecological Reserve. We also negotiated with Playa Vista to establish the Freshwater Wetlands system, which consists of the Riparian Corridor and Freshwater Marsh.

Our comments on the Recirculated DEIR (RS-DEIR) are confined to issues pertaining to the Freshwater Wetlands. As discussed in Section II.C (Archaeology) of the RS-DEIR, the Riparian Corridor component of the Freshwater Wetlands has already been completed in its entirety, including the Village section. FBW understands that archaeological resources were encountered during construction of the Corridor, and that these resources were evaluated and treated respectfully under all applicable federal, state, and local regulations. However, a lawsuit by Playa Vista opponents challenging adequacy of the original DEIR for The Village ultimately reached the California Court of Appeals, and at the direction of the Court, led to a narrow set of issues to be re-evaluated in the form of the RS-DEIR.

One of the issues to be addressed in the RS-DEIR was whether a full range of options for preserving the archaeological resources in place had been adequately evaluated. The

Archaeology section of the RS-DEIR, and supporting biological analysis of the Corridor by Psomas contained in Appendix D.iv, attempts to address this deficiency by discussing four options, all of which would impact the Corridor as it exists today. These options range from moving the Village section of the Corridor to the north, away from the bluff, to enclosing part or all of the Village section of the Corridor within a concrete box culvert. The RS-DEIR points out that all of these options would have exacerbated impacts of runoff from the bluffs on archaeological resources adjacent to the Corridor. In brief, the RS-DEIR analysis indicates that under watershed conditions as they exist today, options for moving or re-configuring the Village section of the Corridor would have significant biological impacts with no benefit to archaeological resources. We concur with the overall conclusions of the RS-DEIR analysis; i.e. regardless of its artificial construction, the biological functions and values of the Corridor are significant. We would like to see opportunities for managing the riparian corridor as a daylighted stream rather than as purely a flood control conveyance addressed by the City. We would also like to see that the final requirements not preclude future opportunities to construct a walking bridge over the riparian corridor. In conclusion, we therefore see no benefit to re-locating the Corridor or disturbing the thriving bird community associated with it. Furthermore, we believe this section of the RS-DEIR complies with the requirements of CEQA and the direction of the Court, and should be approved by the City.

Thank you for your consideration of these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Otella Wruck". The signature is fluid and cursive, with the first name being more prominent.

Otella Wruck
Executive Director

Cc: Board of Directors
Councilman Bill Rosendahl
Jim Kennedy, Field Representative
Alex Fay, Legislative Deputy



Friends of the Santa Clara River
660 Randy Drive, Newbury Park, California 91320-3036 • (805) 498-4323

MARCH 17, 2009

RECEIVED
CITY OF LOS ANGELES

MAR 25 2009

DEAR MR. SOMERS,

ENVIRONMENTAL
UNIT

Board of Directors

Ron Bottorff
Chair
Barbara Wampole
Vice-Chair
Ginnie Bottorff
Secretary

YOU MAY REMOVE OUR ORGANIZATION
FROM YOUR MAILING LIST FOR THE
PLAYA VISTA PROJECT. I RECENTLY
RECEIVED 5 COPIES OF THE NOTICE
OF COMPLETION OF THE DRAFT EIR.

Affiliated
Organizations

California Native
Plant Society
L.A./Santa Monica
Mountains Chapter

BELOW, FOR YOUR ASSISTANCE, ARE THE
5 LABELS.

Santa Clarita
Organization for
Planning the
Environment
(SCOPE)

THANK YOU.

RON BOTTORFF, CHAIRMAN

Sierra Club
Angeles Chapter
Los Padres Chapter

Surfrider Foundation

Audubon Society
Ventura Chapter

Ventura County
Environmental
Coalition

Friends of the Santa Clara River
Attn: Ron Bottorff
660 Randy Drive
Newbury Park, CA 91320-3036


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Ron Bottorff
Friends of the Santa Clara River
660 Randy Drive
Newbury Park, CA 91320-3036

President
Zina Josephs
Vice-President
Lorraine Sanchez
Treasurer
John Reynolds
Secretary
Charles R. Donaldson

FRIENDS 
OF SUNSET PARK

www.friendsofsunsetpark.org • friendsofsp@yahoo.com • P.O.Box 5823, Santa Monica, CA 90409-5823 • (310) 358-7117

MAY 01 2009

ENVIRONMENTAL
UNIT April 29, 2009

David J. Somers
Department of City Planning
200 No. Spring St., Room 750
Los Angeles, CA 90012

RE: Comments on Playa Vista Phase 2 RS-DEIR:

The Board of Directors of Friends of Sunset Park, a city-recognized neighborhood organization in Santa Monica, has the following comments on the Playa Vista Phase 2 RS-DEIR:

Issue – **ENVIRONMENTAL CONCERNS:**

1. The situation with our oceans continues to deteriorate, and we have only 5% of our coastal wetland ecosystems left in California. We think that a better alternative is to save this part of the Ballona ecosystem as open space. It could be restored for the Pacific Flyway migratory birds and other wetland wildlife. It could also be used as open space for Playa Vista residents and others in the community.
2. Alternative use of this land should be explored. For example, Ballona Creek is the worst polluter of Santa Monica Bay. The acquisition of this land for an urban runoff treatment area should be explored. A Native Plant Garden would be another possibility. Also, limited development, such as a grocery store for Playa Vista residents, could be built along Jefferson Blvd., with the rest left as open space. This alternative would greatly reduce the traffic impacts on Sunset Park.

Issue – **TRAFFIC**

1. It appears that the large up-zoning in this parcel of land from agricultural/industrial to high density residential/retail/commercial will greatly increase the traffic impact on Sunset Park and the Westside. It will double the number of intersections at gridlock (from 4 to 8). This will put a great pressure on traffic to cut through residential streets, thereby endangering the lives of residents, their families, and their pets.
2. It appears that collector streets, which are only to be used for local neighborhood traffic are being used to handle Playa Vista traffic, so that the main intersections can

show less impact from the Playa Vista traffic. This is a violation of LA City General and Community Plan policies.

Issue – **AIR TRAFFIC**

1. Private or Chartered Airplane Traffic: The types of businesses that Playa Vista developers are seeking (such as the entertainment industry) are more likely to fly in private/chartered jets rather than using commercial airlines. Since LAX is discouraging corporate/private jets from using LAX so that they can increase runway space for the larger commercial jets, it appears that the building of Playa Vista (both Phase 1 and Phase 2) will increase jet traffic at Santa Monica Airport.
2. What is the estimated increase of jet travel at Santa Monica Airport from Playa Vista Phases I & II, separately and combined? Further, what will the impacts be on noise and air quality for Santa Monica? (It should be noted that the City of Santa Monica and a neighborhood organization, Friends of Sunset Park, requested such a study in 1995 but, even at this late date, one has not been conducted.)
3. Have there been any studies of the impacts of private or chartered airplane traffic upon Santa Monica or its neighborhoods? If yes, what were the findings and recommended mitigations. If not studied, why not?
4. Helicopter Traffic: What is the estimated impact on number of flights, noise and air pollution on Santa Monica from the 2 grand-fathered helicopter pads (i.e., unlimited flights allowed) at Playa Vista?

Thank you for consideration of these important issues.

Sincerely,



Zina Josephs, President



Kathy Knight, Past President

Friends of Sunset Park
P.O. Box 5823
Santa Monica, CA 90409
www.FriendsofSunsetPark.org

P.S. WE INCORPORATE BY REFERENCE OUR ORIGINAL COMMENT LETTER OF DECEMBER 2003 AND THE CITY'S COMMENTS TO IT.



Letter No. 37

Gabrielino Tongva Nation

A California Tribal Sovereign

Post Office Box 86908 - Los Angeles, CA 90086

RECEIVED
CITY OF LOS ANGELES

MAR 24 2009

ENVIRONMENTAL
UNIT

Council of Elders

March 14, 2009

Department of Provisory
Government

David J. Somers
City of Los Angeles
Department of City Planning
200 N. Spring Street, Room 750
Los Angeles, CA 90012

Sam Dunlap
Tribal Secretary

Re: Re-circulated Sections of DEIR No. ENV-2002-6129-EIR,
State Clearinghouse No. 2002111065, The Village at Playa Vista Project

Dear Mr. Somers,

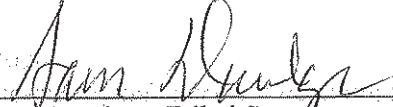
This letter is in response to your request for public comment regarding the proposed Village at Playa Vista project. Since the proposed project area is within the traditional tribal territory of the Gabrielino Tongva Nation it is my responsibility to respond with the concern that the project as described may have the potential to create an adverse impact to the cultural resources of our tribe.

The proposed project area has shown that significant archaeological deposits and Native American burials are present. Let us pray that **non-Indian influences** that have pushed their agenda upon this project through **threat of future litigation** will not impede the progress of returning **all of our ancestors** to mother earth.

I recommend that an archaeological and Native American monitoring component be a necessary mitigation measure during any additional construction phases of the proposed project. I also request that consideration be given that the Nation American monitors be selected from the Gabrielino Tongva Nation.

I look forward to corresponding with you on cultural resource issues and matters of environmental compliance. Please include me on all future notifications regarding this project.

Sincerely,


Sam Dunlap - Tribal Secretary
(909) 262-9351 cell
samdunlap@earthlink.net

One Tribe - One Nation - One Blood

Letter No. 38



GABRIELINO-TONGVA TRIBE

A California Indian Tribe historically known as San Gabriel Band of Mission Indians

501 Santa Monica Blvd., Ste. 500, Santa Monica, CA 90401-2490
www.gabrielinotribe.org • tel: (310) 587-2203 • fax: (310) 587-2281

April 6, 2009

David J. Somers
City Planning Department, Room 750
200 N. Spring Street
Los Angeles, CA 90012

Reference: Re-circulated Sections of Draft EIR Impact Report No. ENV-2002-6129-EIR
State Clearinghouse No. 2002111065
Native American Monitoring/Most Likely Descendant

Dear David:

The above referenced project is in a highly sensitive cultural area and the project can have potentially significant impacts to archaeological resources, paleontological resources and burial sites. Due to the fact it is our concern that the City of Los Angeles appoints Native American Monitors from the largest faction of the Tribe to represent this project.

We are the largest faction of the Gabrielino-Tongva Tribe, with over 85% of descendants of the historic Gabrielino Tribe. We have approximately 1,600 members and the next largest faction has less than 150 members. A membership Table is enclosed to help guide you through the various factions of the Tribe.

We strongly recommend the City of Los Angeles hire Native American monitors approved by our faction. The contact information for the six approved six monitors is enclosed. Their work is arranged through our administrative headquarters which is staffed fulltime.

The Tribe has had continuing problems in the past with Native American monitors that are not approved by the Tribe, including Anthony Morales, Sam Dunlap & Robert Dorame.

Native American Monitoring projects under the supervision of monitors not approved by our Tribe have been delayed, have caused controversy, and have lead to difficult inter- and intra-tribal relationships.

In particular, the above stated individuals and other Most Likely Descendents misrepresent our Tribe by failing to consult with our Tribe on sensitive archaeological findings and reburial issues. These controversies have been extremely painful for our elders who were not invited to participate in reburials for our ancestors.

Tribal Council


Hon. Bernie Acuna
Hon. Charles Alvarez
Hon. Linda Candelaria

Hon. Martha Gonzalez Lemos
Hon. Felicia Sheerman

Tribal Administrator: Barbara Garcia
Tribal Controller: Steven K. Johnson

Please also see the attached most updated NA Contact List from the Native American Heritage Commission. We're requesting the City of Newport Beach in making the ethical choice in selecting a Native American Monitor/MLD for your project.

Sincerely,


Felicia Sheerman, Tribal Councilwoman
Gabrielino-Tongva Tribe

Enclosures



From left to right: Councilman Charles Alvarez, Councilwoman Linda Candelaria, Councilwoman Martha Gonzalez, Councilwoman Felicia Sheerman, Councilman Bernie Acuna

Name of Tribal Faction (Updated on January 29, 2009)	Class B Members (BIA documentation)	Class C Members (no documentation)
Gabrielino-Tongva Tribe, a California Indian Tribe historically known as San Gabriel Band of Mission Indians (www.gabrielinotribe.org) (1630 members, 85.7% of all members)	646 (87 %)	984 (85%)
Gabrielino/Tongva Nation (San Dunlap, Virginia Carmelo, www.tongvatribes.net) (238 members, 12.5% of all members)	65 (9%)	173 (15%)
Gabrielino-Tongva Indians of San Gabriel Band, (Anthony Morales, www.tongva.com) (28 members, 1.5% of all members)	28 (4%)	None (0%)
Beaumont Group (no formal name, no website) (6 members, 0.32% of all members)	None (0%)	6 (1/2%)
Coastal Gabrielinos & Dieguenos (no formal name, no website)	Unknown	Unknown
Totals (1902 All Members)	739 (100%)	1163 (100%)

List of Approved Native American Monitors/Most Likely Descendant

- 1) Robert Dominguez
- 2) Bernie Acuna
- 3) Charles Alvarez
- 4) Linda Candelaria
- 5) Martha Gonzalez Lemos
- 6) Felicia Sheerman

Please use the following contact information for all Monitors:

Gabrielino-Tongva Tribe
501 Santa Monica Blvd, Suite 500
Santa Monica, CA 90401
Phone: (310) 587-2203
Cell: (310) 428-7720
Fax: (310) 587-2281

Most Likely Descendant Approved by the Native American Heritage Commission:

Bernie Acuna, Gabrielino-Tongva, Most Likely Descendant

Please use the following contact information for MLD:

Gabrielino-Tongva Tribe
501 Santa Monica Blvd, Suite 500
Santa Monica, CA 90401
Phone: (310) 587-2203
Cell: (310) 428-7720
Fax: (310) 587-2281

Native American Contact

Los Angeles County

March 26, 2009

Ti'At Society
Cindi Alvitre
6515 E. Seaside Walk, #C
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell
Gabrielino

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Tribal Chair/Cultural Resources
P.O. Box 490
Bellflower , CA 90707
gtongva@verizon.net
562-761-6417 - voice
562-925-7989 - fax
Gabrielino Tongva

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
tattnlaw@gmail.com
310-570-6567
Gabrielino Tongva

Gabrielino-Tongva Tribe
Felicia Sheerman
501 Santa Monica Blvd, # 500
Santa Monica , CA 90401
(310) 587-2203
(310) 428-7720 - cell
(310) 587-2281 FAX
fsheerman1@GabrielinoTribe.org

Gabrieleno/Tongva San Gabriel Band of Mission
Anthony Morales, Chairperson
PO Box 693
San Gabriel , CA 91778
(828) 286-1262 -FAX
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax
Gabrielino Tongva

Gabrielino Tongva Nation
Sam Dunlap, Tribal Secretary
P.O. Box 86908
Los Angeles , CA 90086
samdunlap@earthlink.net
Gabrielino Tongva
(909) 262-9351 - cell

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Telecommunications Facility Project No. IE25736-A; located in the City of Walnut; Los Angeles County, California for which a Sacred Lands File search and Native American Contacts list were requested.

Letter No. 39



GABRIELENO/TONGVA SAN GABRIEL BAND OF MISSION INDIANS

April 22, 2009

Mr. David J. Somers
City of Los Angeles
City Planning Dept.
City Hall 200 No. Spring St., Room 750
Los Angeles, CA 90012

RECEIVED
CITY OF LOS ANGELES

APR 28 2009

ENVIRONMENTAL
UNIT

Re: Re-circulated Draft Environmental Impact Report
No. ENV-2002-6129-EIR
State Clearing House No. 2002111065
The Village at Playa Vista.

My name is Anthony Morales, Tribal Chief and Chairman of the Gabrieleno/Tongva San Gabriel Band of Mission Indians. We are the descendants of the ancestry that founded Los Angeles and the ancestors of the Village of Sa'angna-Playa Vista.

The ancestors that were uncovered in Phase II need to be reburied in their original place so they can continue their eternal rest. We are the voices of our ancestors. No archaeological or scientific theory can dictate our culture to us. It is very significant that this request be honored by the developer because it is very sacred, spiritual and cultural.

The developer claims that the Riparian Corridor in this proposed area where the ancestors were uncovered would have drastic impacts if altered. This is just an excuse because in the theory of hydrology water follows its own course. The developer caused all this destruction in Phase II by racing against the clock while the court case was pending.

As for the Programmatic Agreement, we claim that it was illegally extended from 2001 to 2011 because it required consultation and the signatures of the concurring parties of which we are, and we never agreed or signed any agreement.

Respectfully yours,

Chief Red Blood Anthony Morales

Playa Vista

**Advisory
Council On
Historic
Preservation**

RECEIVED
02 2002 MB
REGULATORY BRANCH
Playa

The Old Post Office Building
1100 Pennsylvania Avenue, NW #200
Washington, DC 20004

Reply to: 12126 West Bayland Avenue, #330
Lakewood, Colorado 80226

December 17, 2001

Richard G. Thompson
District Engineer
Los Angeles District, Army Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053-2325

REF: Playa Vista Development Project, Section 404 permit # 90-426-EV

Dear Colonel Thompson:

On October 22, 2001, we received your letter informing us that 1991 Programmatic Agreement (PA) regarding the referenced project had expired and that the Corps was consulting with the parties to the PA regarding an additional ten-year extension. We are supportive of this extension. On September 12, 2001, we informed Los Angeles District archaeologist Roderic McLain of our support and requested that the Corps develop a brief, simple amendment document for signature by the signatories and concurring parties to the original PA. We will be happy to execute that PA amendment document after the other parties have signed it.

If you have any questions or wish to discuss this further, please contact Ms. Marjorie Nowick at 303-969-5110.



Donna
Director
Office of Planning and Review

Letter No. 40

RESPONSE TO PHASE 2 EIR- PLAYA VISTA

by

Grassroots Coalition April 28, 2009

CEQA, at its very heart, is an informational process. One of the basic purposes of CEQA is to “Inform governmental decisionmakers and the public about the potential significant environmental effects of proposed activities,” (Guidelines 15002(a)(1).) One of the goals of an environmental impact report (EIR) is to “demonstrate to an apprehensive citizenry that the agency has in fact analyzed and considered the ecological implications of its action.” (No Oil v. Los Angeles (1974) 13 Cal. 3d 68, 86.) Thus, “(CEQA) must be open to the public, premised upon a full and meaningful disclosure of the scope, purposes, and effect of a consistently described project.” (County of Inyo v. City of L.A. (1984) 160 Cal. App. 3d 1178, 1185.)

In keeping with the informational nature of CEQA, the Public Resources Code mandates:

Information relevant to the significant effects of a project, alternatives, and mitigation measures which substantially reduce the effects shall be made available as soon as possible by lead agencies, other public agencies, and interested persons and organizations. (Pub. Res. Code 21003.1(b).)

CEQA cannot accomplish its purpose if either the process or final document fails to disclose relevant information regarding significant impacts. In keeping with the informational purpose of CEQA, the Public Resources Code states that noncompliance with the informational disclosure provisions of CEQA may constitute a prejudicial abuse of discretion, regardless of whether non-compliance would have changed the lead agency’s decision.

(N)oncompliance with the information disclosure provisions of this division which precludes relevant information from being presented to the public agency, or noncompliance with substantive requirements of this division, may constitute a prejudicial abuse of discretion within the meaning of Sections 21168 and 21168.5, regardless of whether a different outcome would have resulted if the public agency had complied with those provisions. (Pub. Res. Code 21005)

It is the belief of Grassroots Coalition that throughout the City of Los Angeles’(City) oversight, of the Playa Vista “EIR”(s) (roughly 20 years) and so-called environmental studies, there has been a predominate pattern of prejudicial abuse of its discretion. This abuse of discretion has occurred through the City’s deliberate and calculated failure to disclose relevant data and information; failure to seek out and/or gather relevant information –thus hiding behind its failure to investigate and disclose; failure to abide by its own codes and legitimate procedures; failure to implement and abide by CEQA and State laws and; failure to provide accountability for its actions. The following queries, comments and evidentiary exhibits are provided to demonstrate this prejudicial abuse of discretion and failure to act in good faith under CEQA and other legal violations in the State of California.

Playa Vista Phase 2 environmental issues are inextricably linked to the environmental issues of Playa Vista Phase 1

The Phase 2 EIR relies heavily, if not entirely, upon “approvals” for environmental issues and mitigation measures applied to Phase 1 (EIR and environmental studies). Within Phase 1 approvals and ongoing litigation lies the start of the City’s failures to be truthful, candid and forthright; act in good faith; provide full disclosure, provide accountability and; abide by its own codes, regulations and laws.

The following queries, comments and evidentiary exhibits (see listing) apply to Playa Vista Phase 2 directly via the City’s application of Phase 1 environmental mitigation assessments and conclusions used as support for Phase 2 environmental mitigation assessments and conclusions. The exhibits, include new information and provide data support for environmental issues that have not been resolved and/or addressed as required under CEQA that pertain directly to environmental issues of Phase 2 and to Phase 2 via Phase 1 environmental issues and conclusions cited by the City in the Phase 2 EIR.

Because Playa Vista Phase 1 and 2 are inexorably linked, both must be utilized for any meaningful CEQA cumulative analysis of the Playa Vista development site. It is imperative under CEQA for the City to respond to the issues that are provided herein and, for the City to provide, as required under CEQA, the inclusion/ specific citation to, any and all data support for City comments and/or conclusions.

Due to the voluminous nature of documents that are already in the possession of the City and City Attorney pertaining to the Playa Vista site, it would be too great a financial burden for GC and/or ETINA to re-supply all of these relevant documents to the City of LA for purposes of response to the Phase 2 Draft EIR.

Therefore, for purposes of a CEQA record for the Phase 2 EIR, Grassroots Coalition herein incorporates by reference, various sets of documents that are in the possession of the City of LA via the City Attorney and City Controller’s Office. GC incorporates by reference both the Superior Court and Appellate Court proceedings (record including but not limited to the briefs and transcripts (inclusive of the 2001 CLA Report & Directives and Phase 1 EIR) in ETINA vs City of Los Angeles/ Playa Capital LLC as well as any and all documents that are part of the 2007 Chief Legislative Analyst’s Report (CLA 2007). The CLA 2007 and ETINA v City of LA et al documents directly pertain to any and all cumulative analysis of oilfield gas mitigation /dewatering (wastewater issues) of Phase 1 and 2 and, provide Department of Sanitation documents specifically pertaining to Phase 2 and Phase 1 both independently and cumulatively for proper CEQA disclosure and evaluation. GC also incorporates by reference the full City Controller’s 2005 Performance Audit of the Los Angeles Department of Building and Safety (LADBS); 2007 Audit of the City of LA’s Oversight of the Playa Vista Gas Safety Systems, including any and all LA City Department/ LA City Controller letters, memos pertaining to same.

The documents cited for inclusion into a Phase 2 DEIR response record are key data and information that pertain to critical health and safety mitigation feasibility and accountability under CEQA regulations. The data includes wastewater issues as an integral part of the necessary gas mitigation measures of Playa Vista. **The Phase 2 EIR fails to include/ reference or discuss the documents referenced above. GC herein provides some of the documents referenced above as exhibits within this DEIR Phase 2 response.**

CURRENT LEGAL ACTION AND PLAYA VISTA PHASE 2

ETINA v City of Los Angeles/ Playa Capital LLC is in process of going before the Appellate Court where ETINA won its case against the City in 2005. Key issues in the appeal revolve around the City's failure to perform CEQA as ordered by the Appellate Court, failure to actually vacate the approval of the methane mitigation systems as ordered pending a CEQA review of the dewatering/ methane mitigation issues and prejudicial abuse of discretion. According to LA City Public Record Act responses to GC from the City Departments- LADBS, LAFD and the Department of Sanitation were never notified by the City that the Appeals Court had ordered the vacating of the methane mitigation measures for Phase 1. The Phase 1 methane mitigation/dewatering issues pertain to Phase 2 as well and must therefore be resolved prior to reliance of "no significant environmental impact" conclusion is made for both Phase 1 and 2.

The same Appellate justices ruling over ETINA v City of LA/ Playa Capital LLC, reversed the LA City/ Playa Capital LLC Superior Court lawsuit victory against multiple Phase 2 plaintiffs, including Ballona Education and EcoSystem Project, and halted any further development activities upon Phase 2 pending the outcome of a new EIR. Thus, as the two lawsuits have overlapping issues-namely dewatering/wastewater and oilfield gas mitigation- that must be adequately and prudently reviewed, the City attempts to simply avoid the issues by way of creating a disappearing act through non-disclosure and provides instead sweeping conclusions regarding dewatering without providing any substantial evidence.

DEWATERING/ WASTEWATER- New Information

The following section from Petitioners' ETINA And GC's Additional Objections To Return To Writ serves to comment upon both Phase 1 preudicial abuse of discretion as well as continued abuse regarding the Phase 2 EIR since Phase 2 relies upon conclusions (including dewatering/wasterwater issues) rendered by the City regarding Phase 1 and any cumulative analysis of Phase 2 which must include Phase 1.

“The Lead Agency shall not knowingly release a deficient document hoping that public comments will correct defects in the documents.” (Guidelines 15020)

To date there have been no State EPA agencies to “peer review (“peer review” as defined by EPA agencies under Health & Safety Codes) any dewatering or wastewater issues associated with the Playa Vista site Phase 1 and no state or federal agency to provide involvement in any CEQA review of these issues for Phase 1. Thus, no cumulative analysis is possible of Phase 2 and Phase 1 without having verifiable data under CEQA.

The City's refusal to undertake CEQA review regarding Playa Vista Phase 1 is revealed by the City Attorney, Rocky Delgadillo letter to City Council 3/17/06 Co. File # 05-2696 The letter provides his interpretation and directions on how to respond to the Appellate Court Order in 2005 in ETINA V City of LA:

"You must now take action to comply with the Writ, a copy of which is attached. The Writ directs the City Council:

'immediately upon receipt of this Writ to vacate your approval of the methane mitigation measures for the Playa Vista First Phase Project for the purpose of determining whether a subsequent EIR or a supplemental EIR is required with respect to groundwater dewatering, and proceed accordingly as required by CEQA.'

.....By adopting the language below, you will have complied with the first direction of the Writ.
fnote1

ACTION REQUIRED:

City Council hereby VACATES 'the approval of the methane mitigation measures for the Playa Vista First Phase Project for the purpose of determining whether a subsequent EIR or a supplemental EIR is required with respect to groundwater dewatering.'

...

Footnote 1-

The second requirement, i.e. 'determining whether a subsequent EIR or a supplemental EIR is required with respect to groundwater, and proceeding accordingly as required by CEQA' will occur after the studies contemplated by your January 11, 2006, motion are completed. Staff will report back to you at that time with the results of the studies and with recommendations for your actions with respect to CEQA."

Also,

"It is the City's duty, not the public's to do the proper environmental investigation. (Save Our Peninsula, supra, 87 Cal. App. 4h at 122; Sundstrom v. County of Mendocino (1988) 202 Cal. App. 3d 296, 311.) The City violated the information disclosure provisions of CEQA by not producing records from the Department of Sanitation for the City Council and the public to review."

The documents and reports provided herein are GC Public Record Act request responses from the Department of Sanitation, the lead City department for wastewater oversight and documents from the Los Angeles Regional Water Quality Control Board. (permanent groundwater methane dewatering permits are provided in attachment ETINA And GC Opposition To Respondents and RPI's Motion To Overrule Objections To The Return To Writ) These documents are critical for understanding dewatering and wastewater issues and overall groundwater issues and as such, are key to any and all dewatering evaluations regarding gas mitigation systems as well as overall and cumulative wastewater impacts and cumulative groundwater environmental impacts. **The documents referenced and provided herein, have not been disclosed or discussed in the**

Phase 2 EIR. These documents provide the only actual site dewatering information that GC has existing thus far. **The City has attempted to keep these documents out of the Phase 1 litigation record (ETINA v City of LA et al) and its failure to discuss or produce these documents for the Phase 2 DEIR indicates that the City chooses to not disclose this critical information and chooses instead to attempt to rely upon the overly narrowed scope and landscape used in the Playa Capital LLC (dewatering) modeling report and its assertions within the Phase 2 DEIR that no long term dewatering will be required for the Phase 2 area.**

Re: CLA Report 2007 and why it should not be relied upon for Phase 2 impact analysis.

(Excerpts from ETINA And GC's Opposition To Respondents and RPI's Motion To Overrule Objections To The Return To Writ)

"8. Playa Vista and the City Failed to Use Actual Data to Determine Whether the Dewatering Would Have a Significant Impact.

The Peer Reviewers' modeling was based on data provided solely by Playa Vista, which has a substantial economic interest in avoiding CEQA review. No independent data was collected or used for the 'peer reviewers'. The actual data was not independently verifiable because such data was theoretically provided to the public in a binary electronic form. Unfortunately, no one but Playa Vista and allegedly the City's peer reviewer were able to open the electronic data. Such data was not provided in a hard copy to the public. The City cannot rely solely on Playa Vista, a party with a vested interest in the project to supply data. (Save Our Peninsula Com. V. Monterey County Board of Supervisors (2001)87 Cal. App. 4th 99, 121.)

Furthermore, actual data from the Department of Sanitation demonstrates that the modeling was off by 400%. Playa Vista claimed that their model estimated only 16,000 gallons a day were being pumped from the site (3RR530) However, actual estimates from the industrial waste water permits from the Department of Sanitation permits approximately 72,000 gallons a day. In addition, the CDM report analyzed five buildings.(3RR 538) Actual maps of the industrial discharge permits show numerous buildings requiring dewatering. Not only does this new information demonstrate that the City has been constructing dewatering systems in violation of the writ, but it demonstrates that the dewatering study was completely inaccurate and does not constitute substantial evidence. (See Save Our Peninsula, supra, 87 Cal. App. 4th 99, 121, 'the impacts of the project must be measured against real conditions on the ground.')

The dewatering (wastewater) issues are critical to the safe performance of the gas safety systems for Phase 2 and Phase 1 as well as key to the overall (cumulative) water-table function of Ballona Wetlands and adherence to the Porter-Cologne Act. The waters under Playa Vista are classified as a potential drinking water source. Degradation of the water via dewatering and causing further saltwater intrusion or altering the recharge rate of the aquifer would be contrary to current protective laws. Potential subsidence is also a critical issue.

Example of studies required by the City of Los Angeles but the City subsequently fails to perform:

2001- City Council approval of the 2001 CLA Report and Directives cites,

“The hydrogeologic study will ensure that groundwater withdrawal will be less than the recharge rate of the aquifer.” (AR 1184)

This study has still not been performed, therefore it is still unclear whether such a goal can be satisfied. (Sacramento Old City Assoc. v City Council of Sacramento 229 Cal App 3d 1011, 1028-1029 (1991))

Instead, the City in the CLA 2007- (the City’s designed study in response to the Appeal Court;s Order) provides in a footnote from Nov. 23, 2005, page 2-

“The City of Los Angeles CEQA threshold criteria included consideration of project components that would ‘result in demonstrable and sustained reduction in groundwater recharge capacity’; however, this criterion was not considered in this report since potential impacts to groundwater recharge capacity are the result of surface development features. The methane system dewatering will not influence the groundwater recharge capacity.”

Thus, the City avoids not only a prudent CEQA evaluation of the site but additionally evades an evaluation that was sanctioned by City Council action and later acknowledged by the Appeals Court as part of the necessary environmental evaluation for Phase 1 of Playa Vista. **This is but one example of environmental review that must be done and done in tandem with Playa Vista Phase 2 in order to provide a reasonable cumulative evaluation of the potential environmental impacts regarding dewatering and wastewater.**

DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC) - NEW INFORMATION

The Phase 2 EIR fails to include and provide information for a cumulative impact analysis that includes offsite toxic contamination, oilfield gas issues, and dewatering/wastewater issues pertaining to all of the above. Namely, the Phase 2 EIR excludes the Draft Preliminary Assessment Report for Tract Map No. 49104 Lot 6 prepared by Playa Capital’s consultant- Camp Dresser & McKee (CDM) on July 18, 2007 AND the DTSC response to that report. GC attaches the DTSC response as part of its Phase 2 response. The significance of the DTSC report is that it serves to reveal that the City’s CLA 2007 (CDM dewatering model) is deficient in providing adequate environmental review because the data relied upon for that model is the same data CDM utilized, in part, for the parcel at issue in the CDM 2007 Report. DTSC’s comments also reflect that the data is inadequate for the immediate vicinity surrounding the parcel. Thus, the City cannot or should not be allowed to rely upon its Phase 1 data for this area and its CLA Report 2007 in order to respond to cumulative impact responses in the Phase 2 EIR. These issues, as cited by DTSC as well, must still undergo further and adequate analysis.

Some of the attached DTSC comments are:

Page 2- note that the requests include the Hughes Aircraft area- located also in Phase 2.

“4. Provide a more comprehensive summary of historical operations on Lot 6 and immediately adjacent areas that may have impacted the site, including the former Hughes Aircraft area, former Fire Safety Training Area (FSTA), etc. Include a conceptual site model (CSM) that reflects the AOCs, chemicals of potential concern (COPs), etc. In addition, include a geological CSM.

6. The Draft PEA Report does not address adequately the validity of the data presented. Based on lack of data validation, DTSC can only consider the data as qualitative and recommends additional sampling and analysis to support a quantitative risk assessment and, possibly, a fate and transport analysis.”

Groundwater environmental issues such as flow directional changes and salinity changes are not addressed in the Phase 2 EIR as it pertains to the cumulative evaluation –including Phase 1- of groundwater draw-down for decontamination issues or methane mitigation issues.

In fact the City’s approval of the limited CDM dewatering model , approved CDM’s assessment that no ground water flow changes would occur due to methane dewatering used in their model. The model cites methane dewatering at 16,000 gallons per day (gpd) for the building sites used in Playa Capital’s model. However, this would seem to be contradicted by the new CDM PEA Report and DTSC because at 3.2.1.2 SITE HYDROGEOLOGY its states that the decontamination activities at the Fire Pit Training Area create a water table draw –down of several feet and that it has caused a flow change to occur that draws the water opposite of its historic flow which would allow the water to flow into the marsh west and nw of the site. Department of Sanitation records reveal that the Fire Pit Training area removes approximately 8-10,000 gpd. Considering this volume is causing a water flow change which is a significant environmental change for an area that the public has paid for dearly to be restored as a wetland, it would seem impossible for Playa Capital consultants to assert- as they do- in the 2007 CLA Report that the 16,000 gpd,(a volume greater than the newly acknowledged groundwater flow change at the Fire Pit Training area) is NOT able to cause any groundwater flow change.

ETINA and GC requests the groundwater draw downs across the Playa Vista site be evaluated and revealed to the public in order for public participation and disclosure regarding a cumulative impact analysis of this issue. The current Phase 2 EIR does not adequately describe or address this significant cumulative environmental impact upon the Playa Vista site- including but not limited to effects upon the ecological areas known as the Riparian Corridor and the “freshwater marsh” and all the wetlands adjacent to the Playa Vista project- including but not limited to the wetlands across Lincoln Blvd. from the Fountain Park Apts.

Failure To Discuss the Cumulative Groundwater Draw-down and Alternatives to Groundwater Removal

Lastly, nowhere in the Phase 2 EIR is there a discussion regarding the draw down of the water table, including but not limited to the Bellflower Aquitard, and why this is being allowed to occur in light of the water needs of southern California. This is especially troubling since the

waters under Playa Vista are considered potential drinking water sources under the Porter-Cologne Act.

- a. Why are there no alternatives discussed to the dewatering and its subsequent “throwing away” into the sanitary sewer?
- b. Why has Playa Capital and its occupants not have to have paid for such disposal? What contracts exist for Phase 2 and cumulatively with Phase 1 for water disposal with the Department of Sanitation?”
- c. Why are there no alternative discussions for groundwater removal as it effects the aquifers underlying Playa Vista as well as Playa Vista surface waters-namely the Riparian Corridor and the wetlands and marshes?

PLAYA VISTA ENVIRONMENTAL SETTING- New Information & Information Formerly Not Disclosed By the City of LA to the Public

The following attached exhibits are just some of the examples that highlight the extremely serious and dangerous nature of the Ballona Wetlands/ Playa Vista development site and its surrounding environs- namely its unique setting within the coastal Ballona Wetlands (the old LA Riverbed) and its adjacent proximity to the high pressure oil and gas storage field operations of SOCALGAS. SOCALGAS owns and performs its operations within its mineral right area that directly abuts Lincoln Blvd. SOCALGAS has an easement right to store gas up to 500 –7000 feet below ground surface (PV EIR- V. 1-1 Safety/Risk of Upset).

This is a site that the City’s Texas based peer reviewer and oilfield gas consultant, Exploration Technologies Inc. (ETI), early on stated their recommendation that, due to the extremely high amounts of surfacing oilfield gases, the site should not be built-out and, if building were allowed, it should be non-residential. (1 AR 27-28)

UNIQUE SITE LOCATION

Ballona Wetlands – LA River flood plain (50’ Gravel aquifer acts as gas conduit and has supersaturated areas of oilfield gases that are constantly replenishing (ETI Reports 2000-1, Still Working On It-2001 ETI)

Southern California Gas Company (SEMPRA ENERGY) The project is directly adjacent to an active, high pressure underground oil and gas storage operation situated within the oilfield setting.

High Water Table , Daily Tidal Flux- (15 AR 4096, 14 AR 3665, EIR 7258; 27 AR 7261, EIR 7179)

Liquefaction Zone (Seismic Hazard Mapping 1999, Venice Quadrangle Map)

2000- Discovery of fracture zones and zones of disrupted strata acting as gas conduits (ETI Still Workin On It –CD)

Because it is earthquake country, there is the future potential for earthquake-induced fluxes of large volumes of methane gas. (1 AR 32, 9 JA 2440- ETI Report April 17, 2000, Still Workin On It ETI 2001)

The gas seeps are highly unpredictable and methane concentrations can change with the time of day, season of year, groundwater conditions, barometric pressure, tidal action near the ocean, and many other factors. CDM Oct. 1198 Report Methane Management Recommendations Playa Vista First Phase, Prepared for Playa Capital 2-7 (27 AR 7261, 10 JA 2698)

“It is the experience of the Department that methane gas can be highly migratory and transient.” LADBS Methane Ctrl File-7, Log # 26682 January 19, 1999.

(AR- Administrative Record in ETINA V City of LA, Playa Capital LLC)

NEW INFORMATION

DECLARATION BY ALFRED BABAYANS – Former LADBS gas mitigation authority

This new Declaration provides very disturbing background regarding the feasibility of the dewatering/wastewater issues pertaining to the gas mitigation measures. Mr. Babayans, P.E. since the 1985 Ross- Dress-For-Less oilfield gas explosion and fires, had been the leading LADBS authority assigned to be involved in gas assessment and mitigation for the City of Los Angeles. April 6, 2007 Declaration in ETINA v City of LA (Reply in Support of Supplemental Objection To Supplemental Return To Peremptory Writ Of Mandate ...)

It is requested that the Phase 2 EIR address the comments made by Mr. Babayans in his Declaration, including citing to any and all data sources to back up any responses as required under CEQA. The issues cited by Mr. Babayans reflect upon the Phase 2 site’s mitigation as well as cumulatively with Phase 1.

Excerpts from the Babayan Declaration:

“ 9. The methane mitigation systems that were allowed to be installed by the City at Playa Vista failed to comply with appropriate design requirements to assure safe operation over the range of anticipated operating conditions. The most dangerous features that were allowed to be installed by the City at Playa Vista, largely as cost cutting measures are described in the following paragraphs.

10. A so-called Dual System was used in which subsurface perforated gas collection pipes were simultaneously used to also collect water—that was seeping into these gas collection pipes—and drained to a sump area. This design practice is extremely dangerous because of the high probability that the jperforated gas collection pipes will fill with water, especially during heavy rains, and completely defeat the passively designed gas mitigation system.

11. *The above-described defective design features employed at the Playa Vista site also prevent—on an ongoing basis—the ability to detect and determine if the methane mitigation system is actually venting gas to the atmosphere, as required to protect the building structures from explosion and fires. This is the central flaw of the passive mitigation system that was allowed to be installed at Playa Vista, against my strenuous objections based upon my experience gained in evaluating similar gas hazards in the Fairfax area, as described above. This passive system was allowed to be used by the City, solely as a cost saving benefit to the builder, as opposed to an active system that would allow validation of the ongoing requirements of venting.*
12. *I have reviewed various Declarations that have been prepared by LADBS employees, who I formerly worked with, that purport to claim that the gas mitigation system at Playa Vista works as intended. Based upon my personal knowledge of the defects existing in this system, these Declarations by current employees of the City are only self-serving conclusionary opinions, not based upon the actual limitations of the system as installed.*
13. *The serious design defects that exist in the methane mitigation system installed at the Playa Vista site were deliberately and intentionally allowed to be used by LADBS officials in order to favor cost cutting measures advanced by the building developers. This violated the established practices and procedures of the LADBS, in providing protection to the public in assuring safe building practices. As a result of these violations, there is an ever present risk of fires and explosions at the Playa Vista site.”*

DECLARATION BY BERNARD ENDRES PHD

ETINA and GC request the Phase 2 EIR responses to address the comments made by Endres PhD. Please provide any and all data to back up any and all comments made by the City. It is necessary to address this issue due to the potential environmental damage that may occur as part of the cumulative dewatering needs of both Phase 2 and Phase 1.

Regarding the scientific necessity of dewatering the 50’ vent wells in order for them to degas the aquifer-

“11.in recognition of the scientific reality that the degassing could not be performed using merely passive vent pipes extended from the surface into the shallow gas zones.

14. In 1989 there was a near repeat of the gas hazard conditions that had caused the 1985 explosion and gas fires. (Fairfax 1985) The City of Los Angeles discovered that the Anthony Vent Well had become clogged by the infiltration of water and scale build-up in the perforations used at the base of the vent well located at an approximate depth of 50 feet. These problems led to the formation of a second Task Force by the City of Los Angeles. The study results identified the extreme criticality of not allowing the water table to rise above the vent pipe perforations located at an approximate depth of 50 feet. Also, it was found critical not to allow scale build-up to occur within the perforations at this depth, largely caused by microbial activity occurring within the water and gas bubble interface at this depth.

15. For the foregoing reasons, and because extensive research has been performed on these detailed gas migration hazards and topics, since the 1985 explosion, today the problems have been well documented in the scientific literature. Detailed discussions of these topics are set forth in a textbook on Gas Migration that I co-authored.
16. The above findings and research confirm that degassing of the high-pressure gas pockets existing in the '50 Foot Gravel' at Playa Vista cannot be accomplished by way of drilling passive vent wells into these areas. In particular, the perforations used at the base of the vent wells will become clogged with water intrusion and scale build-up in the same manner that the Anthony Vent Well clogged in the 1989 time period, and nearly caused a repeat explosion of the 1985 Ross Department Store explosion."

(The Division of Oil and Gas and Geothermal Resources (DOGGR) mandated that the Anthony Vent Well be installed with a permanent pump to dewater the well should the water table rise as it did in 1989)

November 2004 California Public Utilities Commission Safety Branch Report

A **November 2004 California Public Commission Safety Branch report** was performed as part of the litigation between GC and SOCALGAS within the CPUC legal system. This Report established a greater than 50% likelihood that the gases surfacing at Playa Vista were SOCALGAS gases. The Report serves as a warning and prescribes numerous investigative procedures as followup.

ETINA and GC request a response to this report that affects the feasibility of mitigating both Phase 1 and 2. Under the heading of CPUC and SOCALGAS internal documents GC also submits numerous documents that serve as evidence of SOCALGAS leakage and the inherent enhanced dangers of the Project's proximity and environmental influence posed by the high pressure underground gas/oil storage operations.

Please also respond to any and all alternative designs or other alternatives to buildout due to the Project's potential to negatively impact the surrounding community(ies) due to capping of the site and the site's gas mitigation measures (including dewatering) causing negative environmental impacts to both the riparian corridor, marsh and wetlands as well as potential negative environmental impacts to the wastewater via dewatering VOCs and H2S into the wastewater system.

CITY OF LOS ANGELES AUDITS BY THE CITY CONTROLLER (2)

The following two audits by the LA City Controller provide insight into the failure of the City's oversight and action taken upon the Playa Vista site. The two audits reveal serious and dangerous flaws with adequate expertise, lack of proper certification, implementation and accountability problems

July 10, 2006 City Controller's Performance Audit of the Los Angeles Building and Safety Department

LADBS Deficiencies examples:

- a. "Section 11 – Finding No. 3: The Department's oversight of its inspectors is not adequate to ensure the quality and consistency of inspection and code enforcement activities."
- b. "Section 11-Finding No.2: Continuing Professional Education requirements are not adequately tracked and may not be met."
- c. "Section 11-Finding No. 1: The Department does not ensure compliance with the State's regulation requiring inspector certification."

LADBS example of failure to adhere to its own Action Plan of deficiency corrections:

- a. "Section 11-Finding No.1: LADBS Action- LADBS will ensure that all inspection staff be certified in accordance with State law by indentifying inspectors who are required to obtain a certification and requiring them to comply with the certification requirements. LADBS will also develop a new data base program to track and monitor inspector certification status. (Complete by 4/07 and ongoing)

June 5, 2007 City Controller's Audit on the City's Oversight of the Playa Vista Gas Safety Systems

Review of the 2007 Playa Vista Audit reveals LADBS' failure to comply with its Action plan stated above. Several examples of failure are provided below and can be reviewed in full in the Working Papers of the Controller's Audit of Playa Vista.

"Based on interviews with LADBS inspectors ((2007 PV Audit) work papers B-1 through B-4), the Controller's auditors note:

-That three of the four on-site DBS inspectors interviewed, (named inspectors...,) have no training in methane inspection,

-that 'DBS did not have the expertise to provide a deputy certification of methane',"
(Page 3 KNBC Audit Review)

The 2007 Audit reveals that not only can LADBS not provide the required inspection documents that would document implementation of gas safety systems but that there are continued failures to have qualified certification personnel. (See also attached KNBC Audit Review and GC Audit Review) Only by October of 2007, does LADBS provide some promissory response to the dangerous deficiencies at Playa Vista as seen in the 10/18/2007 Updated Methane Program Action Plan (GC Public Record Act response from LADBS). Unfortunately, by the end of 2007 much, if not most of Playa Vista Phase 1 has already been built and thus is still unaccounted for and/or failed regarding implementation of the 2001 CLA Report and Directives including the Playa Vista Methane Prevention Detection and Monitoring Program (PVMPDMP). And, the certifications for inspection of methane systems that the City has now provided are only for membrane inspections only. Thus, the numerous other required components of the gas safety systems have no qualified certification oversight by City personnel.

Critical 50' Vent Wells-

But for these experimental systems the site was considered to be too dangerous to build.
(ETI- 2001 CLA Report)

Background-2007 Audit:

Two examples from the KNBC Audit Review:

“50 Foot Vent Wells

The CLA Report states in its appendix, ‘Methane Systems Requirements,’ that ‘subsurface ventilation’ is required for Level 3 building areas where the highest methane concentrations have been detected. The spreadsheets interpret this requirement as applying to ‘subsurface ventilation (L3) Pipes to 50 ft vent wells.’

Nowhere in the spreadsheets for the 18 building sites reviewed is there ANY explicit inspection data relating to *continuous* monitoring and testing or even *annual* assessments of

And reporting on the 50 foot vent wells. This seems consistent with DBS’ responses to Public Record Act Requests filed by Grassroots Coalition for information relating to continuous monitoring and testing of the vent wells. In each instance, DBS declared that there was no data responsive to the request.”

“Sub-slab Membranes

The CLA report states (page 3 of text): ‘...building prevention system elements shall include...a City of Los Angeles approved methane gas membrane designed to prevent methane gas from migrating into enclosed building areas. As indicated on various spreadsheets, a smoke test is the accepted method for initially verifying the integrity of the membrane. The CLA Report also states (page 3 of text): ‘Methane sensors above and below the methane membrane may also be utilized to assist the qualified methane engineer in determining the integrity of the methane membrane.’

Nowhere in the eighteen spreadsheets is there any indication that th sensors related to the membranes are being monitored continuously to enable a qualified inspector to determine the continued integrity of the membranes.”

50' VENT WELLS AND DEWATERING

At the Appellate Court in 2005 in ETINA v City of LA/ Playa Capital LLC the issues of dewatering associated with the performance ability of the 50' Vent wells was again raised.

Any dewatering and subsequent wastewater issues associated with the dewatering are key potentially damaging environmental issues that need to be addressed both for Phase 1 and cumulatively included for the Phase 2 EIR process. Thus far, this issue has not been addressed in the Playa Vista Phase 2 EIR.

The justices requested information from both the City and ETINA et al to provide data that would support the need for dewatering for proper performance and/or the data support that shows the wells do not need to be dewatered and will perform safely. As the record reveals,

neither side was able to satisfy the Court and the issue was relegated back to the Superior Court level. The City however, has independently refused to engage in the issue and respond with its own data when posed by ETINA and GC in the 2007 CLA Report. The only City information supplied thus far has been the same information rejected by the Appellate Court as providing a definitive answer. This issue is relevant to both the City's reliance upon Phase 1 for Phase 2 competence of system performance as well as pertinent to the cumulative dewatering/ wastewater issues central to the revised EIR.

It is important to remember that ETINA was precluded from including ETI's Still Workin On It Report, that states the 50' pilot vent well system was a failure, due to the City's legal objections that the material was time-barred for entry into the CEQA record. The City prevailed in their argument.

GC and ETINA request that the feasibility of the methane gas systems be revisited within a CEQA review for Phase 2 as it pertains to the system feasibility and as it pertains dewatering and wastewater issues. Prejudicial abuse of discretion led to the City's withholding of information to both the Superior Court and Appellate Court namely- the Summary of ETI's Still Workin On It. The City not only withheld the ETI Report from the public but also created a pattern of deceit to the Court systems when citing that the pilot (50') vent well system was successful. And, the prejudicial abuse of discretion by the City is revealed in the State Lands Commission Attorney Rick Ludlow's (new information) Declaration citing the City Attorney's Office withholding the critical ETI Report from public disclosure.

The significance of this new information is that it reveals that the very serious LADBS deficiencies that LADBS claims it will fix, are shown not to have been fixed when compared to the even more scathing 2007 Controller's Audit of LA City Oversight of the Playa Vista Gas Safety Systems. The 2007 Audit provides interviews and reviews of data for LADBS that reveal "deep flaws that we found in the City's oversight of the project" July 25, 2007 letter to KNBC. Controller Laura Chick during on-air interviews with KNBC's producer Frank Snapp states that she cannot vouch for the safety of the Playa Vista site and that the records are mush. (See attached DVD section entitled Power Politics)

2007 City Controller Audit of the LA City Oversight of the Playa Vista Gas Safety Systems (continued)

Today, due in part to the 2007 safety audit done by LA City Controller Chick, it is apparent that there was no CEQA enforcement of a mitigation monitor and no CEQA enforcement for the implementation of the new and experimental gas safety systems for Phase 1 on Playa Vista. (Aug. 7, '07 Chick letter to Goldberg-City Planner)

The City Controller characterized the June 12, 2001 CLA Report approval by City Council as a --PRESENTATION TO COUNCIL. And, that the CLA Report & Directives 2001 was not enforceable by the City until February 2004, when the City approved a new CITYWIDE METHANE ORDINANCE . (June 5, 2007 Controller Chick letter to City Officials)

Thus, the City believes it was able to dodge any legally binding enforcement of the 2001 City Council approved CLA Report and Directives. The 'working papers' of the audit reveal that there were deep flaws in the enforcement and accountability for the oilfield gas safety systems. Moreover, the Directives to fulfill CEQA requirements were also tossed by the wayside-

With regard to the CEQA requirement of a Mitigation, Monitoring and Reporting Program (MMRP) the Controller states,
"Our review noted that the Planning Department's role as CEQA monitor lacked authority to hold approval of certificates of occupancy, or enforce compliance." (August 7, 2007 Controller Chick letter to Goldberg, Director of Planning)

The City Controller claims there was no CEQA or legally binding enforceability of the gas safety systems and their monitoring and, according to the letters and working papers of the 2007 Audit the City failed to properly oversee the project.

The City Controller stated publicly, in interviews done by KNBC-TV that she could not vouch for the safety of the site and that the records of the site are mush.

The City Controller then simply requests proper oversight and compliance by the City for Phase 2 of Playa Vista. The authority that she requests to occur was already promised and documented within the CLA Report and Directives of 2001 for Phase 1. Thus, the public is left with a lack of accountability and enforcement for Phase 1 due to a proven track record of abuse of discretion and failures by the City.

Additionally, the safety audit of the Playa Vista gas safety systems revealed serious and dangerous flaws in oversight, coordination, monitoring and implementation/ lack of implementation of the gas mitigation systems. (July 25, 2007 Controller Chick letter to KNBC ; Working Papers of the Audit of Playa Vista Safety)

Based on the Controller's auditor interviews with Dept. of Building & Safety (DBS) inspectors, the interviews reveal that the DBS lacks the expertise, organization and documentation to vouch for the inspection process. (located at B1 through B4 within the 600 audit working pages)

These problems have not been resolved- there is no new data, eg. inspection reports, that have filled in the huge data gaps found during the audit. There was a failure to adhere to current Codes and requirements for implementation of the gas safety systems. (see specifics: KNBC Audit Review; July 18, 2007 GC Audit Review)

The City's resolve was to attempt to better the Phase 2 portion of Playa Vista. However, with no accountability for Phase 1, any promises or Council approvals regarding Phase 2 accountability are highly suspect.

QUESTION:

Since the City is relying upon methane mitigation feasibility and dewatering/ wastewater conclusions of Phase 1 for the Phase 2 EIR, how will the City eliminate the methane mitigation

and dewatering/wastewater data gaps, provide proof of methane mitigation feasibility for all systems and provide accountability as required under CEQA which has thus far not occurred?

QUESTIONS:

Since the City has not fulfilled the 2001 CLA Directive of a CEQA gas mitigation monitor for Phase 1 as evidenced by the 2007 Audit,

- 1) how will the City provide accountability and public disclosure regarding the methane mitigation feasibility as substantial evidence from Phase 1 that can be then applied to Phase 2 and,
- 2) how will the City provide accountability and actual data gathering regarding the dewatering/wastewater issues that have not yet been adequately addressed in the Phase 2 DEIR?

And, since the Controller's 2007 Audit cites the 2001 CLA Report and Directives as simply vague "guidelines" and therefore (June 5, 2007 Controller letter to Mayor, Council, City Attorney) sends the City back to the drawing board to re-create accountability, interdepartmental coordination and enforcement capabilities for what the Appellate Court's ruling upon the 2001 CLA Report and Directives, in stark contrast to Controller Chick's "vague guidelines" assessment, acknowledged as a legally binding CEQA discretionary approval by the LA City Council, how then will there be 3) accountability and resolution for the above described disparity of viewpoints eg. which is legally correct? And,

- 3) How will there be actual accountability and enforcement to determine what and what has not been implemented at Playa Vista Phase 1 regarding gas mitigation measures/dewatering-wastewater issues?
- 4) These issues have only a lip service of vague promises that Phase 2 will be properly evaluated, mitigated and enforced. How will #3 accountability occur and how does that affect Phase 2 both independently and cumulatively?

Continued NEW INFORMATION

LA City Consultant – Exploration Technologies Inc. Report- Still Workin On It

Failure of the new gas safety systems and failure to properly field test these systems was acknowledged and warned by the City's expert Exploration Technologies Inc.(ETI) in a report prepared by ETI (Still Workin On It) after the City Council had approved the safety measures in 2001.

We now know that the City Council, during the June 2001 CLA Hearing, was provided with false information from LADBS regarding gas safety system feasibility including but not limited to the success of the experimental 50' deep aquifer vent and monitoring well. In ETINA v City of LA/ Playa Capital LLC the City continued to provide information to the court that we now know to have been false- including but not limited to the gas safety system's feasibility and the City's false claim that the oilfield gas issues were part of the 1993 Playa Vista EIR. Regarding the latter, the City documents of 2004 Methane Code cites the new discovery of oilfield gases at Playa Vista in 1999. Thus, the City acknowledges outside of court that the gases were discovered post 1993/5 EIR approvals.

The ETI Report, entitled STILL WORKIN ON IT, was withheld from the public by City attorneys (See- Letter from State Lands Commission attorney- Ludlow). City attorneys then argued successfully that the Report was time-barred for use in the Phase 1 CEQA Subsequent/Supplemental Environmental Impact Report (SEIR) lawsuit filed by ETINA and Grassroots Coalition against the City and Playa Vista.

Meanwhile, Phase 1 was almost entirely built out contrary to an Appellate Court ruling of Nov. 2005 which vacated the approval of the Phase 1 methane mitigation measures pending further CEQA review of the dewatering associated with the methane mitigation measures. (2005 Appeal Court win by ETINA & GC against City of LA and Playa Vista (Playa Capital)

NEW SOIL GAS INFORMATION

ETINA and GC requests the following comments and documents provided be addressed by the Phase 2 EIR as pertaining directly to the environmental mitigation and the mitigation's potential negative environmental effects upon dewatering/ wastewater issues and the issues of mitigation feasibility in relation to the dewatering/wasterwater issues both singularly for Phase 2 and cumulatively for both Phase 1 and 2 and their potential negative environmental effects upon the Project and the surrounding sensitive wetland/ riparian corridor environs.

EG. QUESTIONS

- a. What potential negative environmental effects may occur due to dewatering effects upon the migration of the oilfield gases and thus will the gas mitigation measures still provide feasible mitigation? And,
- b. what mitigation systems provide accountability for water volumes removed? And,
- c. what mitigation systems provide accountability for ensuring that the dewatering can keep the groundwater levels at 1 foot below the gas intake systems as required by the PVMPDP and the Citywide Methane Code as it pertains to Phase 2?

The proposed school site in Phase 1 was recently re-tested for soil gases by the consultant company known as Parsons. Parsons conducted some gas sampling including a cursory study for helium which may serve as an indicator of SOCALGAS reservoir gas leakage. This gas study also found high gas levels and pressures. Parson's first helium study using Summa canisters was botched as cited by Parson's, the second attempt with Tedlar bags, did find helium. New gas sampling that has been done in this same area by CDM -roughly earlier in 2005 reveals the area has high gas levels. Both the Parson's study and the CDM study show that the area now has high levels of gas by contrast to the 2000-1 ETI gas studies performed in the same area reveal low gas levels. Furthermore, since the ETI studies in 2000-1 the "freshwater marsh area has been documented by CDM and others to have a huge (millions of cubic feet of gas per day) leakage of oilfield gases that are moving through the waters of the marsh at such high pressures as to be able to gush to the surface through approximately 8 feet of water. The area proves to be a non-static situation.

The Phase 2 EIR does not identify these new and dangerous changes and does not provide any investigation as to how these new high gas areas may be affecting Phase 2 or how the mitigation measures of Phase 2 and of Phase 1 &2 may cumulatively negatively impact the newly identified gas migration pathways.

Helium has been found across the Ballona Valley in various soil gas studies performed by various companies. Helium can be a significant marker to signify gas leakage from the SOCALGAS reservoir. SOCALGAS storage gas that has been transferred into the facility from the Permian basin (Texas/Oklahoma) has been known to contain significant levels of helium. However gases coming into the SOCALGAS facility today are from numerous other sources and do not contain the same levels of helium as in years past. Also, as stated by the leading expert of SOCALGAS/Playa del Rey facility, the lack of finding helium in a soil gas sample does not preclude the gas sample from being SOCALGAS's gas. (CPUC-Evidentiary Hearing transcripts of SOCALGAS testimony in the Complaint Case and the 851 Case)
And, SOCALGAS is responsible for any and all oilfield gases migrating up wellbores within their mineral right properties -CPUC-Initial Study Application No. 99-05-029:

“SCG owns most, if not all mineral rights in the PDR field and storage zone. As such, SCG is responsible for any gas leaks originating inn the PDRGSF area of influence and from thermogenic sources.”

Thus far, no “gas mixing” studies have been performed upon the oilfield (thermogenic) gas samples that have been retrieved. Typically gases stored in an oilfield have the ability to mix with gases produced from the oilfield and thus mix. Migrating gases that have “mixed” do not have an exact match to the original source and are not an exact match for non-mixed native gases. (See Reports attached eg. Hazards From Methane Gas In The Soil: Identifying The Problem And Determining The Source- D. Coleman, PhD)

Grassroots Coalition provides below, numerous documents that have not been made part of the Phase 2 EIR. Much of the SOCALGAS information provided herein was garnered since 2004 as part of a California Public Utilities Commission investigation and litigation between SOCALGAS and Grassroots Coalition (acting as intervenors on behalf of the public at risk)

OILFIELD/GAS STORAGE FIELD GAS LEAKAGE

California Public Utilities Commission (CPUC) litigation (7 years) between Grassroots Coalition (GC), acting as intervenor on behalf of the communities(s) overlying the oil/gas storage operations and, SOCALGAS. The GC complaints against SOCALGAS revolved around community health and safety concerns of oilfield gas leakage/ migration and venting from SOCALGAS operations.

GC and SOCALGAS created a Settlement Agreement in 2007 which provides for further investigation and monitoring (CPUC approved). Fulfillment of the Agreement is currently

being established and will be ongoing. (See Settlement Agreement and Court Filings listed herein and at CPUC WEBSITE under CASE 00-05-010 (filed May 11, 2000); Decision 07-12-035.

Internal SOCALGAS documents revealing SOCALGAS gas leakage and migration have been provided herein. The documents provided, constitute some of the evidence of SOCALGAS reservoir leakage and SOCALGAS wellbores acting as conduits for leakage of oilfield gases and/or mixed gases migrating and surfacing. No chemical signature or analysis of NATIVE Playa Del Rey oilfield gases exists-as per repeated discovery requests for same. The Playa del Rey oilfield was a prototype for use of an oilfield to store injected gases. SOCALGAS has acknowledged that its injected gases have migrated into the PDR oilfield beyond the boundaries (240 acres –south of Ballona Creek) established for storage when SOCALGAS took control of the storage field. Thus, a mixing of injected gases and native gases has been ongoing. (See also transcripts from Evidentiary Hearing Aug. 4, '05, 99-05-029 (851 Case) and transcripts from Complaint Case 00-05-010)

Information attached to this Playa Vista Phase 2 response includes : hydrogen sulfide (H2S) reports/ acknowledgements by both Playa Capital consultants (Archaeological Monitoring Report, May 1998-99); (Playa Vista New Wells 1/27/00-10610-28999-RT Newells 1/27/00-3/19/00) and the Los Angeles Regional Water Quality Control Board (LARWQCB) quarterly groundwater reports. Quarterly groundwater monitoring reports of LARWQCB from across the Playa Vista site typically reveal the presence of H2S in groundwater. The examples provided by Grassroots show H2S in the proposed school site area. It is important to note that the LARWQCB does not provide jurisdiction over H2S contamination and has never quantified its findings – the anecdotal notations regarding H2S exist in virtually all quarterly groundwater reports. The PDR oil/gas field is well known and established as being a “sour” (H2S) oil field (LA City Planning document 15808; SOCALGAS utilizes ucaride (as one example) to combat the H2S-SOCALGAS internal document).

HISTORY

The Playa Vista site, situated upon Ballona Wetlands, was considered by the City of LA to be too dangerous to build utilizing its 1985 Methane Code due to both the unique geotechnical environment and the extraordinary high levels and pressures of surfacing oilfield gases discovered in 1999 (LA Citywide Methane Code 2004/ Ordinance 175790 & 91.7104.3.8; Exploration Technologies (ETI) Report (Playa Vista) 2000, Regional Geochemical Assessment of Methane, BTEX, CO2 and H2S Gas Occurrences. Playa Vista Development), ETI's- STILL WORKIN ON IT 2001, LA Building & Safety Commission Hearing Transcript 2000).

In 2001, the LA City Council approved new and experimental gas safety systems that were still in a 'progressive design stage' (2001 CLA Report & Directives approval). These new and experimental systems were to be strictly field tested and monitored under a new CEQA mitigation monitoring program. The oilfield gases were newly discovered in 1999 and were not addressed in the 1993 EIR. (LA City Ordinance 175790; 2001 CLA Report)

BONDS-both CDLAC and Mello Roos bond disclosure statements portray the site's safety systems as including an early warning system, MONITORING OF THE 50' AQUIFER gas levels. This 24/7 monitoring of the gases within the 50' aquifer has never been implemented. (Safety Audit 2007)

POLITICAL FAST TRACK

The Playa Vista site, situated upon Ballona Wetlands, has been and continues to be a politically driven approval for build-out that has habitually dodged both scientific scrutiny and public disclosure.

The 1993 EIR cited that there were no known oilfield gas migration hazards. The City of LA refused to perform the soil gas studies requested on behalf of Grassroots Coalition by gas migration experts Endres PhD and Robertson (a licensed petroleum engineer)- both familiar with SOCALGAS gas storage operations and the Playa del Rey oilfield.

Playa Vista was acquired by Playa Capital –a conglomerate group of financial powerhouses and union - (Morgan-Stanley, Dean Witter, Goldman Sachs, and ULLICO construction pension fund in approximately 1997.

At LA Building & Safety Commission Hearings regarding Playa Vista, the Mayor's office's mantra was that the Playa Vista site was the most studied site in history and that there was no need for further study.

Yet, environmentalists prevailed and brought to light Playa Capital's own soil gas studies. Playa Capital internal documents acknowledged that gas studies had been done after they acquired the property due to environmental concerns raised by the public regarding gas migration. PC wanted to know how much they might end up spending for mitigation should gases exist. (ENSR Report) Upon finding the surfacing gases, Playa Capital did not inform the City of LA but released the studies to the LA Regional Water Quality Control Board- an EPA agency having no jurisdiction over migrating oilfield gases and where the report lay buried with no notification to the City of LA until found by GC in 1998-9 and GC brought the study to the attention of LA Building & Safety.

Upon reading the study, the head of the Grading Dept. at LADBS championed the requests at the City level to have Playa Capital perform new soil gas studies. Playa Capital complied utilizing Camp Dresser & McKee (CDM) to perform the tests. Via a CDM soil gas study, Playa Capital acknowledged that the site had some gases surfacing but that the gases were fairly insignificant and could be mitigated with the City's methane code of 1985.

Again, the public prevailed when it questioned the integrity of Playa Capital's gas studies and conclusions. GC brought LADBS scientific literature citing industry standard techniques for soil gas studies, showing that the standards had not been met by CDM and Playa Capital. (eg. Hazards From Methane Gas In The Soil: Identifying The Problem And Determining The Source- D. Coleman PhD 1991) .

LADBS then allowed for Playa Capital to choose between 3 independent companies from outside California. Companies that had no prior work with either the Playa Vista site or Playa Capital. Playa Capital chose Exploration Technologies Inc.(ETI), a Texas based oil/gas investigation company.

ETI reviewed the site's previous environmental studies and concluded that the EIR had not done anything to investigate the gas issues and that the prior gas study work done by CDM was not properly or adequately done.

ETI then became the City's consultant and an investigation into the surfacing gases was begun.

During the course of these studies numerous attempts on the part of Playa Capital personnel and SOCALGAS personnel attempted to short cut any meaningful gas investigation via for example –constraints upon where to place probes, continued soil disturbance by excavation and surcharging- activities that can readily cause outgassing and thus defeat and lower any actual soil gas readings.

ETI's conclusions were far different than Playa Capital and highly placed City officials had been stating. ETI found that the site was under pressure and outgassing oilfield gases as high if not higher than any oilfield gas seepage area they had experienced around the world.

Significant new issues came to light including the potential for a fault along Lincoln Blvd. which was later mapped as being numerous pressurized branches of displacement underlying the site. These newly found areas having the potential to change in intensity via earthquake activity or even tidal flux. (Map –underlying geologic structures allowing for gas chimneys – STILL WORKIN ON IT)

ETI and the Dept. of Building & Safety's Commission determined that the methane code for the City of LA was not sufficient to safely mitigate the oilfield gases surfacing at Playa Vista in Ballona Wetlands. (Building & Safety Commission Hearing 2000)

A new and experimental set of gas mitigation measures was developed and still in a "progressive design stage" that certain Building & Safety officials claimed were performing properly and safely. But for these measures and, in particular the experimental 50' deep aquifer gas vent wells- the site was considered to be too dangerous to develop. Two sets of Bonds (California Debt Limit Allocation-CDLAC; MELLO-ROOS) that were approved for use in build out and infrastructure usage described the mitigation measures that would protect the public. In particular the bonds describe the use of the 50' deep aquifer vent wells that would both act to vent the gases but also would serve as an early warning system-monitoring 24/7 the levels of gas at aquifer depth.

Thus in 2001, the studies undertaken were called the Chief Legislative Analyst's Report (CLA Report 2001). The 2001CLA Report and its new Directives (which included measures and oversight that the City claimed would be strictly enforced) was approved by the City Council and development of Playa Vista was allowed to continue.

Meanwhile, GC and others sued the City and PC for not having performed a new and supplemental environmental impact report (SEIR) now that the issues had come to light via the 2001 CLA Report. In court the City and Playa Capital argued that the EIR had reviewed and dealt with the oilfield gas issues and that the Playa Vista gases were not a new issue. The City and PC argued that the new mitigation measures and in particular the experimental 50' aquifer vent wells worked. GC and the public lost the California Environmental Quality Act (CEQA)

court battle at the Superior Court level with the Court siding with the City's promises that the gas mitigation systems and Directives were actually working and being enforced.

However, contrary to the language argued in Court, the City acknowledged in 2004 (during a new Citywide Methane Code Hearing) that the gases surfacing at Playa Vista were newly discovered in 1999. And, after the 2001 CLA Report had been approved and ETI had been dismissed by the City, ETI wrote a follow up report called STILL WORKIN ON IT. In this Report, ETI acknowledged that numerous field studies for the the gas safety systems had not been performed and that without strict adherence to what had been promised, a very dangerous situation existed. ETI also acknowledged that the experimental 50' deep aquifer vent well and monitoring system was a failure. Though much of it outgassed for a short period of time, the system ultimately clogged and filled with water and silt. (The failure of the 50' aquifer vent well system was also acknowledged, by LADBS, as a failure due to its placement within an aquifer and subsequent clogging with water and silt. The 2004 Citywide Methane Code does not utilize 50' vent wells for this reason according to LADBS. (2004 CITYWIDE METHANE CODE HEARING)

ETI's STILL WORKIN ON IT was withheld from the public by City Attorney's Directives (Ludlow declaration). GC was told of the Report's existence and had it confirmed by the State Lands Commission(SLC), who also had a copy of the Report. Under the direction of the State Controller, Connel- SLC had initiated an investigation into the gas issues of Playa Vista since part of the property slated for future development was given to the State as payment from the Howard Hughes estate for back monies owed to the State. This investigation was short lived and stopped due to lack of financing etc. Thus by the time the ETI Report was given to SLC, it was left in an attorney's hands.

In a phone conversation with the SLC attorney, GC was advised that the City may have confidentiality concerns and that he would check with the City Attorney. GC was subsequently told that not only did the City Attorney not want the Report released to GC but, that SLC was to return the Report to the City.

Having already been given the exact title of the Report by the SLC attorney, GC Public Act Requested the Report from the City. The City's response was that the Report did not exist.

Subsequent to the PRA response GC spoke with the SLC attorney and stated that since the City was stating that the Report did not exist, then there must not be any confidentiality agreements. SLC sent the Report to GC. Unfortunately, in a CEQA lawsuit there are time bar deadlines etc. and our attorney was not aware of other arguments that could have successfully allowed the revealing commentary by ETI into Court. The City and Playa Capital successfully argued to keep the document and its information that directly contradicted their legal statements attesting to the success of the mitigation systems- out of reach of the Court.

Thank you for your consideration of these documents regarding the Playa Vista. We believe the documents provided herein have not, in the main, been provided for your review and consideration by any other party. Noted inside are further online areas to review informational

documents, such as the CPUC website which contains the Grassroots Coalition v SOCALGAS legal briefs and further evidence. Thank you for your time and consideration of this important matter.

Patricia McPherson, President – Grassroots Coalition

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EXHIBIT TABLE

**Ballona Wetlands Land Trust Comment Letter on the Village at Playa Vista RS-DEIR
(Case No. ENV-2002-6129-EIR)**

Exhibit Topic	Item	Description
A. Introduction	1	Court of Appeal Opinion, 2007 WL 2677035 (Cal.App. 2 Dist.)
	2	Notice of Preparation Webpage (from www.lacity.org/pln)
	3	Urban Concepts, "Valuation of Entitlement Request" re Playa Vista Phase II, April 30, 2009.
B. Wastewater/ Water Quality	1	"L.A. Admits Sewer Spills", Los Angeles Times, April 23, 2003. http://articles.latimes.com/2003/apr/23/local/me-sewer23
	2	Public notice of beach closure due to Ballona Creek sewage spill: http://lapublichealth.org/docs/beachclosure02142007.pdf
	3	IRP Work Paper Excerpt
	4	Bureau of Engineering, TOS 15 Excerpt
	5	2009 Hyperion Treatment Plant Report
	6	Monthly Performance Report (Hyperion Treatment Plant Overall Summary, December 2008) Excerpt
	7	The Wetherly Project, Draft Environmental Impact Report (DEIR) Excerpt
	8	Metro Universal DEIR Excerpt
	9	Paseo Plaza Hollywood DEIR Excerpt
	10	959 Seward DEIR Excerpt
	11	HTP NPDES Permit Monitoring Reports (2006)
	12	HTP NPDES Permit Monitoring Reports (2008)
	13	List of DEIRs and FEIRs on City Website (as of April, 2009)
	14	U.S. Geological Survey (USGS) Toxic Substances Hydrology Program. Research Project- Emerging Contaminants. Last Modified 10 Oct. 2008 < http://toxics.usgs.gov/regional/emc/ > Accessed Nov. 5, 2008

	15	Munoz, I. et al. (2008) Article on impacts of pollution on organism lifecycles (abstract).
	16	Luckenbach, Epel (2005). Article on effect of Synthetic Musk Compounds on organisms (abstract).
	17	PEEIR article on reproductive impairment of fish due to pollution (summary). http://www.bml.ucdavis.edu/PEEIR/Brochures/Fish_Reproductive_Impairment.pdf
	18	Rempel, M. et al. (2006). Article on effects of sewage on reproduction and gender of fish in Orange County (abstract).
	19	Schlenk, D. (2006). Effect of environmental estrogens on organisms (abstract).
	20	Kelley et al (2008). HTP Study on fish estrogen levels due to pollution. http://www.swrcb.ca.gov/rwqcb4/board_decisions/tentative_orders/individual/npdes/terminal_island/2008_1223/HTP.pdf
	21	Daughton, T. (1999). Article on pharmaceutical and personal care product effects on organisms (excerpted)
C. Water Supply	1	Westchester Community Plan Update DEIR, p. 4.41
	2	Los Angeles Dept. of Water and Power Water Use Press Release, Dec. 2008. http://www.ladwpnews.com/go/doc/1475/241803/
	3	Governor Schwarzenegger's water supply State of Emergency 2009 press release, http://gov.ca.gov/index.php?/print-version/press-release/11556/
	4	2009 IEA Survey of DWP [Excerpts], found at http://www.lacity.org/ctr/audits/2008_DWP_IEA_Survey.pdf .
	5	"Low Snowpack may mean a third dry Year for California," Los Angeles Times, Jan. 30 th , 2009 http://www.latimes.com/news/local/la-me-snowpack30-2009jan30,0,260986.story .

	6	DWR Water Plan Update (2009), Chapter 4, California's Water Today Excerpt
	7	Water depletion levels from Metropolitan Water District, April 2009 http://www.mwdh2o.com/mwdh2o/pages/yourwater/WaterAlert/levels.html .
	8	Water depletion press release from Metropolitan Water District, April 2009
	9	Office of Mayor's press release on water shortage, February 9, 2009 http://www.ladwpnews.com/posted/1475/09_02_09_RELEASE_Los_Angeles_Water_Use_Restrictions.253526.pdf
	10	California Department of Water Resources (DWR) Report on climate change and water resources, July 2006. http://baydeltaoffice.water.ca.gov/climatechange/DWRClimateChangeJuly06.pdf
	11	LADWP Article, "Future of Water," found at http://www.ladwp.com/ladwp/cms/ladwp001620.jsp
	12	DWR Climate Change Report
D. Methane	1	Office of the Controller, City of Los Angeles, Audit on Playa Vista Development Methane Mitigation, Monitoring and Enforcement addressed to Mayor, City Attorney and City Council (June 5, 2007)
	2	Inter-Departmental Correspondence from City Planning, Fire, and Building & Safety Departments to City Controller RE: Response to Controller's Audit on Playa Vista Development Methane Mitigation, Monitoring and Enforcement addressed to Mayor, City Attorney and City Council (July 30, 2007)
	3	Office of the Controller, City of Los Angeles, Evaluation of Joint Response to Controller's Audit on Playa Vista Development Methane Mitigation, Monitoring and Enforcement (August 7, 2007)
E. Global Climate Change		
	1	LA Green Plan
	2	Letter from Edmund G. Brown, Jr., Attorney General to Nancy Fong, Community Development Director, City of Diamond Bar, Notice of Preparation of Draft Program Environmental Impact Report for Aera Master Planned Community.

		http://ag.ca.gov/globalwarming/pdf/comments_Aera.pdf .
	3	Letter from Edmund G. Brown, Jr., Attorney General to Tom Pace, City of Sacramento Planning Department, New City Hall, Draft Update to General Plan, 5. http://ag.ca.gov/globalwarming/pdf/comments_Sac_GP_Update.pdf .
	4	California Climate Change Center Paper/ Pacific Institute report on impacts of sea level rise on the California coast, March 2009. Draft paper (excerpted). http://www.pacinst.org/reports/sea_level_rise/report.pdf
	5	Margot Roosevelt, "California panel urges immediate action to protect against rising sea levels." Los Angeles Times, March 12, 2009. http://www.latimes.com/news/local/la-me-global-warming-searise12-2009mar12,0,2741152.story
	6	March 2006 California Environmental Protection Agency Climate Action Team Report to the Governor. See also, www.climatechange.ca.gov/climate_action_team/reports
	7	La Conchita Landslide Paper, at http://www.sabo-int.org/case/la_conchita_mudslide.pdf ; LA Times Article on La Conchita Ranch, at http://www.venturacountystar.com/news/2008/oct/11/nb1fclaconc hitahearing11/ .
F. Alternative: Natural Treatment Wetland	1	Booklet on natural treatment wetlands, Ballona Wetlands Land Trust, 2008.
	2	California Regional Water Quality Control Board Violation Notice to City, March 4, 2008
	3	California Regional Water Quality Control Board Order to City, March 4, 2008
	4	City of Los Angeles Integrated Resources Plan (IRP) Fact Sheet.
	5	BMP Prioritization Methodology and Priority Catchment Maps for Ballona Creek Watershed.
	6	Los Angeles County Integrated Regional Water Management Plan (IRWMP), Los Angeles Dept. of Public Works.
	7	Proposition O Monthly Report, March 2009
	8	Recovery Act Funds CWSRF Fact Sheet
	9	Article on recovery funds in NOAA News, March 23, 2009.
	10	Southern California Home Resale Activity, L.A. Times Sunday

		Edition Chart, March 2009.
	11	U.S. Census Bureau News Release on New Residential Sales Rate, April 2009.
	12	“Lots of Lots.” Los Angeles Business Journal, January 26 – February 1, 2009,
	13	Los Angeles County Office and Industrial Market Data, Los Angeles Business Journal, January 26 –February 1, 2009,
	14	Offices Empty Out, Setting Q4 Record. Westside and Downtown are Hit Hardest,” Los Angeles Business Journal, January 26 – February 1, 2009.
	15	¹ “New study finds value for developable land off more than 30 percent in many areas of U.K.” New York Times, February 24, 2009. http://raisingtheroof.blogs.nytimes.com/2008/09/30/new-study-finds-value-for-developable-land-off-more-than-30-percent-in-many-areas-of-uk/
	16	“Parks and Wreck: L.A.’s Fight for Public Green Space,” LA Weekly, July 16, 2008 (excerpted).
	17	“The Los Angeles River Revitalization Master Plan”, City of Los Angeles, May 2007 (excerpt: Executive Summary).
	18	Press release on Green Jobs Bill passage, August, 2007.
	19	“LA Apollo Helps City Adopt Landmark Green Jobs Ordinance,” http://apolloalliance.org/what%E2%80%99s-new/la-apollo-alliance-helps-city-los-angeles-adopt-landmark-green-jobs-ordinance/
	20	Ballona Wetlands Land Trust sign- on letter of support for natural treatment wetlands option

DOCUMENTS PROVIDED TO DTSC BY GRASSROOTS COALITION RELATING TO PROPOSED ELEMENTARY SCHOOL AT PLAYA VISTA.

1. *6-20-05 INTERVENORS' PREPARED TESTIMONY FOR CPUC - GRASSROOTS COALITION TRANSCRIPT*

DTSC

1. DTSC Request for Monitoring of Fountain Park Apts. gas systems (This has never occurred. DTSC has never been allowed access.)
2. 12-22-03 DTSC letter to Sue Chang at LAX/Playa Vista City Planning Dept. regarding audits & failures of LADBS including lack of training of methane specialists.
3. Federal EPA letter commenting on the need for oversight and accountability to ensure proper performance of the gas safety measures, both initially and regularly thereafter. (LA City Controller Chick Audit (2007) of safety systems provides confirmation that this has not occurred.)
4. *DTSC COMMENTS DATED OCTOBER 22, 2007 AND NOVEMBER 22, 2007 re: CDM PLAYA VISTA PRELIMINARY ENVIRONMENTAL ASSESSMENT*

PLAYA VISTA EIR

1. 1992 PV EIR – Division of Oil & Gas sets forth false information that the project has no shallow zones of gas that can leak to the surface.
2. 9-22-92 SoCalGas Easement
3. 1992 Draft EIR for PV Phase I – saying SoCalGas has easement to store gas under Areas A & B.

LA CITY AND CLA 2001 DOCUMENTS WITH ETI REPORTS/CORRESPONDENCE

1. 1-19-99 – LADBS letter to Playa Capital responding to 10-14-98 CDM Report for Playa Capital showing 40% and 49% methane east of Lincoln Blvd. Near school site. LADBS states “it is the experience of the Department that methane gas can be highly migratory and transient.” Map attached with 10-14-98 CDM Report.
2. 11-19-99 LADBS letter to Playa Capital – continuous monitoring of the oilfield gas in the 50’ gravel aquifer “early warning system,” that at a minimum, the Playa Vista area is to be considered a “High Potential Methane Zone” and there is a need for monitoring wells to be put in the 50’ Gravel Aquifer. But for the 50’ vent wells, the site was considered too dangerous to build. LA City Controller’s Audit 2007 reveals no performance data and lack of inspection data for installation.

3. 5-31-00 ETI letter to LADBS – ETI now consulting expert for LA City – he states the safest action is to not build in the area; continuous gas monitoring is mandatory; and that 50' vent wells are mandatory in high gas areas.
4. LA City Councilwoman Galanter's letter to LADBS General Manager Adelman discussing City's lack of expertise in gas mitigation and need for same. 2007 Playa Vista Audit by Controller Chick reveals the City still lacks qualified experts.
5. 6-9-00 Playa Vista Risk Task Force – source of gas is important – if it is from the gas reservoir, then the systems need to be re-thought.
6. 6-16-00 ETI letter to LADBS – The significance is that SoCalGas gas is migrating up wells. This violates DOGGR's regulation of protection to the underlying aquifers and California interests.
7. 6-30-00 ETI Letter to LADBS – ETI states the potential for H₂S and BTEX build-up under building slabs.
8. 1-29-01 Zymax Report to LADBS – Comparison of gas analysis. Helium is found both in Phase I and Phase 2 of Playa Vista. (Helium gas study: Playa Vista & SoCal wells)
9. 1-31-01 Letter from David Hsu, LADBS to Playa Capital – Building in Level III is contingent upon functional sub-surface venting system, but for the 50' vent wells the site was considered too dangerous to build.
10. 6-4-01 Email ETI to LADBS re: ETI claims CDM again doing improper work. CDM's failure to comply with ETI's request to place monitors.
- 10a. PVMP's codes need for certified methane engineer's approval is erroneously given to Sepich & Assoc. Documents reveal Sepich's refusal to accept responsibility for the system.
11. 8-10-01 ETI Report for LADBS "Still Working on It" CD - on "Regional Geochemical Assessment of Methane, BTEX, CO₂ and H₂S Gas Occurrences", stating that strict enforcement to field gas testing in the 50' gravel zone must be adhered to or a dangerous situation exists. Gas seeps along the Riparian Corridor (next to the school site) have not been tested and need to be. Gas is from a thermogenic source. Previous EIR studies were inadequate due to limited and poorly done sampling & analysis. Installation of 120 pilot 50' vent wells in Phase 1 was a failure due to plugging of the wells due to weakness & fluidity of former LA River Bed sediments. Many PV wells developed leaks. CDM attempted to correct the situation, but failed. Testing to make vent wells work has not been done. (This evidence of system failure contradicts the City's and Playa Capital's statements to the Court in ETINA vs. City of LA & Playa Capital, LLC that the 50' vent wells were successful.
12. 12-23-03 Letter from LADBS to LA City Council – Staff Report to Establish Citywide Methane Mitigation Requirements. Mentions thermogenic gas at Playa Vista and other

hazards at Playa Vista. This report acknowledges that the thermogenic gas at Playa Vista was newly discovered in 1999, contrary to the City's and Playa Capital's statements to the Court that the gas was not newly discovered. This contradiction continues to the present time.

13. KNBC notes for Councilman Rosendahl meeting re: PVMPDP + LADBS +LAFD/ failure to perform as required by the 2001 CLA Report/Directives.
14. 2-28-07 Letter of LA City Councilmember Bill Rosendahl stating that the CLA process failed and a Subsequent or Supplemental EIR needs to be done.
15. LADBS Code Section 91.7102 stating that de-watering means a permanent system with perforated pipes, designed to maintain water level 1 ft. below sub-slab vent system. (There is no monitoring and device to ensure that water can be maintained 1 ft. below the vent system.)
16. May 2001 Copy of PV Methane Prevention, Detection & Monitoring Program Document, and City approvals for it, and who is responsible for it. CLA Report describes testing requirements and liability and City documents for CLA 2001 approval.
17. Map of proposed school site by CDM showing it is in a high methane hazard zone.
18. 2000 ETI color map of methane concentrations
19. Example of deep well monitoring – Anthony vent wells at Fairfax.
20. 1991 Dennis Coleman, Isotech Laboratories, "Hazards from Methane Gas in the Soil: Identifying the Problem and the Source".
21. 1991 – Special Report from Halliburton Services "Gas Migration: Causes, Cost, and Remedial Action."
22. 8-10-01 updated ETI "Still Working On It" (Post 2001 CLA Report)

2001 CLA REPORT CONCLUSIONS (cited by Parsons)

1. 11-21-00 SoCalGas Application Case shows conflict of interest re: no gas leakage by Davis & Namson working for SoCal Gas interests regarding review for SoCalGas of Playa Del Rey oilfield and at the same time they are working for Playa Capital.

BOND DOCUMENTS

1. 6-12-01 State Controller's concerns re: gas safety systems are experimental (no proof of efficacy) and in a "research & design" stage when City's asking for bonds. Controller Connell voted No regarding CDLAC Bond approval in 2001.
2. CDLAC Bonds. Appraisal document states L.A. City can design system to mitigate methane in gravel aquifer 35-50 ft. below the ground at a cost of \$150,000.
3. Mello Roos Bonds. Report describes mitigation of gravel aquifer 35-50 ft. below the surface with a monitor well system. It should be required to continuously measure methane gas concentrations. Document states "gas seepage can be easily monitored by installing 50' vent wells." Monitoring wells also need to continuously monitor gases in case of an earthquake. The appraisal was done with the assumption that 50' vent wells would mitigate the gas dangers at Playa Vista. (This monitoring has never occurred and there is no performance data of the 50' vent wells. Inspection data for installation is also lacking [2007 Audit].)

LA CITY CONTROLLER'S AUDIT OF PLAYA VISTA GAS MITIGATION

1. 7-25-07 Controller Chick letter to KNBC Frank Snapp. Retraction letter re: key comments made in Audit Overview. Letter states there are deep flaws in the Report and regret saying inspections were performed.
2. 6-5-07 LA City Controller's letter re: Audit.
3. 8-7-07 City Controller's response to LADBS, City Planning & Fire Dept's responses to the Report. Controller states Departments under-play the seriousness of the situation, and states that the City Planning monitor has no CEQA enforcement authority over permits. The 2005 Appellate Court ruling contradicts the Controller – the Appellate Court acknowledges or assigns authority to L.A. Planning as having CEQA authority.
4. 6-5-07 – KNBC Review of Work Papers Behind LA City Controller's Audit of LA City Oversight of the Playa Vista Project. Deputy Inspectors don't have independence to guarantee the integrity of the inspection process. No reference to annual testing. 6-5-07 Controller's Report in letter to LA City Council.
 - 4a. Key PV Safety Audit documents cited by KNBC.
5. 6-15-07 Public Meeting at LA City Councilmember Bill Rosendahl's office re: "Health & Safety Issues Pertaining to Oilfield & Landfill Gas Migration – City of LA & Lack of Accountability & Adherence to State & Federal Law" - No follow-up meetings held on a Public Methane Task Force; the 6-5-07 City Controller's Audit showing poor record-keeping; that LADBS is changing the 2001 CLA Report without City Council approval.

A CEQA Gas Monitor reporting to the Planning Dept. as required by CLA 2001 Directive is not happening. Bond documents were not reviewed by the City Controller for the Audit. (There has been no adherence to mitigation measures cited in the Bond documents, e.g. 50" vent & monitoring wells.)

6. 7-18-07 Grassroots Coalition letter to City of LA regarding review of "working papers" of City Controller's Report. LADBS Inspector Delli Quadri has no methane mitigation expertise to make statements. LADBS agrees with need for 50' vent wells.

CLA REPORT OF 2001

1. May 2001 – CLA Report – Property owners are responsible for testing the gas system at least annually and submitting a certification to LAFD and LADBS. (Audit 2007 reveals failure to do performance tests upon critical systems, including the 50' vent wells.) CLA Report noted and filed.

METHANE TASK FORCE

1. 3-17-06 and 10-31-06 Task Force meetings with private methane companies – excludes the public. Includes 10-31-06 List of Attendees and Tom Ponton's notes regarding it.
 - 1a. LA City File #01-1305 re: initiation of CLA 2001 Report & Creation of the City-wide Methane Code 2004 and the Public Methane Task Force.
 - 1b. 10-20-98 LA City Council Galanter motion approved motion re: protection of Ballona Wetlands as a natural resource to the City of LA. In particular, this was regarding SoCalGas and protection from oil and gas.
 - 1c. Part of 2004 Methane Code describing LADBS' authority to withhold permits on projects located w/n a methane zone or methane buffer zone.
2. 4-2-07 Letter of Marianne Brown, WLA Planning Commissioner, and member of Ven Mar Neighborhood Association. Letter to LA City Planning stating need for a Public Methane Task Force. Brown acknowledges her review of LA City Planning documents that reveal no actual mitigation monitoring of gas safety systems as required by 2001 CLA Report discretionary approval. Brown finds only some contract documents.
3. 5-1-07 Norm Kulla, of LA City Councilmember Bill Rosendahl's office, email re: failure to create public Methane Task Force as required by LA City Council decision File #99-0385-S4 and File #01-1305.
4. 5-2-07 Letter from Tom Ponton, Mar Vista Neighborhood Council re: failure to create a public Methane Task Force & impropriety by the City and "cottage industry" gas consultants.

5. 6-15-07 Grassroots letter for meeting with LA City Councilmember Bill Rosendahl's office re: 5-22-07 Methane Task Force meeting. No follow-up meetings held on a Public Methane Task Force.

NO MITIGATION MONITOR FOR PLAYA VISTA AS REQUIRED BY 2001 CLA REPORT & 2005 APPELLATE COURT RULING

1. GRC request for LA City Planning to provide Mitigation Monitor for Playa Vista. Planning's response is the 8-7-98 Zinner Consultant's letter to LA City Planning which reveals Zinner plays no role as a gas mitigation monitor. A new role was required of a Gas Mitigation Monitor by the 2001 CLA Report Discretionary Approval and the 2005 Appellate Court Ruling in ETINA vs. City of LA.
2. Transcript from LA City representative Miller that Gas Mitigation Monitor's duty is to liaison with EPA agencies, including DTSC. (This never happened.)
3. 3-2-04 GR Letter to LADBS – requesting monitoring entity data (none was forthcoming).
4. 3-15-04 LA City Planning Letter to GR – There is no monitoring entity report at this time (none has been produced to this date).
5. 10-5-04 GR Letter to LA City Planning Dept requesting City gas mitigation monitoring data for Playa Vista – City Planning's response: "They aren't aware of what Grassroots is requesting."
6. 10-15-04 PRA request from GR to LA City Planning Dept re LA City Gas Mitigation Monitor for Playa Vista. City Planning's response "has no information" and refers GR back to LADBS.
7. 9-23-05 PRA request from GR to LADBS re: gas mitigation systems. City's response is "There are no documents responsive to your request."
8. 11-29-06 Letter from LA City to GR re: Mitigation Monitor and Jobs – Does not include a gas mitigation monitor.
9. ETI "Still Working On It" – regarding the need for field testing and gathering data from sampling ports located both above and below the membrane is analyzed at a laboratory for their methane and butane through contents. "If these testing and reporting procedures are not followed, then a hazardous situation may exist." (This field testing has never been done.)

LEGAL DOCUMENTS

1. 6-30-05 Declaration of Certified Petroleum Geologist Walter Merschat that methane seeps at Playa Vista are some of the highest he has ever seen around the world. He could ignite with a match many areas of the ground. Also that Phase 2 gas testing spacing is inadequate.
2. 3-28-07 Declaration of Bernard Endres, Phd. That pump and treat de-gassing must be done or the 50' vent wells will not work due to water and microbial activity getting into pipes. It could end up like the 1989 near-repeat of the Fairfax explosion of 1985, when the deep vent well did not have a de-watering device (pump) and it clogged and failed. Also, de-watering of the 50' vent wells could cause subsidence at Playa Vista site.
3. 4-6-07 Declaration of Alfred O. Babyans regarding his oversight of gas mitigation at LADBS being undercut and weakened. Babyans cites his concerns about an explosion or fire there.
4. 12-24-03 Notice of Prop 65 violations by Sempra Energy from Environmental Law Foundation and Grassroots Coalition regarding release of Benzene and Toluene into drinking wells.

LUDLOW

1. 11-30-06 CD Declaration of Ludlow – Declaration cites LA City Attorney person(s) withholding the data from Grassroots and the public. The City withheld information of ETI Disc regarding ETI's study of 50' vent wells failing – Ludlow provides ETI disk to Grassroots Coalition. The City had responded to GR's PRA for the CD, stating that so such document exists.

HYDROGEN SULFIDE & HIGH THERMOGENIC GAS

1. 6-23-66 City Plan Case 15808 – City acknowledges that Playa Del Rey oilfield is a sour H₂S oilfield.
2. 15808 document with map of conditional use permit. There exists no expansion agreement with the CPUC nor DOGGR.
3. 1998-1999 Archaeological Monitoring Report by SRI for Playa Vista EIR. Contains information left out by Parsons – H₂S across from the school site. Monitors had to run off the site.
4. 4-2-01 Memo from CALEPA DTSC about H₂S release of 50 ppm

5. Letter about Hydrogen Sulfide by Dr. John Montgomerie.
6. Historic Data not provided by Parsons – “Playa Vista New Wells” 1/27/00 – 3/19/00 re: high areas of hydrogen sulfide.
7. H2S acknowledgement – RWQCB example of a Quarterly Groundwater Monitoring Report. Virtually every report shows H2S in the water.
8. 3-10-93 LA County Sanitation District discusses use of biocides to combat H2S in SoCalGas lines.

HELIUM HITS

1. Playa Del Rey Oil Field map
2. 3-25-99 Sepich Report – Helium found in gas under Fountain Park Apts
3. SoCalGas Active well which its helium content matches the helium found at Fountain Park Apartments. Zymax Table showing Helium at Del Rey 13
4. 1-29-01 Zymax Report & Map to LADBS – Helium found in wells (85% at school Site)
5. Sepich Map showing cross-section of deep wells.
6. Pre ETI Map by Psomas showing a different methane pattern across the site.

50' VENT WELL FAILURE

1. Copy of “Still Working on It”. Copy of “Still Working On It” is located at #22, page 3, under LA City Documents and 2001 CLA Report.
2. 2001 White Paper by CDM and deep well detail provided by Carlin Environmental & Sepich Associates with detail regarding 50' vent wells. (Paper reveals need for keeping 50' vent wells unclogged from water/silt in order for attempt at proper performance).
3. 3-29-01 Sepich re: Water's Edge and deep well designs – shows how it was designed and attached to CDM paper – had to be pump & flush – not a passive system.
4. 3-15-01 letter PC to LADBS – Need for continual maintenance and still find failures; 1/4/01 ETI letter to LADBS re: clogging/maintenance; 6/12/01 ETI document showing failures due to water/silt of aquifer.

5. 6-10-05 ETINA/Grassroots Reply to Appellate Court reiterating need for 50' Vent Wells. LA City dodged the issue, and the issue is still unresolved by the Court.

SUBSIDENCE

1. June 1992 Santa Monica Groundwater Management Plan showing underground formation and faults.
2. 5-3-00 Art Kurimoto, LA City Public Works, memo refuting his use as an expert by Playa Vista from a phone call. He states that he has no information on ground subsidence in the Playa Vista area.
3. 2-15-01 Dr. Bernard Endres letter to LA Dept. of Building & Safety entitled "Regional Ground Subsidence at Playa Vista, Playa Del Rey, and the Marina Peninsula, and Related Gas Migration Problems. Dr. Endres wrote the paper on the request of LADBS Dept. Head, David Hsu.
4. 2-20-01 LADBS Memo by David Hsu to City Engineer requesting review of Dr. Endres' concerns about subsidence. (His concerns were never addressed.)

OILFIELD/GAS STORAGE

1. 2002 - Environmental Hazards & Mitigation Measures for Oil and Gas Field Operations Located in Urban Settings by George Chilingarian, PhD. And Bernard Endres, PhD.
2. 3-13-01 Hutchinson, Kansas investigation of gas storage area explosion - "Geology of Natural Gas Pathways & Accumulations under Hutchinson, Kansas."

PUC REPORTS & SOCALGAS SETTLEMENT WITH GRASSROOTS COALITION

A. SOCALGAS Documents

1. CDM Map showing area of SoCalGas Reservoir.
2. Map in 805 put together.
3. Map showing spewing of gas

SOCALGAS DISCOVERY DOCUMENTS

1. 11-21-01 Discovery request of GR to SoCalGas re: helium hit in Mariner's Village dated 4-18-01, 10-18-01 gas sample analysis – sulfide compounds & H₂S, and no native gas documentation.
2. Request by Grassroots Coalition to SoCalGas for compositional data of native gases, buffer gases, and cushion gas. CPUC Complaint Case C00-05-010 to 00-05-012.
3. 11-21-01 SoCalGas response to GR request for composition of native gas – SoCalGas is unable to locate any such native gas samples.

B. SOCALGAS INCIDENTS

1. 5-2-03 Dept. of Conservation letter to Grassroots with a map showing SOCALGAS gas/oil plume release to area by Playa Vista school site.
2. 4-2-03 Governor's Office of Emergency Services Hazardous Material Spill Update re: venting of 2 million cubic feet of gas/ with email reports from DOGGR.
3. 4-3-03 Daily Breeze article re: SOCALGAS gas spill
4. 3-30-04 SOCALGAS leak of gas condensate onto Admiralty Way in Marina Del Rey.
5. 4-8-04 Argonaut article that Admiralty Way leak is gas condensate not refined oil.
6. 3-25-00 Stadish case – condensate release against Stadish house.

C. SOCALGAS INTERNAL DOCUMENTS

1. Stadish vs. SOCALGAS Deposition of Racine Tek, (foremost inventory expert in the country) – discusses large gas leakage from storage area.
2. Diagrams showing various well leakage (Lorio).
3. MHA map showing extent of SOCALGAS storage area and location of complaints from gas exposure with LA City Conditional Use Permit drawing.
- 3a. SoCalGas ownership maps.
4. 8-16-74 Office Memo (P.S. Magruder Jr.) re: casing leak in Well 12-1.
5. 10-30-78 Office Memo (Cordano) re: corrosion in wellhead piping of Well 13-1

6. 6-7-83 SoCalGas report that need old oil wells for observation wells.
7. 8-25-87 SoCalGas Memo (Zuniga and Sinclair) re: SOCAL4 well producing H2S above 2000 ppm
8. 12-6-88 SOCalGas Memo re: Troxel (Sinclair) - Well shows gas migration beyond fault area.
9. 2-14-91 Pacific Enterprise letter to SoCalGas re: legal argument to attempt to lose liability for their pressure juggling in the area.
10. 2-29-00 SoCalGas Memo (Meltzer) -- average benzene levels in SoCalGas samples were 223 ppm.
11. 3-22-00 SoCalGas Memo (Mansdorfer) -- List of subsurface gas well leaks at Playa Del Rey.
12. 11-20-91 SoCalGas Co. memo from Thompson to Montgomery showing non-SoCalGas coming up well borings.

D. PUC REPORTS

1. 8-20-02 CPUC Complaint Case Facts & Findings PDR Storage Field by Consumer Protection & Safety Division -- conclusion that greater than 50% chance that gas is from SoCalGas storage reservoir.
2. 1991 Isotech Labs study by Coleman -- Hazards from Methane Gas in the Soil -- Problem & Source
3. April 1999 Halliburton Services, Journal of Petroleum Technology "Gas Mitigation: Causes, Cost & Remedial Correction"
4. 3-25-00 -- Mehmet Tek Deposition stating SOCALGAS loses over 100 million cubic feet of gas per year from their storage reservoir.
5. 3-31-01 Geology of Natural Gas Pathways & Accumulation Under Hutchinson, Kansas, By M.Lee Allisin, Kansas State Geologist -- Report Presented to House Environment Committee
6. 4-23-01 SoCalGas Marina Del Rey Soil Gas & Playa Del Rey Storage Gas Analysis -- showing Helium in MDR barhole.
7. 10-11-01 Playa Del Rey Gas Sample Testing by SoCalGas showing hydrogen sulfide in gas.

8. 10-18-01 SoCalGas Playa Del Rey Gas Sample shows significant amounts of heavy, unidentified sulfur compounds.
9. August '02 – Wilson Geosciences Report on “Shallow Sub-surface Conditions Associated with Twelve Abandoned Well Sites for SoCalGas lot sale.
10. Map – Playa Del Rey 851 CPUC Complaint Case showing extent of PDR gas storage area.

D. SOCALGAS SETTLEMENT WITH GRASSROOTS COALITION

1. SoCalGas PUC Settlement Agreement with Grassroots Coalition
2. PLAYA DEL REY GAS STORAGE FACILITY GAS MIGRATION HAZARDS; AND THE DUTIES IMPOSED TO MONITOR & MITIGATE THESE DANGEROUS CONDITIONS 3-24-07 - GRASSROOTS COALITION

MAPS

1. PV Phase 1 Map showing gas levels changing and are migratory
2. ETI Report – Methane Concentrations
3. 1979 Map showing underground gas storage areas in the U.S.
4. Untitled Diagram – “Active Oil Well Gas Leakage Into Surrounding Geology & Ecosystem”
3. Map regarding Conditional Use Permit 15808
4. 2 ETI Maps – showing fracture zones and connections to leaking wells with ETI 1-31-01 letter to David Hsu, LADBS, re: subsurface fracture areas, plus ETI CD “STILL WORKING ON IT”
- 5.

DVD

1. DVD of KNBC Channel 4 Investigative Series “Burning Questions: The Playa Vista Story”
2. DVD of 2007 LA City Controller’s Audit

ADDITIONAL DOCUMENTS

1. ETINA VS. CITY OF L.A. 3-1-08 “ETINA & GRASSROOTS COALITION’S OPPOSITION TO RESPONDENTS AND RPI’S MOTION TO OVER RULE OBJECTIONS TO THE RETURN TO WRIT”
2. ETINA VS. CITY OF LA 8-11-08 “PETITIONER’S ETINA AND GRASSROOTS COALITION’S ADDITIONAL OBJECTIONS TO RETURN TO WRIT”
3. ETINA VS. CITY OF LA 8-11-08 “PETITIONER’S ETINA & GRASSROOTS COALITION’S NOTICE OF LODGMENT IN SUPPORT OF ADDITIONAL OBJECTIONS TO RETURN TO WRIT”
4. EMAIL 10-11-07 SKARIN LADBS TO GAUSTIAN RE: ACTION PLAN FOR METHANE PROGRAM PHASE 1 & 2 (PRA RESPONSE TO GRASSROOTS COALITION FROM LADBS)
5. 8-8-06 “RESPONSE TO CONTROLLER’S PERFORMANCE AUDIT OF THE DEPARTMENT OF BUILDING & SAFETY (LADBS) DATED JULY 10, 2006 - FROM LADBS

(WITH
AUDIT
DOCUMENTS)

City Documents

PLAYA VISTA METHANE PREVENTION, DETECTION AND MONITORING PROGRAM

Playa Vista will implement or cause to be implemented a comprehensive methane prevention, detection and monitoring system for the properties located at Playa Vista. The primary goals of the methane system are to (i) prevent the migration of methane into enclosed building spaces through the use of physical building systems in those areas of Playa Vista where there is a potential for migration of methane into enclosed building areas, (ii) detect the existence of methane within enclosed building areas and, if methane is present at levels exceeding 25% of the Lower Explosive Limit ("LEL") (i.e. 12,500 parts per million of volume ("ppmv")), to activate an alarm, and (iii) monitor the presence of methane in areas of the Playa Vista property where there is a potential of methane gas migrating into buildings in order to provide for contingencies for changing methane levels at the Playa Vista property.

As set forth in Appendix 1-Methane System Requirements, the Playa Vista Methane Prevention, Detection and Monitoring Programs establishes three levels of system requirements for Playa Vista. In addition, in order to ensure the long-term adequacy of the methane systems at Playa Vista, the methane program will include maintenance, reporting, and system responsibility requirements. These requirements are designed to provide residents at Playa Vista with mechanisms to ensure that prevention, detection and monitoring systems are operating correctly and to provide the appropriate City agencies with a method to ensure compliance with all applicable methane system requirements.

Each of the levels will provide a comprehensive program of prevention, detection and monitoring systems along with a maintenance and testing program. These systems will insure adequate and appropriate safety for all building occupants.

The Department of Building and Safety will review and approve the design and implementation of the methane systems. The Department of Building and Safety may utilize one or more independent experts in methane and methane systems (i.e. a Peer Reviewer) in reviewing and approving the design and implementation of the methane systems.

Playa Vista may request modifications or adjustments to this program and the Methane System Requirements based on additional site information, technology changes or changed conditions, with the written approval of the Department of Building and Safety.

Soil Gas Survey Requirements

A baseline methane soil gas site survey for Playa Vista was conducted by and Camp Dresser & McKee Inc., in consultation with Exploration Technologies, Inc. Attached as Appendix 2 is a baseline methane soil gas site survey prepared by Exploration Technologies, Inc. showing the measured methane soil gas levels at Playa Vista (the "Baseline Survey").

The Baseline Survey should be used to determine the areas of Playa Vista in which building methane prevention systems are required for building sites for which building permits are applied for prior to September 1, 2001.

Individual building sites for which building permit applications are submitted after September 1, 2001 shall provide a methane soil gas site survey for the building site (the "Building Site Survey"). The purpose of the Building Site Survey is to determine, to the satisfaction of the Department of Building and Safety, the applicability of methane prevention and monitoring systems requirements in connection with the construction of buildings on the building site which is the subject of the Building Site Survey. The Building Site Survey shall be conducted by a licensed civil engineer or registered geologist in the State of California.

If a building is to be constructed on a building site where (i) prior to September 1, 2001, the Baseline Survey indicates the presence of methane concentrations or (ii) after September 1, 2001, the Building Site Survey indicates the presence of methane concentrations, building methane detection, prevention and monitoring systems shall be required as provided for in this program.

Detection Systems

All buildings at Playa Vista will be equipped with methane gas detection systems within spaces located in the basement levels of the buildings and data collecting sensors below the lowest floor/basement slab, as set forth on the Methane System Requirements attached as Appendix 1. All buildings at Playa Vista located on building sites where measured soil gas concentrations exceed 100 ppmv, as indicated on the applicable methane soil gas site survey, also shall be equipped with data collecting sensors below the impermeable membrane. Methane System Requirements for building sites at Playa Vista are set forth on Appendix 1.

The detectors and sensors shall be approved by the Department of Building and Safety and the Los Angeles Fire Department and shall meet the specifications of the Department of Building and Safety. The quantity and actual location of the detectors and sensors shall be determined by a qualified methane engineer and approved by the Department of Building and Safety.

The detection and sensor systems will be tested for electrical safety pursuant to the Los Angeles Electric Code and tested and approved pursuant to the Los Angeles Fire Department standards.

The detection system will activate a visual and audible building alarm if methane concentrations are detected at 12,500 ppmv within the building (25% of the LEL) or higher. Concurrent with the building alarm activation, an electronic signal will notify the Los Angeles Fire Department of the building alarm activation.

Within ten (10) calendar days following the activation of an alarm, a written report shall be submitted by the building owner or the property owners' association to the Los Angeles Fire Department and the Department of Building and Safety regarding the alarm activation and the cause of the activation and, if needed, providing recommendations and corrective measures.

Building Methane Prevention Systems

Methane Prevention Systems will be required for all buildings located on building sites where methane gas is detected, as indicated on the applicable methane soil gas site survey.

Building system requirements will be determined based on the highest methane concentrations located beneath the building site as indicated on the applicable methane soil gas site survey.

Building prevention systems shall be installed in buildings in accordance with Appendix 1-Methane System Requirements.

As required by Methane System Requirements (Appendix 1), building prevention system elements shall include, as applicable, (i) a methane detection system coupled with an alarm which will provide an audio and visual alarm if methane concentration levels reach or exceed 12,500 ppmv (25% of the LEL) within the building, (ii) a gravel blanket together with perforated methane collection pipes located below the building designed to collect and vent methane gas (passively and/or actively), (iii) a City of Los Angeles approved methane gas membrane designed to prevent methane gas from migrating into enclosed building areas. Active systems shall provide for mechanical ventilation (e.g. fan or blower to remove or reduce methane concentrations in gas venting pipes and/or basement areas), and (iv) a functional subsurface venting system in Level III areas as designated on Appendix I (Methane System Requirements).

The installation of the building prevention system shall be supervised by a qualified methane engineer. The Department of Building and Safety shall perform inspections of the building prevention system installations.

Building Monitoring Systems

Monitoring of methane concentration levels will be provided for as part of the building prevention systems as provided for in the Methane System Requirements (Appendix 1). The timing and method of monitoring will be based on the methane concentrations as indicated on the applicable methane soil gas site survey.

Areas of Methane Greater Than 100 ppmv

In areas of Playa Vista where methane soil gas concentrations, as indicated on the applicable methane soil gas site survey, are above 100 ppmv, methane concentrations within the building system shall be monitored continuously by an electronic monitoring system. The methane concentration data shall be accessible (read only) over a secure Internet connection to the Los Angeles Fire Department, the Department of Building and Safety and the property owners' homeowner association (or building owner, as applicable). In addition, an annual written report of the data together with any recommendations from a qualified methane engineer will be provided by the property owners' association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department. Copies of the written reports also shall be provided to the Playa Vista Master Association.

If the monitoring data indicates that methane concentrations below the impermeable membrane exceed 37,500 ppmv, the mechanical ventilation system shall be automatically activated. If subsequent monitoring data indicates methane concentrations below 37,500 ppmv, the mechanical ventilation system may be deactivated.

Methane sensors above and below the methane membrane may also be utilized to assist the qualified methane engineer in determining the integrity of the methane membrane. If the qualified methane engineer determines that the methane sensors indicate that the methane

membrane has lost its integrity, in whole or in part, the qualified methane engineer shall submit a report of findings and any required corrective measures to the building owner or the property owners' association and building owner or property owners' association shall submit to the Department of Building and Safety a copy of the findings and any required corrective measures for review and approval prior to any such corrective measures being undertaken. The building owner or property owners' association shall undertake such corrective actions in a timely manner and shall provide a report to the Department of Building and Safety of compliance with such corrective measures.

If methane concentrations change over time, methane monitoring may be modified (increased or decreased) based on recommendations of a qualified methane engineer, as approved by the Department of Building and Safety.

Areas of Methane Below 100 ppmv

In areas of Playa Vista where methane concentrations, as indicated in the applicable methane soil gas site survey, are less than 100 ppmv, methane concentrations within the building prevention systems will be manually sampled. Sampling will be conducted quarterly, provided that the methane concentrations remain below 100 ppmv. In addition, an annual written report of the data shall be submitted by the property owners' association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department. Copies of the written reports also shall be provided to the Playa Vista Master Association.

If in any quarter, the monitoring data indicates that methane concentrations exceed 100 ppmv or if the monitoring data is highly variable, the Department of Building and Safety or the qualified methane engineer may require additional manual sampling or electronic monitoring of the methane concentrations. A quarterly written report of the monitoring data shall be provided by the property owners' association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department. Copies of the written report also shall be provided to the Playa Vista Master Association.

Methane sensors above and below the methane membrane may also be utilized to assist the qualified methane engineer in determining the integrity of the methane membrane. If the qualified methane engineer determines that the methane sensors indicate that the methane membrane has lost its integrity, in whole or in part, the qualified methane engineer shall submit a report of findings and any required corrective measures to the building owner or the property owners' association and building owner or property owners' association shall submit to the Department of Building and Safety a copy of the findings and any required corrective measures for review and approval prior to any such corrective measures being undertaken. The building owner or property owners' association shall undertake such corrective actions in a timely manner and shall provide a report to the Department of Building and Safety of compliance with such corrective measures.

If methane concentrations change over time, methane monitoring may be modified (increased or decreased) based on recommendations of a qualified methane engineer, as approved by the Department of Building and Safety.

Maintenance and Reporting

Individual building systems will be tested, maintained, and serviced at least annually by the building owner or property owners' association pursuant to the manufacturer's specifications and to the satisfaction of the Los Angeles Fire Department and the Department of Building and Safety. The building owner or property owners' association, as applicable, shall be responsible for any required repairs of the methane systems, including without limitation any required repairs to the methane membrane, gas vent pipes or ventilation systems.

The property owners' association (or building owners, as applicable) shall maintain records of such service and repair. Copies of all service and repair records shall be sent to the Playa Vista Master Association within thirty (30) calendar days of service.

For buildings that are located on Playa Vista common areas (i.e. not owned or controlled by an individual building owner or property owners' association), the Playa Vista Master Association shall have responsibility for testing, maintenance, repair and service.

Individual building owners and/or property owners' associations shall complete any required service of the systems and shall keep the system in good working order and fully operational. The individual building owners and/or property owners' association shall be responsible for any required repairs and replacements.

On or before July 1 of each calendar year, the building owner or the property owners' association shall submit a certification to the Los Angeles Fire Department and the Department of Building and Safety that the annual testing, maintenance and service has been completed and certifying that the system is operational.

System Responsibility

The developer/builder will have primary responsibility for the design and construction of the building methane prevention systems and the building monitoring systems. The design of the building methane prevention systems and monitoring systems shall be incorporated into the design of the buildings. The design of the systems shall be consistent with this program and shall be subject to review and approval by the Department of Building and Safety. A qualified methane system engineer shall prepare the plans and specifications for the systems.

The systems shall be made operational by the project developer/builder. A report as to its operational status shall be signed by the qualified methane system engineer and submitted to the Department of Building and Safety and the Los Angeles Fire Department. A copy of the report shall be provided to the building owner or the property owners' association and to the Playa Vista Master Association. No certificate of occupancy shall be issued for any building until the methane systems, as required by Methane System Requirements attached as Appendix 1, are operational and a qualified methane engineer has certified the systems to be operational.

Upon the certification of the operational status of the building methane system and monitoring system, the building owner or the property owners' association shall have responsibility for the continued operation, maintenance, repair and replacement of the systems.

The building owner or property owners' association, as applicable, shall develop and submit for approval by the Department of Building and Safety and the Los Angeles Fire Department an evacuation plan for the building. A copy of the evacuation plan shall be available to residents and tenants.

The building owner or the property owners' association, as applicable, shall have financial responsibility for all costs and expenses associated with the building methane system and the monitoring system, including without limitation all costs associated with testing, maintaining, servicing and repairing the systems and any cost incurred in preparing and submitting required reports to be provided to the City and the Master Association.

Appendix 1

Building Methane Prevention System Requirements

DRAFT METHANE SYSTEM REQUIREMENTS

A baseline soil gas survey shall be conducted for each building site to determine the areas of Playa Vista Phase I in which building methane prevention systems are required.¹

Mitigation Measure	Methane Concentration Level		
	Level I ²	Level II ²	Level III ²
	White: <10ppmv Blue: 10-<30ppmv Lt. Blue: 30-<100ppmv	Green: 100-<1000ppmv Yellow: 1000-<12,500ppmv	Orange: 12,500-<150,000ppmv Red: 150,000ppmv or >
Methane Prevention System³			
Passive - Underneath the Building			
• 12" gravel blanket	Required	Required	Required
• gas collection vent pipe	Required	Required	Required
• impermeable membrane	Required	Required	Required
Active - Mechanical Ventilation			
• ventilation triggered with elevated methane concentrations	None	Required ⁴	Required ⁴
Subsurface Ventilation	None	None	Required
Methane Detection System			
Within the Building			
• detectors in spaces located in the basement level in the building ⁵	Required	Required	Required
• audible alarm ⁶	Required	Required	Required
• visual alarm ⁶	Required	Required	Required
• automatic notification of LAFD ⁶	Required	Required	Required
Underneath the Building			
• data collecting sensors below impermeable membrane ⁵	None	Required	Required
• data collecting sensors between impermeable membrane and lowest floor/basement slab ⁵	Required	Required	Required
Methane Monitoring System			
• manual quarterly assessment	Required ⁷	None	None
• continuous methane sampling and data collection accessible by the homeowners' association, LADBS and LAFD via the Internet	None	Required ⁸	Required ⁸
Maintenance of the Prevention, Detection and Monitoring Systems			
• annual testing to the satisfaction of LADBS and LAFD	Required	Required	Required
• homeowners' association to have financial responsibilities	Required	Required	Required

DRAFT BUILDING SOIL GAS SURVEY

Page 2

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Contingency Plan			
when high methane concentration are detected within a building	Required	Required	Required
when methane system components fail	Required	Required	Required

Footnotes:

1. Projects for which building permit applications were received by LADBS prior to January 1, 2002 may use as baseline methane concentration data the soil gas survey data prepared by CDM/ETI at Appendix 1. After January 1, 2002, all projects shall submit for approval to the satisfaction of LADBS, individual soil gas site assessments that characterize methane soil gas concentrations for the building site.
2. Levels of methane concentrations and corresponding colors on the methane concentration maps are identified in the Appendix 2 or individual building site soil gas assessments.
3. LADBS may reduce on requirements in areas where the methane concentrations in the area of building sites is non-detect.
4. When methane concentrations are detected at 37,500 ppmv by the sensors in the ventilation system below the impervious membrane, a mechanical ventilation system shall be automatically activated.
5. Number and location of detectors to be determined by a qualified methane engineer, as approved by LADBS.
6. Audible alarm, visual alarm and notification of LAFD shall be triggered when methane concentrations are detected at 12,500 ppmv.
7. Sampling data reviewed by a qualified methane engineer shall be approved by LADBS. When such data is determined to be highly variable, additional manual sampling or electronic sampling may be required by LADBS. A qualified methane engineer shall submit a report to LADBS with conclusions and recommendations.
8. When the methane concentration data indicates significant changes in methane concentrations below the membrane, then a report by a qualified methane engineer shall be submitted to LADBS characterizing the reasons for such changes.

EXAMPLE

Deep well

Monitoring

(Anthony Vent Well -
Fairfax)

Honorable Antonio R. Villaraigosa, Mayor
Honorable Rockard J. Delgadillo, City Attorney
Honorable Members of the City Council
of the City of Los Angeles

June 5, 2007

Page 7 of 7

- During our review, DBS consolidated Playa Vista inspection reports and discovered that many permits were never closed on projects where Certificates of Occupancy had been issued. DBS subsequently closed these permits as part of their "housekeeping" procedures.

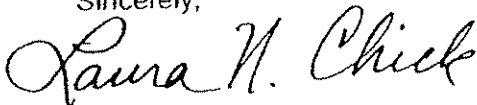
Although DBS exhibited poor record-keeping and had many permits that remained open for Playa Vista properties, nothing came to our attention to indicate that required inspections relating to methane mitigation, or the project as a whole, were not performed.

Recommendation

7. DBS management should improve internal record-keeping procedures to ensure the approval of open permits prior to the issuance of certificates of occupancy.

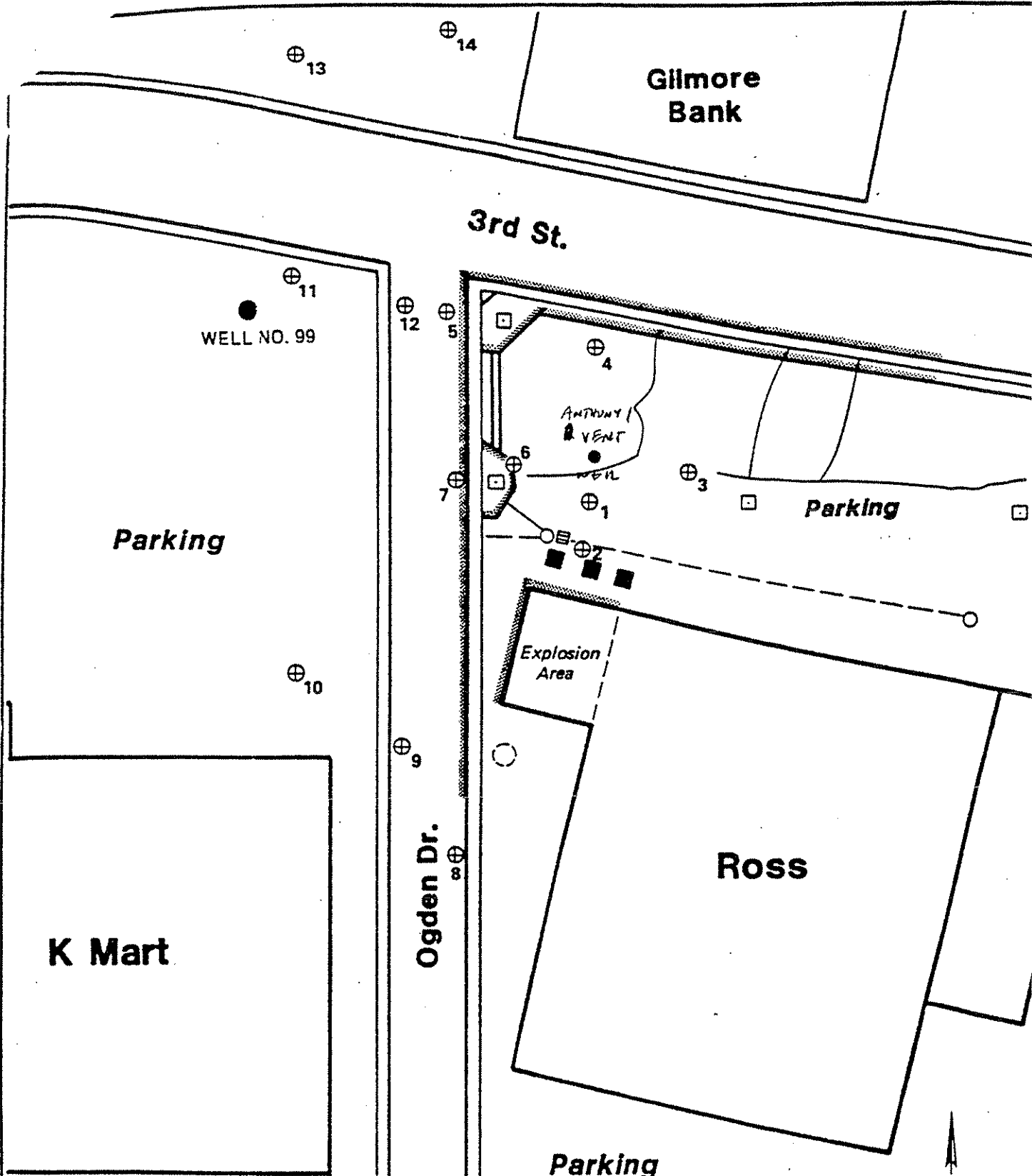
We would like to thank the management and staff of DBS, LAFD and Planning for fully cooperating with our review. If you have any questions, please contact Rushmore D. Cervantes, Chief Deputy Controller, at (213) 978-7323.

Sincerely,



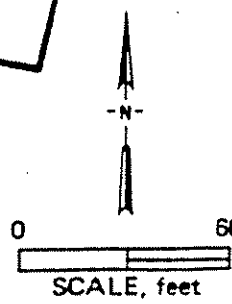
LAURA N. CHICK
City Controller

cc: Andrew A. Adelman, General Manager, Department of Building and Safety
Chief Douglas Barry, Los Angeles Fire Department
S. Gail Goldberg, General Manager, Department of City Planning



EXPLANATION

- | | | | | | |
|---|---------------------|---|------------------|---|--------------------------------|
| ● | Relief well | ⊞ | Storm drain | ○ | Shallow hole cut in asphalt |
| ⊕ | Gas monitoring well | ○ | Manhole cover | — | Cracks in pavement |
| ⊠ | Lights | — | Storm drain line | ▨ | Configuration of surface fires |
| ■ | Planter boxes | | | | |

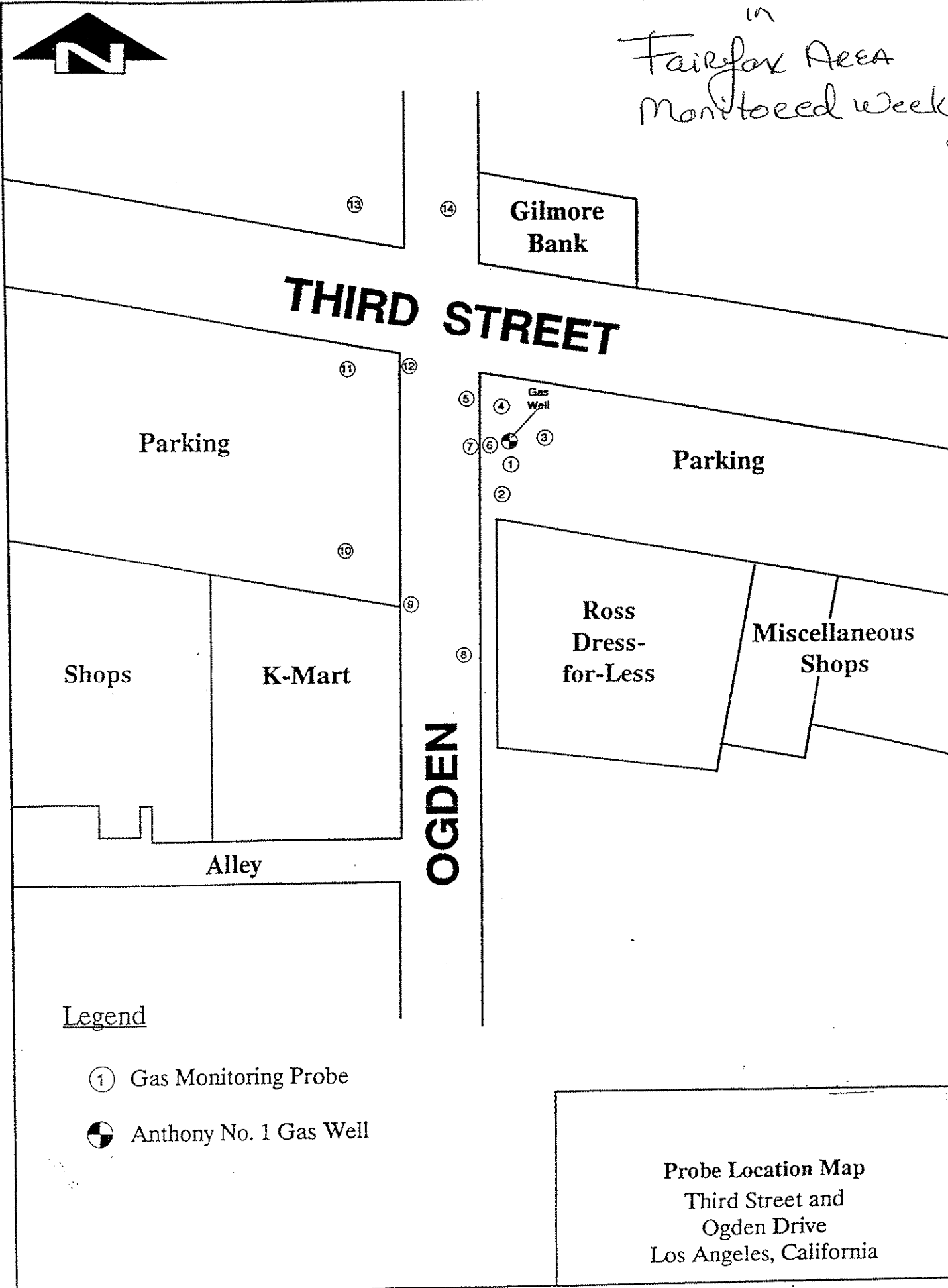


Project: FAIRFAX GAS EXPLOSION
 Project No. 41915A

SITE MAP

Fig. 1

Permanent Probes
in
Fairfax Area
Monitored week



Legend

- ① Gas Monitoring Probe
- ⊕ Anthony No. 1 Gas Well

Probe Location Map
Third Street and
Ogden Drive
Los Angeles, California

Permanent Fairfax Probes / Weekly Monitoring Data

Month of July, 1991

Gas Monitoring Probe Results										
Date	7-3-91	7-11-91	7-18-91	7-25-91		7-3-91	7-11-91	7-18-91	7-25-91	
Time	11:00	10:00	3:00	4:00		11:00	10:00	3:00	4:00	
Instrument	HPK-II	HPK-II	HPK-II	HPK-II		MAGNE-HELIC	MAGNE-HELIC	MAGNE-HELIC	MAGNE-HELIC	
Technician	RP	RP	RP	RP		RP	RP	RP	RP	
Probe	Combustible Gas Concentration % v/v (or LEL)					Gas Pressure PSI (or In. W.C.)				
1	28%	28%	26%	26%		0	0	0	0	
2	26%	28%	25%	28%		0	0	0	0	
3	22%	22%	20%	21%		0	0	0	0	
4	13%	12%	12%	13%		0	0	0	0	
5	1%	1%	1%	1%		0	0	0	0	
6	14%	16%	16%	14%		0	0	0	0	
7	12%	11%	10%	9%		0	0	0	0	
8	10%	8%	11%	11%		0	0	0	0	
9	25%	26%	26%	28%		0	0	0	0	
10	33%	29%	30%	29%		0	0	0	0	
11	67%	66%	67%	69%		+0.05"	+0.05"	+0.05"	+0.05"	
12	7%	8%	8%	8%		0	0	0	0	
13	0	0	0	0		0	0	0	0	
14	0	0	0	0		0	0	0	0	

**"Anthony No. 1" Well
Monthly Monitoring Results**

Date: 7-25-91

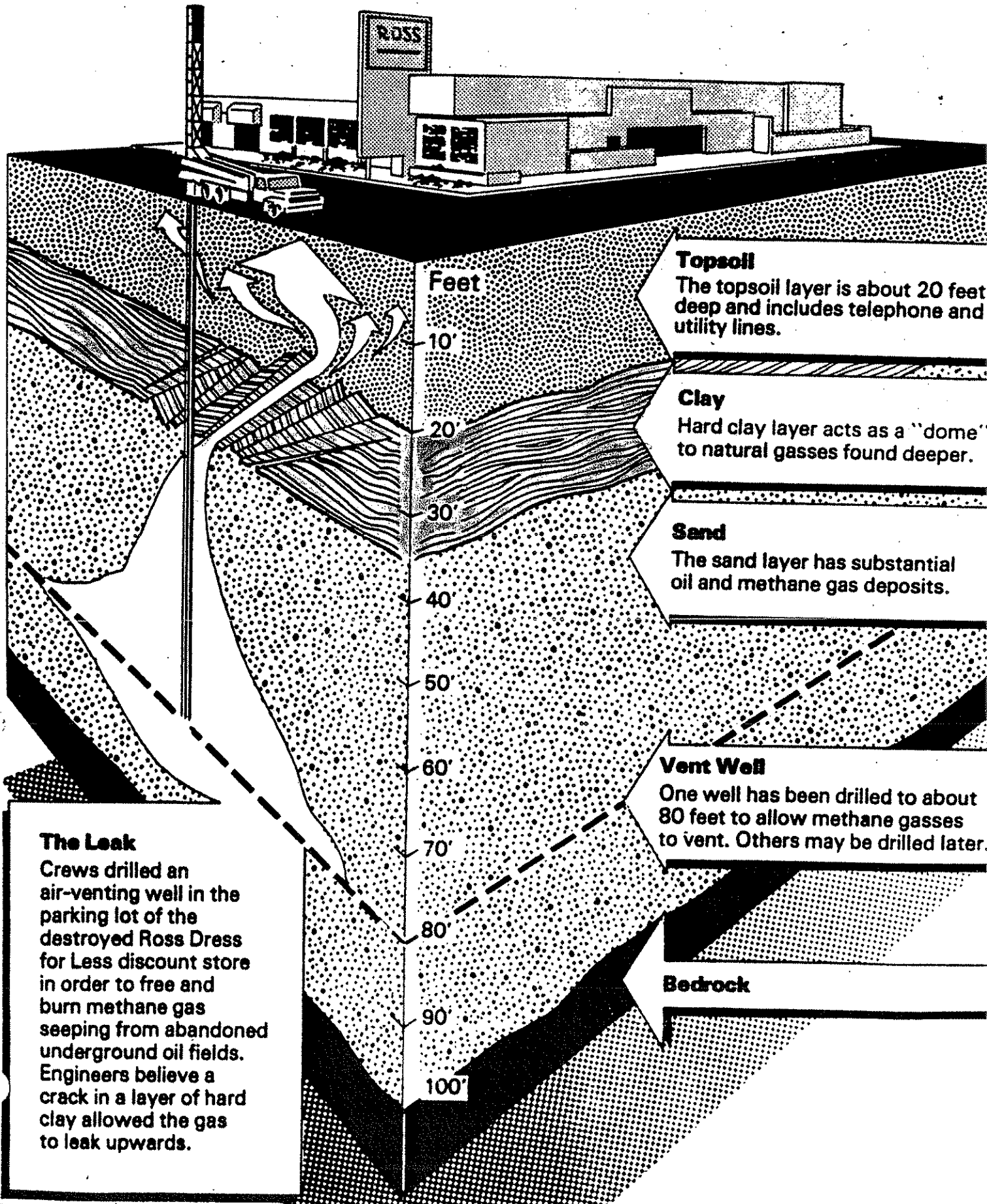
Pressure; PSI (or In. W.C.): +0.42"

CH4 Conc.; % v/v (or LEL): 0

Water Elev. Depth Feet: 22'-5.8"

Legend:
 "W" = Water
 "T" = Trace
 "X" = Lid Obstructed

VENTING THE METHANE GAS



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RICHARD E. HOLGUIN
EXECUTIVE OFFICER

WLH

January 19, 1999

Log # 26682
C.D. --

METHANE CTRL FILE - 7

Playa Capital, LLC
12555 W. Jefferson Bl
Los Angeles, CA 90066

TRACT: Rancho La Ballona (DCC 2722 CF 64)
LOT: Ramona S De Machado 341.85095 Acres
LOCATION: 13250 Jefferson Bl

<u>CURRENT REFERENCE REPORT/LETTER(S)</u>	<u>REPORT NO.</u>	<u>DATE(S) OF DOCUMENT</u>	<u>PREPARED BY</u>
Methane Report	10610-22844-110.RT.GAS	10/14/98	Camp Dresser McK.
"	"	01/13/99	"


The referenced reports concerning recommendations for mitigation of methane gas for the First Phase of the Playa Vista development have been reviewed by the Grading Section of the Department of Building and Safety. The areal limits of the First Phase are shown on Figure 2-3 of the report. Most of the area is south of Ballona Creek and northeast of Lincoln Bl.

According to the report, significant levels of methane gas were detected on the southwest portion of the subject area. The report indicates that only buildings within the area of observed high concentrations of gas are recommended for mitigation measures. It is the experience of the Department that methane gas can be highly migratory and transient. Therefore, limiting mitigation measures to the area of high gas concentrations observed during the field investigation does not appear acceptable at this time. The reports are acceptable, provided the following conditions are complied with during site development:

1. All construction in the First Phase area shall comply with section 7104.2 of the Building Code and MGD #92.
2. Based upon the information in the report, the Second Phase area will also require mitigation for methane gas.

3. The use of a membrane or sealing materials other than 60 mil HDPE will require an approved Research Report.
4. The Gas Control Specialist shall review and approve the detailed plans prior to the issuance of any permits.
5. Installation of the gas mitigation devices shall be done under the observation and inspection of the Gas Control Specialist and the Department.

DAVID HSU
Chief of Grading Section


DANA PREVOST
Engineering Geologist II

DP:dp
26682
(213) 977-6329

cc: Camp Dresser & McKee
WLA District Office

**Report
Methane Management
Recommendations
Playa Vista First Phase**

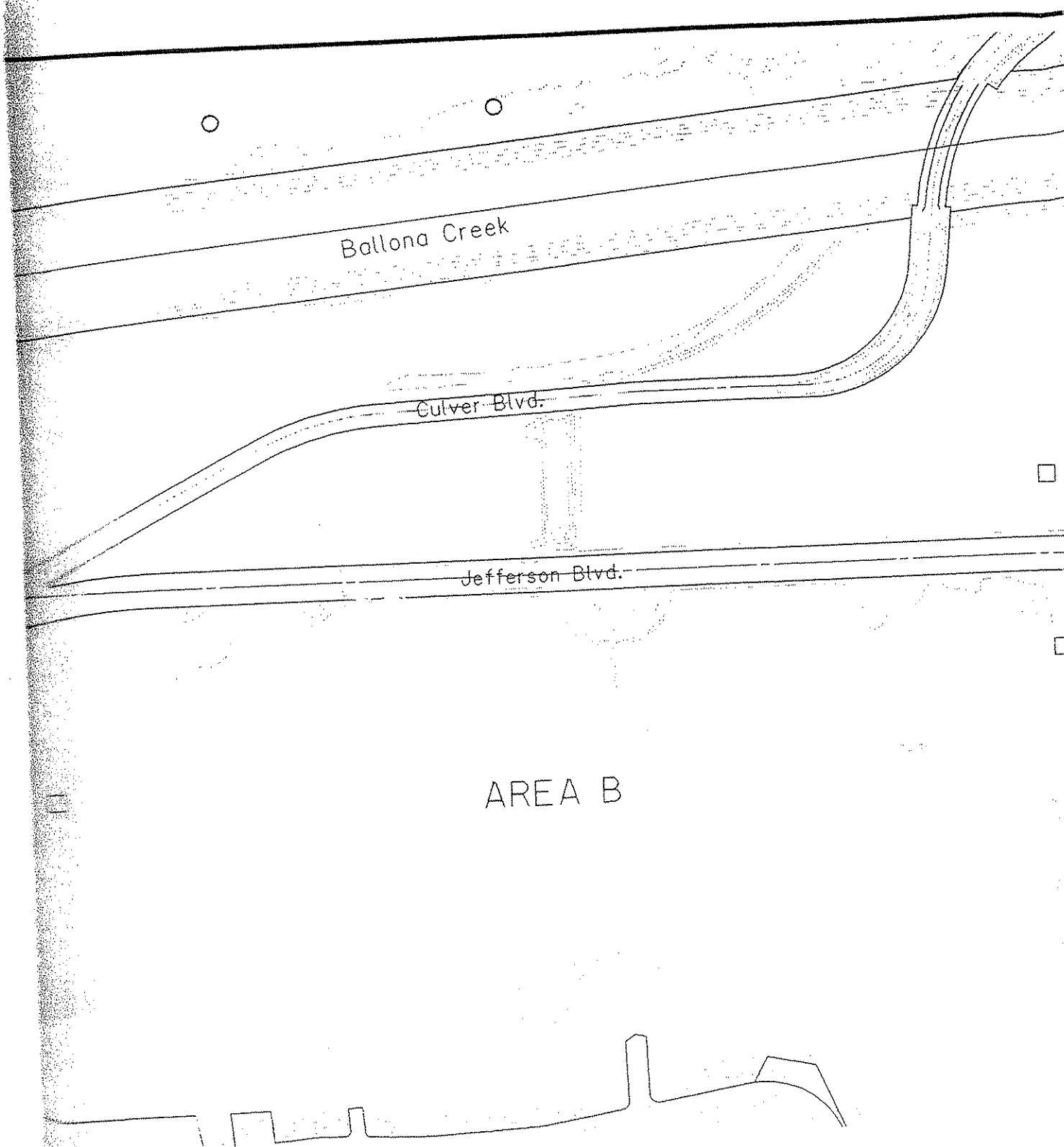
October 14, 1998

Prepared For:

Playa Capital Company, LLC
12555 West Jefferson Boulevard
Los Angeles, California 90066

Prepared By:

Camp Dresser & McKee Inc.
18881 Von Karman Avenue, Suite 650
Irvine, California 92612



Ballona Creek

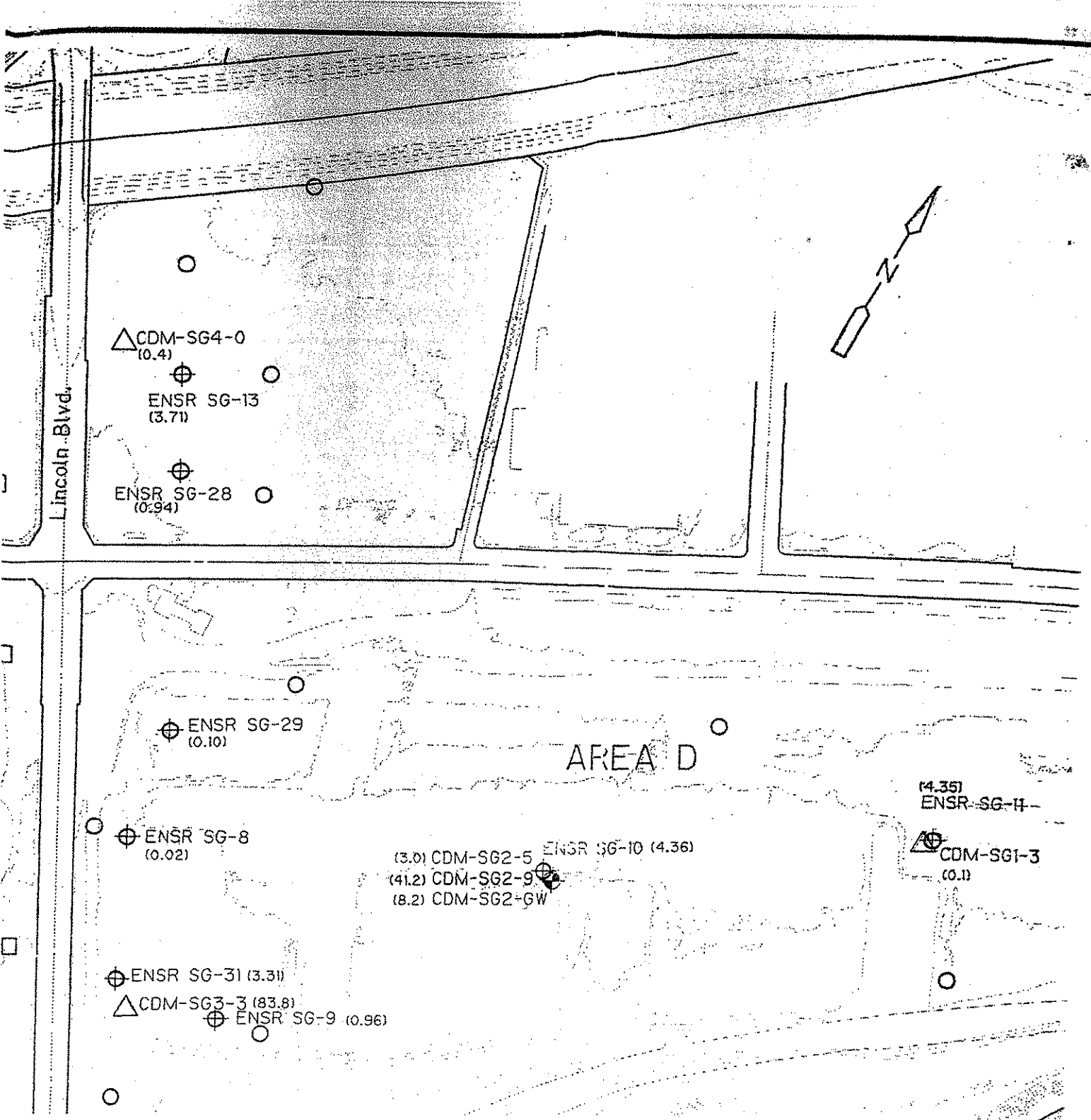
Culver Blvd.

Jefferson Blvd.

AREA B

- LEGEND:**
- ⊕ Gas and Groundwater Sample Location (CDM, 2/98)
 - Gas Sample Location (CDM, 2/98)
 - Processed Soil Gas Sample Location (CDM)

- ⊕ Soil Gas Sample Submitted for Laboratory (ENSR, July/August 1997)
- Soil Gas Sample Location (ENSR, July/August 1997)
- (1.5) Methane Concentration (percent by volume)



y Analysis
 ugust 1997)
 e)

PLAYA VISTA METHANE GAS STUDY

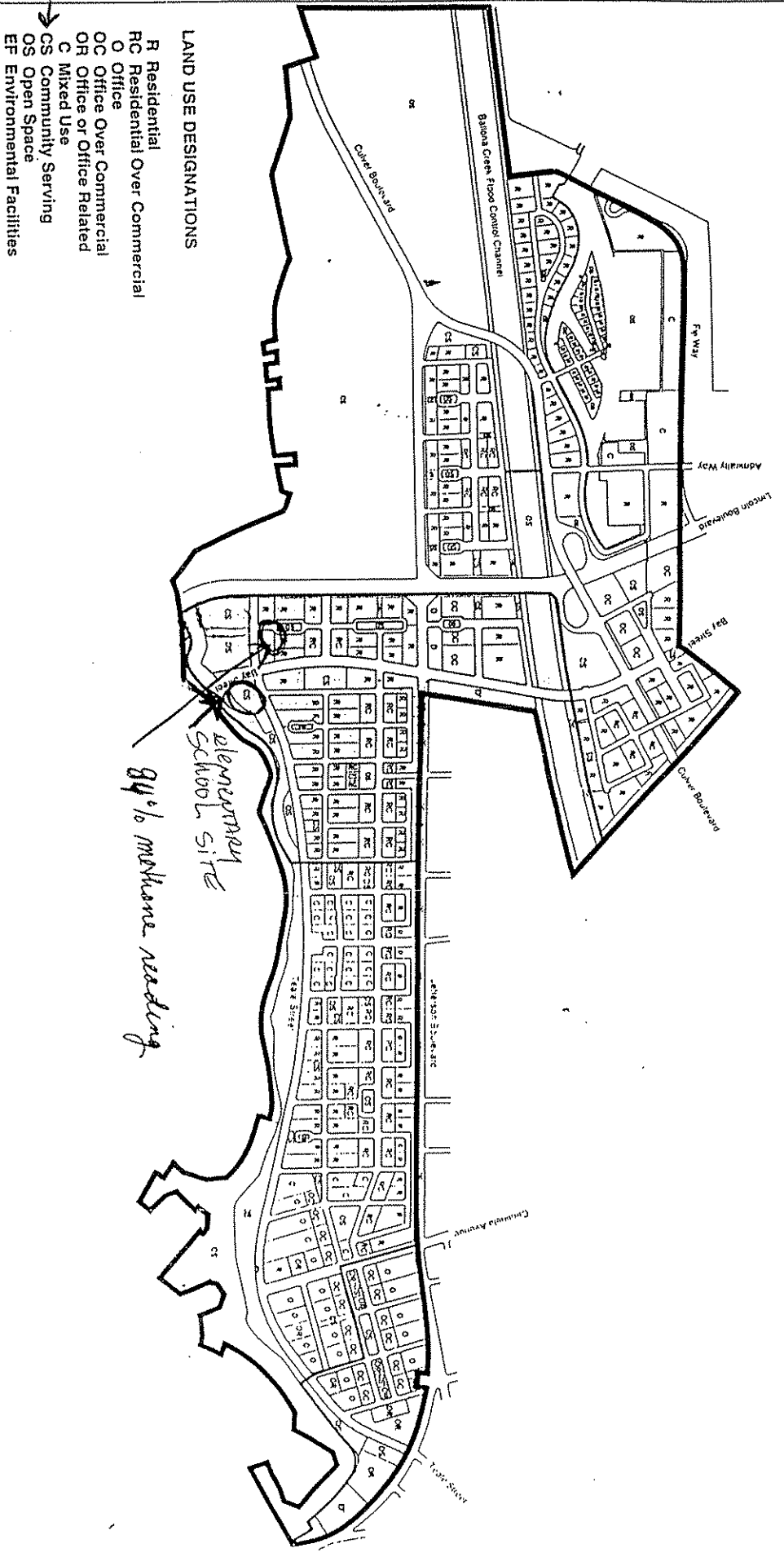
METHANE CONCENTRATION MAP
 AREA B AND WESTERN PORTION OF AREA D

Figure No. 1

Isotope ratio data for samples submitted by Camp, Dresser & McKee

Sample ID	GGCID	Methane	CO ₂	Methane
		δ ¹³ C	δ ¹³ C	δD
		‰		
CDM-SG2-GW	4306-1	-48.72	-34.03	-135
CDM-SG1-3	4306-2	-51.86	-23.92	-144
CDM-SG2-9	4306-3	-50.17	-34.31	-132
CDM-SG3-5	4306-4	-49.41	-28.89	-125
CDM-SG3-3	4306-5	-58.09	-47.60	-195
CDM-SG4	4306-6	-39.95	-31.54	-150
STANDARD				
NBS		-29.83		-119
NBS-DUP		-29.77		

[Signature]
Supervisor



LAND USE DESIGNATIONS

- R Residential
- RC Residential Over Commercial
- O Office
- OC Office Over Commercial
- OR Office or Office Related
- C Mixed Use
- CS Community Serving
- OS Open Space
- EF Environmental Facilities

Camp Dresser & McKee

Planning Consultants Research



SCALE IN FEET
 0 300 600 900

LEGEND:
 [Thick line] MASTER PLAN SITE BOUNDARY
 [Thin line] FIRST PHASE PROJECT AREA

Figure 3
 PROPOSED LAND USE PLAN FOR THE
 FIRST PHASE AND MASTER PLAN FOR PLAYA VISTA



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201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN
GENERAL MANAGER

RICHARD E. HOLGUIN
EXECUTIVE OFFICER

November 19, 1999

SOILS/GEOLOGY FILE - 2
27706-01

Playa Vista Capital Corp
12555 Jefferson Bl
Los Angeles, CA

TRACT: 49104-03
LOT: 1-5
LOCATION: 13250 W. Jefferson Bl

<u>CURRENT REFERENCE</u>	<u>REPORT</u>	<u>DATE(S) OF</u>	<u>PREPARED BY</u>
<u>REPORT/LETTER(S)</u>	<u>NO.</u>	<u>DOCUMENT</u>	
Methane Mitigation Plan(Visitor Center)		Jan. 1999	Methane Specialists
Methane Mitigation Plan(Fountain Park Apartments)		July 1999	Methane Specialists

The referenced plans concerning mitigation and monitoring systems for the visitors center and the Fountain Park Apartments of the Playa Vista project have been reviewed by the Grading Section of the Department of Building and Safety, in concept, only. The following modifications to the methane mitigation and monitoring systems to be used in construction on Playa Vista Tract 49104-03 are recommended by the Peer Reviewer. The plans shall be submitted to the Plan Check Division of the Department for the detailed plan check and issuance of the permits. The following are conditions of approval that shall be incorporated into the plans prior to issuance of any permits:

METHANE MITIGATION SYSTEM.

(1) As a minimum, the area is to be considered as a "High Potential Methane Zone". In addition to all requirements specified in Chapter 71 Methane Seepage District Regulations, and the Memorandum of General Distribution #92, all building construction shall comply with the following supplemental requirements.

(2) The methane mitigation design includes the capability, or option, of changing the passive methane mitigation system to an active methane mitigation system. The system should be converted to an active system when the level of methane reaches 25 percent of the L.E.L. in the monitoring system located under the building foundation vapor barrier.

(3) A modification of the methane mitigation system is recommended as indicated in Figure 1. A continuous gravel/clean sand mixture blanket shall be provided beneath all building slabs. This blanket shall be a minimum of 12 inches in thickness. Dewatering pipes, if any, shall be located in trenches beneath the blanket. This modification will increase the lateral permeability in the zone of the horizontal vent piping and will allow the system to operate more efficiently regardless

of the areas of shallow anomalous methane concentrations. This modification should be incorporated in all future buildings, regardless of whether the building foundation is slab-on-grade, one-level underground parking, or two-level underground parking.

METHANE MONITORING.

(1) In addition to methane monitoring probes placed above and below the 60-mil membrane, a monitoring probe should also be placed down into the two-foot gravel layer under the marketing pavilion (Figure 2). The methane monitoring system below the slab of the building and in two-foot gravel layer will detect future changes in the methane concentrations (if any) over those determined in the baseline survey. The methane monitoring system is to be installed in both the Marketing Pavilion and the Fountain Park Apartments. Both the probes for methane monitoring and the sensors for methane detection should have the capability of being replaced should they become corroded.

Exhaust systems in the underground parking garages, which will underlie the majority of the buildings in the Playa Vista development, will provide a final safety factor above that of the revised methane mitigation system, with regard to methane gas hazards.

(2) A network of permanent monitoring wells, completed in the 50-foot gravel aquifer, will provide continuous monitoring of free methane gas concentrations in the 50-foot gravel aquifer and detection of any changes should they occur.

(3) Design criteria must be provided for a monitoring system that will include continuous measurement of methane gas.

DAVID HSU
Chief of Grading Section



DANA PREVOST
Engineering Geologist II

DP:dp
27706-01
(213) 977-6329

cc: Methane Specialists
WLA District Office

RECEIVED
11/1/04

44 (I2) A-3

Exploration Technologies, Inc.

3698 Westchase Dr. • Houston, Texas 77042 • (713) 785-0393 • FAX (713) 785-1550

May 31, 2000

Mr. David Hsu
Chief, Grading Section
City of Los Angeles
Dept. of Building and Safety
201 North Figueroa Street
Los Angeles, CA 90012-2827

Dear David:

Exploration Technologies, Inc. (ETI) prepared an assessment report (*Subsurface Geochemical Assessment of Methane Gas Occurrences, Playa Vista Development, First Phase Project, Los Angeles, California*) for the City of Los Angeles, Department of Building and Safety (LADBS) on April 17, 2000. Since the issuance of this report, various groups and individuals have misinterpreted and/or misquoted the report and/or the purpose of the study performed by ETI addressed in the report. The purpose of this letter is to review ETI's role in this project from the onset and to attempt to clarify some of these misinterpretations.

ETI was originally retained in May 1999 by LADBS and Playa Capital to serve as "Peer Reviewer" regarding subsurface methane gas issues in the proposed Playa Vista Development in Los Angeles, California. The initial scope of work was to review and comment on previous studies/reports concerning methane at the Playa Vista Development (PVD). Following the review of the available data, it was readily apparent that previous studies were not adequate, nor thorough enough to assess the methane gas issue at the PVD due to limited sampling and analyses. At this point in time, ETI's role in the project changed from Peer Reviewer to "Consulting Expert" for the LADBS regarding the methane issue in the study area.

As consulting experts, ETI's staff was instrumental in recommending, designing, interpreting and reporting on the assessment activities conducted between October 1999 to April 2000. This more thorough assessment directed and supervised by ETI was successful in determining the nature, magnitude and distribution of methane gas in near surface soils, as well as in the 50-foot gravel aquifer located beneath the site. The opinions, conclusions, and recommendations included in ETI's report were based upon the data/results obtained during the assessment, and the information supplied to ETI by the LADBS.

A summary of ETI's conclusions included in the report are as follows:

- 1) The chemical compositions (mainly the presence of ethane, propane and butanes), in addition to the stable carbon isotopes of the methane and ethane, indicate the gases beneath the PVD are thermogenic in origin.

CCFSUP0001739

CCFSUP0001739

VLG0035219

- 2) This thermogenic gas appears to be migrating to the surface via natural subsurface pathways (fractures, joints and/or a fault). Extremely large magnitude anomalies, ranging from 40% to 90% methane were observed at a depth of only four feet.
- 3) Monitor wells installed in the 50-foot gravel aquifer were also found to be charged with the same thermogenic gases, having identical compositions to those observed in the shallow soil gas anomalies.
- 4) Both the shallow soil gases and deeper gases in the 50-foot gravel aquifer exhibit significantly high north-south trending methane concentrations that strongly suggest a fault (or fracture zone) along which the methane migrates to the surface.
- 5) Evaluation of the available well data base suggests that the source of the thermogenic gases is most likely the shallow sands within the Pico Formation.
- 6) Regional and local tectonics suggests that the linear leakage pattern exhibited by the thermogenic gases can best be explained by a fault (proposed Lincoln Boulevard Fault).
- 7) Near-surface soil gas data show an area of background concentrations of methane separating the gas storage facility from the elevated methane concentrations mapped on the site. No link between the facility and the site has been identified to date.
- 8) Data available on the Vidor #12 gas storage well indicates the isotopic compositions of gases are very different from those present in the study area. If these data are correct, the gas storage field cannot be the source of the near-surface gas anomalies on the site.

In addition to the geochemical and geological work performed by ETI, and summarized above, we were asked to present recommendations regarding methane mitigation in the PVD. Again, we feel that our recommendations have been misinterpreted and misquoted by various people. The safest approach would be to avoid building in this area; however, it is possible to build if it can be demonstrated that the methane is properly mitigated.

The following are concerns we have regarding the proposed methane mitigation:

- 1) We are not convinced that a passive methane mitigation system beneath the foundation of the proposed buildings is sufficient.
- 2) Due to the presence of extremely high methane concentrations in the area, continuous gas monitoring is mandatory, even with a methane mitigation system.
- 3) Unless methane concentrations beneath the methane barrier (below building foundations) can be demonstrated to be below the explosive limit, the passive mitigation systems must be converted to active systems.

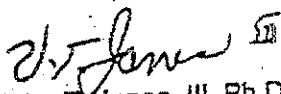
Mr. David Hsu
May 31, 2000
Page 3

- 4) Due to the extremely high concentrations of methane contained in the 50-foot gravel aquifer (and migrating into the shallow subsurface soils), we believe the 50-foot aquifer also requires a mitigation system or systems.
- 5) The pump and treat system proposed in our report was one possible mitigation system that we believe is feasible. However, pilot tests (pumping tests) and subsequent monitoring of the methane concentrations are necessary to determine if this mitigation technique (or equivalent) will be effective.
- 6) The purpose of the mitigation testing (pumping wells and observation wells) was to determine the radius of influence of pump and treat wells; the number of wells required to effectively mitigate the methane, and to determine if this type of system will solve the problem.

If the pump and treat or equivalent methane mitigation system is not effective or if Playa Capital does not install an appropriate mitigation system in the 50-foot gravel, ETI believes that the development of the area should not proceed. Without the proper mitigation of the methane present, a dangerous situation exists at the site. No further development should be allowed on this site until these mitigation issues are resolved.

If you have any questions or require additional information, please contact me.

Sincerely,
Exploration Technologies, Inc.


Victor T. Jones, III, Ph.D.
Peer Reviewer for LADBS
President, Exploration Technologies, Inc.

R:\ENR\2000\Projects\Hsu\Hsu-May-31-2000

CCFSUP0001741

VLG0035221

PLATA VISTA RISK ANALYSIS TASK FORCE
 Summary of the June 9, 2000 Meeting and Additional Questions

Three Categories of Analysis:

- Structural Safety Assessment
- Health Safety Assessment
- Earthquake Risk Assessment

Structural Safety Assessment:

- Drilling east of Lincoln is complete.
- Additional drilling is required west of Lincoln to determine whether the source of the gas contamination is the Gas Company reservoir.
- B&S stated that the source of the contamination is important because, if it is the reservoir, the gas is under much more pressure, and the design of the mitigation measures must take that into account.
- By Friday, June 16th, B&S, working in cooperation with BOE, will be prepared to present to the task force a drilling plan for the area west of Lincoln.
- By Friday, June 16th, B&S will present to CLA a detailed request for information from the Gas Company. The CLA will take the lead in securing this information from the Gas Company.
- The results of the additional drilling, along with the information from the Gas Company, will allow for a determination as to whether the reservoir is, in fact, the source of the contamination.
- "Pump-and-treat" testing will also occur as it is a mitigation measure which has already been identified, and its success may impact other mitigation measures.
- A "pump-and-treat" system is currently employed at the old Hughes Aircraft site at the eastern edge of the development. By June 16th, BOE will obtain the details on the system (from the RWQCBT) so that its applicability to the remaining property can be determined.
- According to the technical experts at the meeting, the above is a comprehensive list of the additional information required in order to make a final determination as to the extent and source of the contamination.

Health Risk Assessment:

- No additional drilling is required. The information obtained from the prior drilling is sufficient.
- The health risk assessment will require testing of the above-ground gases.
- By Friday, June 16th, Planning (Dan Howen) will contact the consultant that worked for the LAUSD on the Belmont project to ensure that the appropriate state and/or federal regulatory agencies are involved in the process.
- The City's industrial hygienist will consult with the task force on the Health Risk

EXHIBIT 37

June 30, 2000

Mr. David Hsu
Chief, Grading Section
City of Los Angeles
Dept. of Building and Safety
211 North Figueroa Street
Los Angeles, CA 90012-2827

Dear David:

In our response to your letter of June 9, 2000 asking for our opinion regarding the further issuance of permits and continuance of work for the Playa Vista projects (attached), our response to question two contained the following phrase "Without proper mitigation of methane existing in the 50-foot gravel aquifer, a dangerous situation exists at the site". The dangerous situation we refer to in this case is the long term danger to the buildings created by explosive levels of methane, which will be concentrated under the building slabs without mitigation of the gas in the 50-foot gravel aquifer. We do not believe that a passive methane mitigation system, protected by a "Liquid Boot" membrane beneath the foundation of the proposed Fountain Park Apartments will be sufficient to insure the safety of the project.

In addition, there is some potential for toxic gases (H₂S and BTEX) to be carried to the surface and also concentrated under the buildings slabs. Mitigation of the methane within the 50-foot gravel aquifer would prevent this buildup. We suggest that no new permits be issued for the Fountain Park Apartments until such time that the feasibility of mitigating the 50-foot gravel aquifer has been established.

We should also point out that the gas flux stimulated by construction activities (i.e. gravel columns, pilings and excavations may lead to hazardous conditions to construction workers. We assume the city has required ambient air monitoring by Playa Vista to insure against this possibility. Provided that adequate safety measures and safeguards are applied by Playa Vista's work teams, then we see no reason for the city to stop work being conducted under existing permits.

If you have any questions or require additional information, please contact me.

Sincerely,
EXPLORATION TECHNOLOGIES, INC.

Victor T. Jones, III, Ph.D.
Peer Reviewer for LADBS
President, Exploration Technologies, Inc.

EXPLORATION TECHNOLOGIES, INC.

CD ROM EXHIBIT 40

13JA 3476

Report to
City of Los Angeles
Department of Building and Safety
201 North Figueroa Street
Los Angeles, CA 90012-2827

on

Playa Vista Development
Playa Vista, California

**Comparison of Gas Analyses from
Southern California Gas Company
Injection and Observation Wells with
Soil Gas and Groundwater Gas from 50ft Gravel Aquifer**

by

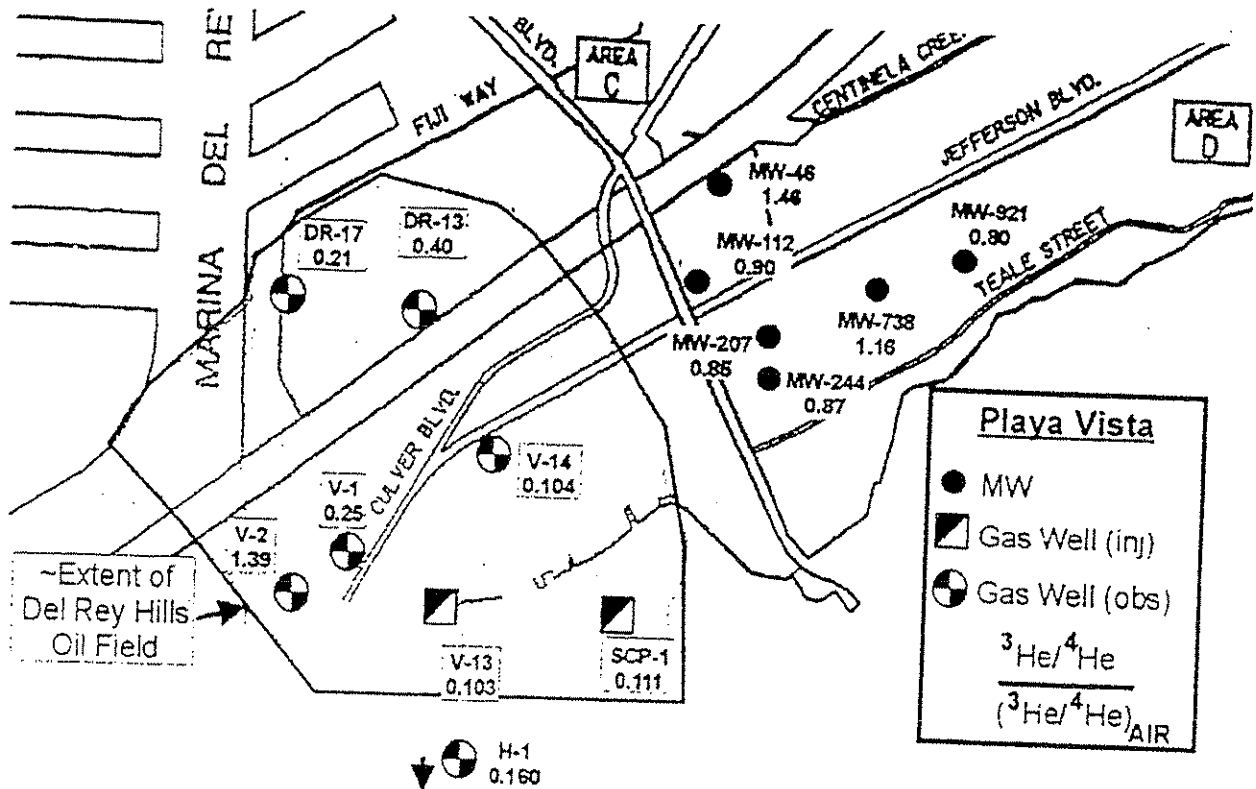
Isaac R. Kaplan
ZymaX forensics, Inc.
16921 Parthenia Street, Suite 201
North Hills, CA 91343

Robert Poreda
Department of Earth and Environmental Sciences
University of Rochester
Rochester, NY 14627

January 29, 2001

Figure 7

A site map of the Playa Vista site showing the locations and helium isotope ratios of the injection (half-filled squares) and observation gas (half-filled circles) wells, and monitoring wells (solid circles).



17

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201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN
GENERAL MANAGER

WALTER R. KRUKOW
EXECUTIVE OFFICER

January 31, 2001

ATTACHMENT 11

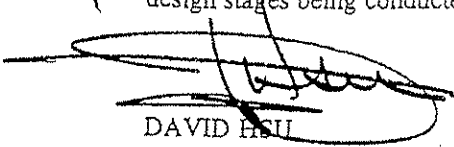
Mr. David Nelson
Senior Vice President
Playa Capital Company
12555 West Jefferson Boulevard, #300
Los Angeles, California 90066

<u>CURRENT REFERENCE</u> <u>REPORT/LETTERS</u>	<u>REPORT</u> <u>NO.</u>	<u>DATES(S) OF</u> <u>DOCUMENT</u>	<u>PREPARED BY</u>
Review Letter	-	1/31/01	ETI
Methane Report	-	1/30/01	Methane Specialists

The referenced review letter and methane report concerning an evaluation of the methane found at the Playa Vista site soil have been received by the Grading Section of the Department of Building and Safety. The purpose of the methane report was to provide recommendations for methane mitigation and monitoring at the Playa Vista site. The conclusions and data of the report were reviewed by the Peer Reviewer, Exploration Technologies Inc., who concluded that the proposed systems meet their recommendations, provided that the systems meet or exceed all detailed specifications as required by LADBS.

LADBS reviewed and agrees with ETI's conclusion that the proposed methane prevention, detection and monitoring systems for the Playa Vista project are adequate for safe development.

Further, LADBS agrees with ETI's position that "Building in Level III areas is contingent upon a functional subsurface venting system...." This subsurface venting system is currently in the progressive research and design stages being conducted by Playa Capital consultants in consultation with ETI.


DAVID HEU
Chief of Grading Section

(213) 977-6329

cc: Exploration Technologies, Inc.
Methane Specialists

From:

To: Hsu, Dave at City of Los Angeles

Subject: Response to May 22nd, 2001 letter to David Nelson from CDM regarding Product 300/1250

Date: 11:29 AM - 6/4/2001

David:

My comments regarding this letter are as follows:

Item 6: LADBS Comment (Request for) Additional soil gas survey at 50-foot centers.

We disagree with CDM, a 50-foot soil gas survey will provide significant very useful information and should be required before issuing any building or grading permits for this block. An EPA flux chamber survey should follow the soil gas (at the same, or higher density) and should use the soil gas results to guide the placement of the flux chambers. Although CDM claimed to have used the soil gas as a guide to the placement of the flux chambers, it is clear that they were placed with no regard to where the previous soil gas survey anomalies were located. A low density of flux chamber measurements are essentially worthless within an area where there exists "advective flow" gas seepage. Walter Merschat noted that there were bubbling seeps in this block. Both Gary Robbins and Victor Jones also witnessed these seeps, although CDM failed to note their existence.

Item 7: LADBS Comment: Based on the soil gas results, perform additional surface flux measurements with a similar density utilized for Product 200.

Previous flux chamber surveys over blocks 600, 800 and 200 were conducted using 50-grid centers. We do not understand why this spacing was not used for Product 300/1250. Even with 50-foot centers, one would not be able to conclude that "advective flow" seeps are not present. As noted above, the flux survey conducted over this block did not use, or even attempt to use the previous soil gas survey as a guide to the placement of the flux chamber locations. The initial soil gas seeps measured at sites 761 and 762 were 2.3 and 1.7% methane, both with significant ethane (868 and 879 ppmv). No attempt was made to place flux chambers at these two very significant soil gas sites.

There is no report on the ambient air screening technique that was stated to have been completed, and there was no reference to this screening survey in the previous report issued on May 19th, 2001 regarding this block. Properly conducting such a screening survey is very difficult to properly carry out with real, and correct results, much as with soil gas surveys. Sampling three inches off the ground with a screening instrument will only find very large gas fluxes, and then not consistently. CDM attempted to use this method in December of 1999 over the Product 700 block to locate the active "advective flow" seeps that have been visually observed and monitored over the past several months. CDM was unable to find any seeps with this method within Product 700.

Item 8: LADBS Comment: The reports are ambiguous with regard ... design of the wells.

We would agree with CDM that long-term vent wells should not be required, since no venting locations could be defined by their six penetration tests (TVW 116 to 121). However, it should be noted that the failure to find locations where gas could be vented from the Ballona gravels has no significant as to whether there are gas seeps on this block. Very little gas could be vented, even from the Product 700 block, which contains numerous macroseeps.

10.a

SAFETY AND LIABILITY CONCERNS REGARDING THE PLAYA VISTA METHANE PREVENTION, DETECTION AND MONITORING PROGRAM.

SAFETY PERSPECTIVE -- Regarding background of expertise, including lack of expertise, of entities other than Sepich Associates/Methane Specialists cited in some LA City documents as preparers of the PLAYA VISTA METHANE PREVENTION, DETECTION AND MONITORING PROGRAM (PVMPDMP).

As stated in the 1/31/03 Grassroots Coalition letter to Mr. Cooley, District Attorney for the County of Los Angeles, Mr. John Sepich, President of Sepich Associates/Methane Specialists, states that the PVMPDMP is "erroneously attributed to me" (Sepich Associates/Methane Specialists letter to LADBS April 14, 2001). This erroneous attribution was incorporated into the CLA Report, resulting in the approval and issuance of tax-free bonds for Playa Vista Phase 1.

The City of Los Angeles (LADBS) cites in other documents that "preparation" of the PVMPDMP was done with "Playa Vista in conjunction with Camp Dresser and McKee, Inc., Exploration Technologies Inc. and the Department."

It is important to note that the entities listed as additional preparers do NOT have expertise in methane mitigation techniques. Please see the attached documents that reveal that:

1. Exploration Technologies Inc. (ETI) does not have expertise in gas mitigation. One of multiple documents that reveal this is a letter from Councilwoman Ruth Galanter acknowledging that ETI does not have such expertise.
2. Camp Dresser and McKee, Inc. (CDM), according to Mr. Sepich (phone conversation Feb. 12, 2002 with Mr. Sepich) stated that they were not involved with the preparation of the PVMPDMP.

In addition, CDM was found by the City's "peer reviewer", ETI, to have improperly performed soil gas studies at the Playa Vista site; therefore, CDM's knowledge and/or performance regarding oilfield gas issues is highly questionable. ETI's methodology was subsequently utilized to perform the preliminary soil gas sampling. To date, CDM has not established itself as having any expertise in oilfield gas mitigation.

3. The City does not have the expertise with which to design gas mitigation systems.

see Councilwoman Galanter's letter)

The City's code requires a certified methane engineer of record to approve the safety system. Mr. Sepich's name was used by the City to approve the Playa Vista Methane Prevention + D + M P. However, Mr. Sepich's notes on the following date show his name used improperly.

Grassroots Coalition

For Full Disclosure of Public Health and Safety Issues

11924 W. Washington Boulevard • Los Angeles, CA 90066 • 310 636-3506 • Fax 310 636-3501 • www.saveballona.org

Jan. 31, 2003

TO: Steve Cooley, District Attorney, Los Angeles County
Public Integrity Division
320 West Temple Street
Los Angeles, CA 90012
Fax 213 974 1484 —

FROM: Grassroots Coalition, Patricia McPherson, President
3749 Greenwood Ave.
Los Angeles, CA. 90066
310 397 5779

RE: Request for your review of the attached documents indicating potential City of Los Angeles fraud.

Dear Mr. Cooley,

In order to continue development at the Playa Vista site, in Los Angeles, the Chief Legislative Analyst's Office (CLA) conducted a study, (CLA Report) regarding the newly discovered oilfield gas contamination at the site. As a result and, included in the publicly released CLA Report, was a mitigation system for the potentially hazardous oilfield gases. The mitigation system is called the Playa Vista Methane Prevention and Detection and Monitoring Program (PVMPDAMP).

The City Council of Los Angeles was presented the CLA Report, which included the PVMPDAMP, in order to approve the CLA Report which allowed for continuing development at Playa Vista.

I recently found and copied the attached documents, within the LA Building & Safety Department's microfiched documents, which reveal that the PVMPDAMP was erroneously attributed to the company Methane Specialists and John Sepich, its president. According to the documents I am providing to you, the City was aware of this error and yet put out the unchanged CLA Report to the LA City Council, for its approval, and provided the unchanged CLA Report to the investors and the public.

Sepich states in his letter to LADBS, April 14, 2001 that, "The City has erroneously attributed to me the so-called Playa Vista Methane Prevention Detection and Monitoring Program (PVMPDAMP)" "I request that your Department never again attribute the PVMPDAMP document to me." Sepich also states that the incorrect use of himself and his company was because, "Mr. Nelson* said that the Department wanted me, as the methane engineer of record

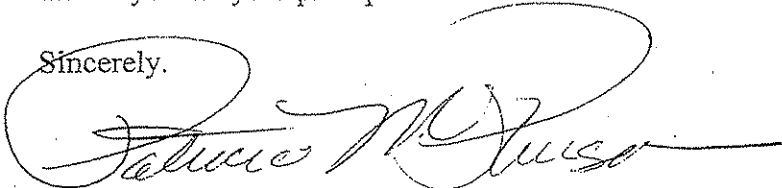
for several Playa Vista projects, to concur that his PVMPDAMP measures would result in a **safe** project.”

*(I believe the reference to Mr. Nelson is Mr. Nelson, Senior Vice President of Playa Capital. Playa Capital is the consortium of companies that are the developers of the Playa Vista project)

Mr. Cooley, I believe this is a very serious matter. This is a very complicated and dangerous gas seepage site. **The legal responsibility for this system is not who the City is saying it is. Methane Specialists and/or John Sepich have specifically stated in their correspondence to the City that they are taking no responsibility for this system (or its failure). Many investors, home buyers, apartment owners & tenants, as well as the federal and state government who have approved tax free bonds for construction, are depending on a correct legal responsibility upon which to base their decisions.**

Thank you for your prompt attention to these matters.

Sincerely,

A handwritten signature in cursive script, appearing to read "Patricia McPherson", written over a circular scribble.

Patricia McPherson, President

Enclosures: LADBS File Documents on PVMPDAMP (Includes Sepich's cover letter and EXHIBITS)
CLA Report Documents on PVMPDAMP



SEPICH ASSOCIATES
METHANE SPECIALISTS
located in the walnut adobe
-680 WALNUT ST, MOORPARK, CA 93021

TEL (818) 707-3036
(805) 552-0000
FAX (818) 707-3012
(805) 552-0001

April 14, 2001

City of Los Angeles
Department of Building and Safety
Grading Engineering Section
201 North Figueroa Street, 3rd Floor
Los Angeles, CA 90012

Attention: Director of Building Department
Mr. Andrew Adelman

Dear Mr. Adelman,

The City has erroneously attributed to me the so called Playa Vista Methane Prevention Detection and Monitoring Program (PVMPDAMP).

In January, Messrs. George Mhlsten of Latham & Watkins and David Nelson of Playa Vista presented me with the "PVMPDAMP" document. My enclosed transmittal letter to the City states my understanding from Messrs. Nelson and Mhlsten that the document was -- and I quote -- "prepared by Playa Vista in conjunction with Camp Dresser and McKee, Inc, Exploration Technologies Inc. and the Department."

Mr. Nelson said that the Department wanted me, as the methane engineer of record for several Playa Vista projects, to concur that his PVMPDAMP measures would result in a safe project. I clearly stated that the measures exceed City code; that they exceed standard engineering practice; and that they provide an extraordinary level of protection. You may translate that as Overkill-Plus-Plus.

Personally, I believe projects should be designed based upon the actual level of risk. My very strongly held professional opinion remains that existing City codes are more than adequate to protect all development at Playa Vista and almost everywhere else.

I understand that additional mitigation measures have been incorporated into the project. But I request that your Department never again attribute the PVMPDAMP document to me. Thank you for your prompt attention.

Sincerely, Methane Specialists

John Sepich, President

cc: G. Mhlsten, fax (213) 891-8763
D. Nelson, fax (310) 691-0039



SEPICH ASSOCIATES
METHANE SPECIALISTS
located in the walnut adobe
680 WALNUT ST. MOORPARK, CA 93021

TEL (818) 707-3036
(805) 552-0000
FAX (818) 707-3012
(805) 552-0001

January 30, 2001

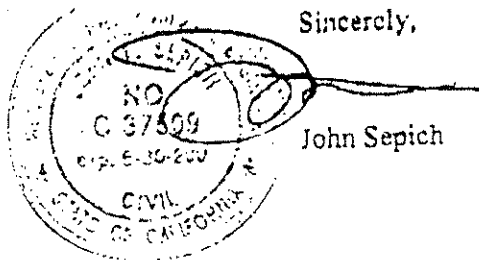
Mr. David Hsu
Chief Grading Section
City of Los Angeles
Dept. of Building & Safety
201 N. Figueroa Street, 3rd Floor
Los Angeles, CA 90012

Dear Mr. Hsu:

Attached is the Playa Vista Methane Prevention, Detection and Monitoring Program, prepared by Playa Vista in conjunction with Camp Dresser and McKee, Inc., Exploration Technologies Inc. and the Department.

The measures outlined in the Program exceed the Los Angeles Building Code, Division 71 (sections 91.7101 et seq.), Methane Seepage District Regulations and exceed current engineer practices for methane conditions. The Program provides an extra-ordinary level of protection for occupants of the Playa Vista project.

Sincerely,


John Sepich

NO. C 37509
exp. 6-30-2001
CIVIL
STATE OF CALIFORNIA

CIVIL ENGINEERS / SANITARY, ENVIRONMENTAL, WASTE AND GAS CONTROL

EXHIBIT 1

CITY INVESTIGATION OF POTENTIAL ISSUES OF
CONCERN FOR COMMUNITY FACILITIES DISTRICT
NO. 4 PLAYA VISTA DEVELOPMENT PROJECT

See inside

Prepared by
City of Los Angeles
Office of the Chief Legislative Analyst

March, 2001

EXHIBIT 2.1

at the Playa Vista Development Project site has yielded a data set that is more consistent with specification provided by the LADBS in the Los Angeles Memorandum of General Distribution No. 92; 2) consistent with the Di recommendations for oil well replugging and abandonment; and 3) recommendations of Sepich and Associates 1999 report, would be considered adequate for the Playa Vista Development site.

Kleinfelder

Kleinfelder concludes that methane mitigation systems are required for the Playa Vista Development Project site (Kleinfelder, February 7, 2001 (b)). Kleinfelder indicates that the mitigation systems are consistent with specification provided by the LADBS in the Los Angeles Memorandum of General Distribution No. 92; 2) consistent with the Di recommendations for oil well replugging and abandonment; and 3) recommendations of Sepich and Associates 1999 report, would be considered adequate for the Playa Vista Development site.

Sepich Associates

NOT TRUE - SEPICH NEVER WROTE THIS REPORT

Sepich Associates Methane Specialists recommends a methane mitigation system, based upon methane levels present, to prevent, detect, and monitor the presence of methane (Sepich Associates Methane Specialists, January 30, 2001). The Sepich Associates report identifies three different levels of methane concentrations and associated mitigation levels for the project site: Level I, less than 100 parts per million of volume (ppmv); Level II, 100 and 12,500 ppmv, and; Level III above 12,500 ppmv. All three levels would require a basic mitigation prevention system below the building, including a 12-inch gravel blanket, with pipes to ventilate gas from underneath the impermeable membrane, and methane detection alarm systems within the building. For Levels II and III, automatic ventilation systems triggered by elevated methane concentration levels beneath the impermeable membrane and continuous monitoring systems would also be required. Additionally, Level III would require a subsurface venting system consisting of vent pipes drilled into the 50-foot gravel aquifer to extract methane gas, thereby alleviating the accumulation of methane within the aquifer and below the ground surface and also reducing the surface emissions of methane.

Camp Dresser & McKee Inc. (CDM)

CDM implemented a pilot program for the subsurface methane venting system. More than 70 temporary vent wells were installed at the site to detect the feasibility and effectiveness of venting subsurface accumulations of methane in Level III mitigation areas. The program illustrated that subsurface methane can be vented. A permanent subsurface venting system is currently in progressive design that will establish criteria for determining the exact number, appropriate location, and engineering design of the subsurface wells (LADBS, February 28, 2001 (Appendix B)).

EXHIBIT 2.2

H

Exploration Technologies, Inc. (ETI), Jones III, Victor T and Robbins, Gary A., January 31, 2001 (b), correspondence re: Playa Del Rey Gas Storage Field and Lincoln Blvd. Fault, to David Hsu, Chief, City of Los Angeles, Department of Building and Safety, Grading Engineering Section

Geomatrix Consultant Inc., July 25, 2000, Evaluation of Potential Public Health Impacts Associated with the Presence of Potentially Toxic Compounds in Soil Gas at Playa Vista, prepared by for Playa Vista Capital.

Integrated Environmental Services, Inc., February, 2000, Health Based Goals Playa Vista Los Angeles, California, prepared for Playa Capital Company

Kleinfelder, February 7, 2001(a), Human Health Risk Assessment Playa Vista Development Los Angeles California, prepared for the City of Los Angeles

Kleinfelder, February 7, 2001(b), Methane Sampling Data Assessment Playa Vista Development Los Angeles California, prepared for the City of Los Angeles

Sepich Associates Methane Specialists, January 30, 2001, Playa Vista Methane Prevention, Detection and Monitoring Program, prepared for Playa Vista

Zymax Forensics, September 21, 2000, Comparison of Gas Analyses from Southern California Gas Company Injection Wells and from the Various Observations (Reservoirs Storage) Wells, prepared for Playa Capital Company

NOT
SEPLCH'S
REPORT

EXHIBIT 2.3

BOARD OF
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RICHARD J. RORDAN
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
251 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN
GENERAL MANAGER

TOM WHELAN
EXECUTIVE OFFICER

March 9, 2001

Playa Capital Co.
12555 W. Jefferson Bl
Los Angeles, CA 90066

TRACT: 49104-01
LOT: 28-30
LOCATION: 13075 Pacific Promenade (PRODUCT #200)

CURRENT REFERENCE REPORT/LETTER(S)	REPORT NO.	DATE(S) OF DOCUMENT	PREPARED BY
Methane Report	-	03/08/01	Sepich Assoc.
Methane Report	-	03/08/01	CDM

NOT TRUE - NOT
SEPICH'S REPORT

reference

The referenced reports concerning proposed methane mitigation measures for Playa Vista Product 200, a multi-story condominium building, have been received by the Grading Section of the Department of Building and Safety. The subject property is located in a Level III gas mitigation area, as defined in the Playa Vista Methane Prevention, Detection and Monitoring Program, that was presented in a report prepared by Sepich Associates, dated January 30, 2001.

The report indicates that Sepich Associates (SA) has reviewed and concurs with the methane reports dated 03/08/01 by CDM and accept responsibility for use of the data. The Department of Building and Safety recognizes (SA) as the methane consultant of record for this project.

The building methane mitigation system for Level III areas requires vent wells for the gravel layer known as the 50 foot gravel. However, test wells to the 50-foot gravel layer found no indications of trapped free gas at this site. Therefore, the consultants have recommended that the building mitigation requirements be downgraded from Level III to Level II, which would eliminate the requirement for the vent wells provided that a surface gas influx investigation and a shallow gas concentration survey shall be completed and the report submitted to and approved, by the Grading Section of the Department.

The reports are acceptable, provided the following conditions are complied with during site development:

- 1. Prior to beginning any grading or building construction, a surface gas flux investigation and a shallow gas concentration survey shall be completed and the report submitted to the Grading Section of the Department for review

1 5 3 3 0 3 0 0 1 2 1

EXHIBIT 3.1

fc 1000

CITY OF LOS ANGELES
CALIFORNIA

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DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012

ANDREW A. ADELMAN, P.E.
GENERAL MANAGER

RAYMOND CHAN
EXECUTIVE OFFICER

CF # 01-1305

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FRANCISCO ARRIZON
BARBARA BOUDREAUX

December 23, 2003

Honorable City Council
City Hall, Room 395
Los Angeles, CA 90012

Attention: Barbara Greaves, Legislative Assistant

*LA city acknowledges
new gas discovery
+ oil/gas field
threat of leakage*

CA

STAFF REPORT FOR PROPOSED AMENDMENTS TO DIVISION 71 OF ARTICLE 1, CHAPTER IX OF THE LOS ANGELES MUNICIPAL CODE TO ESTABLISH CITYWIDE METHANE MITIGATION REQUIREMENTS

This report has been prepared in support of proposed amendments to Section 91.105.4.1 and Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code to establish citywide methane mitigation requirements and to include more current construction standards to control methane intrusion into buildings.

The Department of Building and Safety (LADBS) respectfully recommends that the City Council adopt the attached methane ordinance and findings.

The report and recommendation are provided in response to the Galanter-Bernson Motion adopted by the City Council on June 26, 2001 (Council File #01-1305) for recommendations to implement uniform safety requirements regarding methane for all future developments throughout the City. This report follows the initial LADBS report dated August 14, 2001, submitted in response to the Galanter-Bernson Motion (Exhibit #1), and a follow-up LADBS report dated August 22, 2003 to the Planning and Land Use Management (PLUM) Committee of the City Council recommending that the City Attorney review the proposed ordinance for form and legality (Exhibit #2).

BACKGROUND

Methane, a colorless and odorless hydrocarbon gas is naturally found in the earth. Methane is lighter than air and has the ability to diffuse rapidly upwards through rock fractures and soil to reach the earth's surface and the atmosphere.

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December 23, 2003

Proposed Citywide Methane Mitigation Requirements

Page 2

Methane seeping from the earth becomes a fire and explosion hazard when, in concentrations of approximately 53,000 parts per million by volume (ppmv), accumulates in an enclosed space with a source of ignition. Methane gas also poses a suffocation risk when high concentrations of methane gas accumulate inside buildings reducing the concentration of oxygen in air below levels required for human life.

Methane naturally originates from decaying organic material (biogenic) or from deep within the earth's core (thermogenic). Biogenic methane, also referred to as "swamp gas," is typically found near dairies, wetlands and landfills. Landfills create methane gas that may migrate below ground to nearby properties in quantities that may pose hazards. Biogenic methane also may be found near ancient agricultural sites and wetlands in quantities that may pose possible hazards, if unmitigated. Thermogenic methane is found in soil near oil wells and oil fields depending on the horizontal and vertical permeability of underground rock formations.

The California State Department of Conservation, Division of Oil, Gas, and Geothermal Resources ("DOGGR") regulates oil field and oil well operations and has documented the locations of such sites. DOGGR published a report in 1987 describing the geology, history and location of known (documented) naturally occurring oil and gas seeps in California (Exhibit #3). DOGGR's maps show there are several hundred oil wells and more than twenty oil fields located within the boundaries of the city. The presence of large numbers of oil wells and oil fields within the city indicate that there may also be many methane gas seeps found at the earth's surface throughout the Los Angeles basin.

Due to recent discoveries of methane gas on a number of school sites, the State of California recently began to require site testing for possible mitigation of hazards from methane as part of the preliminary school site environmental review process (Exhibit #4). Should elevated concentrations of methane be found during the preliminary soil gas testing, the proposed school site would be required to be protected with a methane mitigation system.

Los Angeles Municipal Code

The current requirements in the Los Angeles Municipal Code to mitigate methane hazards originated from an incident in 1985 when a methane gas explosion and fire occurred at a store located in the Fairfax area. The City Council created a Task Force ("1985 Task Force") that investigated the incident and reported that the explosion and fire may have been a result of methane gas entering the store through small openings between the floor slab and the foundation walls of the building (Exhibit #5). As the gas found its way into the building, it slowly accumulated in an unventilated room that contained an ignition source.

In its search for the sources of the gas in Fairfax, the 1985 Task Force concluded that the gas was coming from two possible sources: (1) deep decomposed plant material located approximately 100 to 200 feet below the ground surface, and (2) naturally occurring deep underground gas deposits known as the Salt Lake Oil Field (Exhibit #6).

December 23, 2003

Proposed Citywide Methane Mitigation Requirements
Page 3

The recommendations of the 1985 Task Force resulted in the approval of Ordinance 161,552, which became effective on August 31, 1986 as Division 71, Article 1 of Chapter IX of the Los Angeles Municipal Code. The ordinance provided minimum requirements for the construction of buildings to monitor and control methane intrusion emanating from geologic formations underneath buildings, by requiring the installation of methane gas detection devices, warning systems and venting systems.

Because of difficulties in identifying other potential methane hazard areas, the 1985 Task Force study focused only on the methane gas phenomena in the Fairfax area of the City. The standards recommended by the 1985 Task Force apply only to the Fairfax area and other limited methane hazard areas identified by LADBS and the Fire Department (LAFD). Over the years, LADBS and LAFD have used the standards as authorized by the requirements of Division 71 to mitigate methane hazards to buildings constructed on several sites outside of the Fairfax area where high concentration levels of methane have been found. However, the data supplied by DOGGR indicates that there are substantial areas outside the Fairfax area where methane is found. There are no mitigating measures currently required for construction in those areas.

Recent Studies of Methane Mitigation

One of the areas not previously identified where methane was encountered is Playa Vista. For the Playa Vista project, LADBS, along with its peer reviewer, Exploration Technologies, Inc., (ETI), investigated the location and source of the methane and determined the soil gas source at Playa Vista was thermogenic (originating from oil fields) and developed a methane mitigation system for the site. In a report dated February 28, 2001 to the Chief Legislative Analyst, LADBS described the Playa Vista Methane Mitigation Prevention, Detection and Monitoring Program for the first phase of the Playa Vista Project. Kleinfelder, Inc., the peer reviewer for the Chief Legislative Analyst's report dated June 2001, reviewed and concurred with LADBS that this program was adequate for mitigating potential methane in buildings in the first phase of the Playa Vista Project (Exhibit #7).

On August 14, 2001, LADBS sent a report briefing the City Council's PLUM Committee of the preliminary findings and recommended further analysis to identify other potential methane hazard areas in the City and refine the Playa Vista methane mitigation system for application to identify potential methane hazard areas (Exhibit #1). Subsequently, LADBS formed a task group ("2001 Task Group") consisting of multiple City departments (LADBS, LAFD and Department of Public Works, Bureau of Engineering) and outside consultant firms (SCS Engineers, GEO Kinetics, Group Delta Consultants, Methane Specialists, TERRA-PETRA, Inc., and GeoScience Analytical) to conduct studies to identify other potential methane hazard areas in the City and refine the Playa Vista methane mitigation system for application to identified potential methane hazard areas. These environmental, geotechnical, electrical, mechanical and civil engineers are experts in hazard and methane mitigation.

IDENTIFICATION OF THE METHANE ZONE AND METHANE BUFFER ZONE

The 2001 Task Group studied the DOGGR oil wells, oil fields and underground gas storage facilities maps and the city's Environmental Affairs Department landfill records and found the occurrence of methane in soil gas to be correlated with the location of oil wells, oil fields, underground gas storage facilities, and landfills (Exhibit #8).

December 23, 2003

Proposed Citywide Methane Mitigation Requirements

Page 4

In general, the 2001 Task Group corroborated that sites closer to a gas source face a higher risk from potential methane hazards and concluded that construction in those sites should be subject to methane mitigation requirements. Known potential methane hazard areas are in the vicinity of gas sources such as landfills, oil wells, oil fields and underground gas storage facilities. These methane gas sources were located based on data from the California Division of Oil, Gas, and Geothermal Resources (DOGGR) and the City of Los Angeles Department of Environmental Affairs (LADSEA).

The 2001 Task Group recommended that mitigation of methane hazards be based on the proximity to the identified gas sources and further recommended that (1) sites immediately surrounding these gas sources be designated as Methane Zones in which mitigation measures would be required and (2) sites surrounding the Methane Zone and further away from gas sources be designated as Methane Buffer Zones in which reduced mitigation requirements may be justified by testing.

On August 22, 2003, LADBS submitted to the PLUM Committee a proposed report in further response to the Galanter-Bernson Motion for recommendation of uniform methane mitigation requirements which can be employed for future development projects throughout the City. This report, received by PLUM Committee, outlines and describes the two zones on a proposed map (Exhibit #9 - Methane Zone and Methane Buffer Zone Map) and the mitigation system components. As directed by PLUM, the proposed ordinance amending Division 71 of the Los Angeles Building Code was developed by the in accordance with such recommendations from the 2001 Task Group.

METHANE MITIGATION REQUIREMENTS

The methane mitigation requirements in the proposed methane mitigation ordinance are summarized as follows:

- *Underneath the Building*
 - Impervious Membrane - prevents methane gas seepage into the building
 - Vent Pipes with Gravel Blanket - dilute and transmit gas to the atmosphere
 - Mechanical Extraction System - collects and transmits gas to the atmosphere when a methane concentration of 37,500 ppmv is detected
- *At the Lowest Occupied Space*
 - Mechanical Ventilation System - vents gas from inside the building to the atmosphere when a methane concentration of 5,000 ppmv is detected
 - Alarm - notifies building occupants when a methane concentration of 12,500 ppmv is detected

Miscellaneous

- Additional Vent Risers - provides additional preferential pathways to release subsurface gases to the atmosphere
- Utility Trench Dams and Conduit Seals - prevent gas from being transmitted via utility trenches and conduits

One component of the methane mitigation system described in the report by LADBS to the City Council's PLUM Committee dated August 22, 2003, but not included in the proposed ordinance is the Deep Vent Well. Instead, the revised proposed ordinance submitted herewith requires, in certain circumstances, Additional Vent Risers to provide more pathways for gas to be released from below the building, thereby reducing the possibility for a gas build-up below buildings in a more cost-effective manner. The Additional Vent Risers eliminate the need for Deep Vent Wells.

The proposed methane ordinance contains all of the methane mitigation components and applies to a much larger area than required by the original version of Division 71 of the Los Angeles Building Code with the following refinements:

- Mitigation systems will be designed efficiently using results from site specific testing,
- Pressure Sensors will provide early warning of elevated pressure below buildings,
- In certain circumstances, Mechanical Extraction Systems below the building, will dilute subsurface gases and provide power assisted methane gas removal, and
- In certain circumstances, Additional Vent Risers will provide increased pathways to redirect gas around buildings.

RECOMMENDATION

LADBS respectfully recommends that the City Council adopt the proposed methane ordinance and findings.

The proposed ordinance is exempt from the California Environmental Quality Act ("CEQA") by Categorical Exemption in Article II, Section 2 (m) of the City CEQA Guidelines and Categorical Exemption in Article 19, Section 15061(b)3 of the State CEQA Guidelines. The action of the City Council to pass the ordinance is exempt from CEQA for the following reasons:

- As documented by DOGGR, methane gas naturally seeps through the earth to the surface and vents to the air. The mitigation system in the proposed ordinance contains requirements simply to mitigate the potential impact of methane on buildings by redirecting methane gases safely around buildings, instead of allowing a build-up of methane gas inside buildings.

December 23, 2003

Proposed Citywide Methane Mitigation Requirements

Page 6

- The proposed methane mitigation ordinance contains the same methane mitigation system required in the current Division 71 of the Building Code with enhanced paths for methane gas removal and an expansion of the area included within the Methane Zone and Methane Buffer Zone.
- The adoption of the ordinance will not cause a physical change that would have a significant adverse effect on the environment and will allow LADBS and LAFD to uniformly enforce LAMC provisions related to the control of methane intrusion into buildings. no
deal
with
it
- The proposed methane mitigation systems require the same amount of excavation below the building foundations as the current Division 71 of the Building Code.

If LADBS or I can be of any further assistance or provide additional information, please call Nicolino G. Delli Quadri, Acting Chief of Engineering Bureau at (213) 482-0440 or Raymond Chan, Executive Officer, or myself at (213) 482-6800.


ANDREW A. ADELMAN, P.E.
GENERAL MANAGER

Exhibits

X:\Methane\Council Report for CH9 Ordinance with CEQA Rev 11.rpd



BILL ROSENDAHL

City of Los Angeles
Councilman, Eleventh District

February 22, 2007

Hon. Ed Reyes, Chair
Planning and Land Use Committee
200 N. Spring Street, Room 410
Los Angeles, CA 90012

Re: File 05-2696 - Report from CLA relative to compliance with a writ of mandate in Environmentalism Through Inspiration and Non-Violent Action (ETINA), et al. v. City of Los Angeles, Playa Vista Capital Company, LLC, et al., LASC Case No. BS073182.

Dear Councilmember Reyes:

On January 11, 2006, when we considered this matter in Council, I urged preparation of a Subsequent EIR or Supplemental EIR under CEQA to comply with the Court's Writ of Mandate. Instead, the Council directed the CLA to conduct a peer review process with two public hearings. Today, you consider the resulting CLA report.

Over the past year, I have made every effort to work constructively with the CLA, the City Attorney, department staff, my constituents and other interested parties, to make the peer review process more open, transparent and thorough. Unfortunately, the structure of the peer review process was inherently flawed; its scope of review was too narrow, too technical, and too legalistic.

The City of Los Angeles and Playa Vista residents need absolute assurance that all questions of public health and safety have been adequately resolved. These are the concerns that I understood to underlie the Court's decision against our City. After reviewing the CLA report and ETINA's reply letter to Council, I feel the peer review process failed to do that.

Therefore, I reiterate my support for conducting a Subsequent EIR or Supplemental EIR under CEQA. This is the best way to determine with finality the impact of dewatering on the methane mitigation system at Playa Vista, and to comply with CEQA as ordered by the Court.

Respectfully,

BILL ROSENDAHL
Councilmember, 11th District

cc: Hon. Jose Huizar
Hon. Jack Weiss

Westchester Office
7166 W. Manchester Boulevard
Westchester, CA 90045
(310) 568-8772
(310) 410-3946 Fax

City Hall
200 N. Spring Street, Room 415
Los Angeles, CA 90012
(213) 473-7011
(213) 473-6926 Fax

West Los Angeles Office
1645 Corinth Avenue, Room 201
Los Angeles, CA 90025
(310) 575-8461
(310) 575-8305 Fax



John L.D. Gray MBE Code

SEC. 91.7102. DEFINITIONS.

For the purpose of this division, certain words and phrases are defined as follows:

Alarm System shall mean a group of interacting elements consisting of components and circuits arranged to monitor and annunciate the status of gas concentration levels or supervisory signal-initiating devices and to initiate the appropriate response to those signals.

Buildings with Raised Floor Construction shall mean a building with the bottom of the floor system raised above grade where the clearance for each of the following items shall be at least: 12 inches for the girder, 18 inches for the floor joist and 24 inches for the structural floors.

Cable or Conduit Seal Fitting shall mean an approved fitting provided in a cable or conduit system to prevent the passage of gases, vapors, or flames through electrical cable or conduit.

Design Methane Concentration shall mean the highest concentration of methane gas found during site testing.

Design Methane Pressure shall mean the highest pressure of methane gas found during site testing.

De-watering System shall mean a permanent water removal system, consisting of perforated pipes, gravel, sump pumps and pits, designed to permanently maintain the ground water level one foot below the sub-slab vent system.

Gas Detection System shall mean one or more electrical devices that measure the methane gas concentration and communicate the information to the occupants, building management, central station or alarm company with audible or visual signals.

Gravel Blanket shall mean a layer of gravel, sand, or approved material designed to transmit gas to the vent riser without obstructing the venting system.

Impervious Membrane shall mean a continuous gas barrier made of material approved by the Department and installed beneath a building for the purpose of impeding methane migration to the interior of the building.

who HAS Authority;
Annual testing - - -

**CITY INVESTIGATION OF POTENTIAL ISSUES OF
CONCERN FOR COMMUNITY FACILITIES DISTRICT NO. 4
PLAYA VISTA DEVELOPMENT PROJECT**

Prepared by
City of Los Angeles
Office of the Chief Legislative Analyst

May, 2001

Camp Dresser & McKee Inc. (CDM)

CDM implemented a pilot program for the subsurface methane venting system. More than 70 temporary vent wells were installed at the site to detect the feasibility and effectiveness of venting subsurface accumulations of methane in Level III mitigation areas. The program illustrated that subsurface methane can be vented. A permanent subsurface venting system is currently in progressive design that will establish criteria for determining the exact number, appropriate location, and engineering design of the subsurface wells (LADBS, February 28, 2001 (Appendix B)).

2.3 City Review, Conclusions, and Mitigations

2.3.1 Methane Source

LADBS, and their "Peer Reviewer," Dr. Jones, President of ETI, reviewed information and studies regarding the Southern California Gas Company Playa Del Rey Gas Storage Field and geochemical components of methane collected at the Playa Vista Development Project site. LADBS and ETI concluded that the gas seepage on the Playa Vista Development Project site appears to be derived from the Pico Sands at depth and does not come from the California Playa Del Rey Gas Storage Field (LADBS, February 28, 2001) (Appendix B); LADBS, January 31, 2001 (a) (Appendix C); ETI, January 31, 2001 (b) (Appendix D)). These findings are consistent with the conclusions of the Division of Oil and Gas, Kleinfelder, and Zymax Forensics.

2.3.2 Methane Levels and Mitigation

LADBS and ETI, reviewed information and studies regarding methane concentrations at the Playa Vista Development Project site and methane mitigations. The LADBS and ETI concluded that the methane mitigation systems recommended by Sepich Associates Methane Specialists, January 30, 2001 would adequately protect public safety (LADBS, January 31, 2001 (a) (Appendix C); LADBS, February 28, 2001 (Appendix B); ETI, January 31, 2001 (a) (Appendix D)). These measures exceed the recommendations of Kleinfelder.

2.3.3 Mitigations

A methane mitigation system to prevent, detect, and monitor the presence of methane will be required. Mitigation measures will vary depending upon the concentration of methane present, with mitigations required for areas of higher methane concentrations being inclusive of all mitigations required for areas with lesser methane concentrations. Table 2 -1 lists all mitigation requirements and methane concentration categories.

Level I mitigations will be required for areas with methane concentrations of less than 100 parts per million of volume (ppmv). Level I mitigations will include a basic mitigation prevention system below buildings, including a 12-inch gravel blanket with pipes to ventilate gas from underneath an impermeable membrane and membrane detection alarm systems within the building.

Level II mitigations will be required for areas with methane concentration levels between 100 and 12,500 ppmv. Level II mitigations will include all Level I mitigations, plus a requirement to install automatic ventilation systems triggered by elevated methane concentrations levels beneath the impermeable membrane and continuous monitoring systems.

Level III mitigations will be required for areas with methane concentrations levels above 12,500 ppmv. Level III mitigations will include all Level I and Level II mitigations, plus a requirement to install a subsurface venting system.

Utility vaults and similar substructures installed in the Playa Vista Development area will be required to implement appropriate mitigations necessary to prevent accumulation of methane in the structures. This could include but is not limited to, installation of impermeable membranes under the structures, venting of structures, installation of methane sensors and alarms, and other recommendations identified by methane specialists.

The developer/builder will have primary responsibility for the design and construction of building the methane prevention and building monitoring systems, and for ensuring appropriate operation. Upon certification of operational status of the building methane and monitoring systems, the building owner or property owners' association will have responsibility for the continued operation, testing, maintenance, repair, and replacements of the systems, as necessary.

The building owner or property owners' association shall test the system at least annually and submit a certification to the Los Angeles Fire Department and the LADBS that annual testing, maintenance, and service has been completed and certifying that all systems are operational. The building owner or property owners' association shall develop and submit for approval by the LADBS and the Los Angeles Fire Department an evacuation plan for the building. A copy of the evacuation plan shall be made available to residents and tenants. The building owner or property owners' association shall have financial responsibility for all costs and expenses associated with the building methane system and the monitoring system and for submitting required reports to be provided to the City.

For buildings that are located on common areas (i.e. not owned or controlled by an individual building owner or property owners' association), the Playa Vista Master Association shall have responsibility for testing, maintenance, repair, service, and reporting.

An individual or group should be engaged to monitor and oversee implementation of methane mitigations in all development, including infrastructure installed by various entities. This oversight should include authority to review design, installation, and initial operation of the required methane mitigation measures. The monitoring entity should report to the Planning Department.

Table 2-1: Methane Mitigations

METHANE SYSTEM REQUIREMENTS

A baseline soil gas survey shall be conducted for each building site to determine the areas of Playa Vista Phase I in which building methane prevention systems are required.¹

Mitigation Measure	Methane Concentration Level		
	Level I ²	Level II ²	Level III ²
	White: <10ppmv Blue: 10-<30ppmv Lt. Blue: 30-<100ppmv	Green: 100-<1000ppmv Yellow: 1000-<12,500ppmv	Orange: 12,500-<150,000ppmv Red: 150,000ppmv or >
Methane Prevention System³			
Passive - Underneath the Building	Required	Required	Required
• 12" gravel blanket	Required	Required	Required
• gas collection vent pipe	Required	Required	Required
• impermeable membrane			
Active - Mechanical Ventilation			
• ventilation triggered with elevated methane concentrations	None	Required ⁴	Required ⁴
Subsurface Ventilation	None	None	Required
Methane Detection System			
Within the Building			
• detectors in spaces located in the basement/lowest level in the building ⁵	Required	Required	Required
• audible alarm ⁶	Required	Required	Required
• visual alarm ⁶	Required	Required	Required
• automatic notification of LAFD ⁶	Required	Required	Required
Underneath the Building			
• data collecting sensors below impermeable membrane ⁵	None	Required	Required
• data collecting sensors between impermeable membrane and lowest floor/basement slab ⁵	Required	Required	Required
Methane Monitoring System			
• manual quarterly assessment	Required ⁷	None	None
• continuous methane sampling and data collection accessible by the homeowners' association, LADBS and LAFD via the Internet	None	Required ⁸	Required ⁸
Maintenance of the Prevention, Detection and Monitoring Systems			
• annual testing to the satisfaction of LADBS and LAFD	Required	Required	Required
• homeowners' association to have financial responsibilities	Required	Required	Required

Table 2-1 cont.: Methane Mitigations

BUILDING SOIL GAS SURVEY

Page 2

Contingency Plan			
when high methane concentration are detected within a building	Required	Required	Required
when methane system components fail	Required	Required	Required

Footnotes:

1. Projects for which building permit applications were received by LADBS prior to January 1, 2002 may use as baseline methane concentration data the soil gas survey data prepared by CDM/ETI at Appendix 1. After January 1, 2002, all projects shall submit for approval to the satisfaction of LADBS, individual soil gas site assessments that characterize methane soil gas concentrations for the building site.
2. Levels of methane concentrations and corresponding colors on the methane concentration maps are identified in the Appendix 2 or individual building site soil gas assessments.
3. LADBS may reduce or requirements in areas where the methane concentrations in the area of building sites is non-detect.
4. When methane concentrations are detected at 37,500 ppmv by the sensors in the ventilation system below the impervious membrane, a mechanical ventilation system shall be automatically activated.
5. Number, type and location of detectors (or approved equivalents) to be determined by a qualified methane engineer, as approved by LADBS.
6. Audible alarm, visual alarm and notification of LAFD shall be triggered when methane concentrations are detected at 12,500 ppmv.
7. Sampling data reviewed by a qualified methane engineer shall be approved by LADBS. When such data is determined to be highly variable, additional manual sampling or electronic sampling may be required by LADBS. A qualified methane engineer shall submit a report to LADBS with conclusions and recommendations.
8. When the methane concentration data indicates significant changes in methane concentrations below the membrane, then a report by a qualified methane engineer shall be submitted to LADBS characterizing the reasons for such changes.

LA_DOCS636911.4 [W97]

Copied from the Sepich Associates Report, January 30, 2001

COUNCIL ACTION TO NOTE & FILE CEA Report

J. MICHAEL CAREY
City Clerk

FRANK T. MARTINEZ
Executive Officer

When making inquiries
relative to this matter
refer to File No.

99-0385-S4

CITY OF LOS ANGELES
CALIFORNIA



RICHARD J. RIORDAN
MAYOR

Office of the
CITY CLERK
Council and Public Services
Room 815, City Hall
Los Angeles, CA 90012
Council File Information - (213) 485-5703
General Information - (213) 485-5705
Fax: (213) 647-6636
Fax: (213) 485-8944

HELEN GINSBURG
Chief, Council and Public Services Division

CD 6

PLACEMENT FILES

JUN 28 2001

[Handwritten signature]

June 13, 2001

Honorable Richard Riordan, Mayor
Planning Commission
Director of Planning
Bureau of Engineering,
Development Services Division
Department of Transportation,
Traffic/Planning Sections
Department of Building & Safety,
c/o Zoning Coordinator

Department of Water and Power
City Attorney
Chief Legislative Analyst
City Engineer

(SEE ATTACHED LIST)

RE: CITY'S INVESTIGATION OF POTENTIAL ISSUES OF CONCERN FOR COMMUNITY
FACILITIES DISTRICT NO. 4, PLAYA VISTA DEVELOPMENT PROJECT

At the meeting of the Council held June 12, 2001, the following
action was taken:

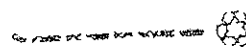
- Attached report adopted
- Attached motion (-) adopted.....
- Attached resolution (-) adopted.....
- Mayor concurred.....
- FORTHWITH.....
- Ordinance adopted.....
- Ordinance number.....
- Effective date.....
- Publication date.....
- Motion adopted to approve committee report recommendations..... X

J. Michael Carey

City Clerk
CRM
01/5/01

[Handwritten signature]

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER



PLANNING AND LAND USE MANAGEMENT COMMITTEE
Report/Communication for Signature

Council File Number 99-0385-54
Committee Meeting Date 6-5-01
Council Date 6-12-01

COMMITTEE MEMBERS	YES	NO	ABSENT
COUNCILMEMBER BERNSON, Chair	✓		
COUNCILMEMBER MISCIKOWSKI			✓
COUNCILMEMBER HERNANDEZ	✓		

Remarks Playa Vista Development Proj.

John A. White , Legislative Assistant ♦♦♦♦ Telephone 485-5707

TO THE COUNCIL OF THE
CITY OF LOS ANGELES

FILE NO. 99-0385-S4

Your PLANNING AND LAND USE MANAGEMENT Committee
reports as follows:

Public Comments Yes No
 XX --

PLANNING AND LAND USE MANAGEMENT COMMITTEE REPORT relative to the City's investigation of potential issues of concern for Community Facilities District No. 4 Playa Vista Development Project.

Recommendations for Council action:

1. NOTE and FILE the report "City Investigation of Potential Issues of Concerns for Community Facilities Districts No. 4 Playa Vista Development Project," prepared by the Chief Legislative Analyst (CLA).
2. DIRECT and AUTHORIZE the Director of Planning Department to require the California Environmental Quality Act CEQA mitigation monitor currently overseeing the implementation of CEQA mitigation measures at the Playa Vista Development site to also oversee implementation of methane mitigation measure by all agencies and entitles constructing facilities or utilities at the site.
3. DIRECT the Bureau of Engineering, Department of Water and Power, Department of Building and Safety, the City Attorney's Office, and other City Departments as appropriate to coordinate with the Planning Department regarding methane mitigation measure implementation, including taking enforcement actions as appropriate.
4. DIRECT the CLA to report to Council relative to the qualifications of the various consultants and contract agencies which contributed to the CLA's study, the extent to which collected data and studies can be substantiated, and whether said consultants and contract agencies are willing to guarantee their findings.

Fiscal Impact Statements: None submitted by the CLA. A financial analysis of this report was not completed by the Office of Administrative and Research Services.

Summary:

In a June 1, 2001 report to the Planning and Land Use Management Committee (attached to Council File), the CLA provides information relative to a variety of potential risk factors at the Playa Vista Development site, so that Council can decide whether the City should provide Mello-Roos financing for some of the infrastructure and ecological components of the Playa Vista Development Project (CF# 99-0385-S2).

The draft "City Investigation of Potential Issues of Concerns for Community Facilities Districts No. 4 Playa Vista Development Project (Report)," which includes an investigation of methane, hydrogen sulfide (H₂S), and air toxins (benzene, toluene, ethylbenzene, and xylene (BTEX)), was released for public review and comment. The CLA convened a public hearing on July 18, 2000. In response to public comments received, the CLA's study was expanded to include a review of subsidence. Further, technical issues commented on by the public were considered as the study elements were developed and reviewed. During the investigation process, the study scope was further expanded to address risks associated with soil and groundwater contamination.

The CLA goes on to report that the City engaged the professional services of Kleinfelder to assist in review of methane data and to perform a health risk assessment for BTEX and H₂S emissions identified at the CDF4 site. The City requested the assistance of the California Department of Conservation Divisions of Mines and Geology (Division of Mines and Geology) and Oil, Gas, and Geothermal Resources (Division of Oil and Gas) in the review of earthquake fault and methane issues respectively. The City contacted the California Regional Water Quality Control Board, Los Angeles Region (LARWQCB) regarding soil and groundwater remediation issues and associated health risks.

The study results were released for a 30-day public comment period. Various City department and state agency reviews were included in the appendices of the Report. Copies of the Report were directly mailed to more than 100 individuals, noticed in Argonaut and Daily Breeze newspapers, placed on the City's web site, and noticed via availability notices mailed to over 500 addresses. Studies included in the reference Section of the Report were made available for review at nine City locations. Twenty-four comment letters were received. Comment letters and responses to comments are included in Section 6 of the Report.

The CLA further reports that the only public safety risk identified that requires mitigation is methane gas emissions. Consistent with Los Angeles City Building and Los Angeles Building and Safety (LADBS) Memorandum of General Distribution No. 92, methane mitigation systems adequate to protect public safety have been developed for the site. A methane mitigation system to prevent, detect, and monitor the presence of methane will be required for buildings built on the site. Mitigation measures will vary depending upon the concentration of methane present, with mitigations required for areas of higher methane concentrations being inclusive of all mitigations required for areas with lesser methane concentrations.

Utility vaults and similar substructures installed in the Playa Vista Development area will be required to implement appropriate mitigations necessary to prevent accumulation of methane in the structures. The CLA recommends that an individual or group should be engaged to monitor and oversee implementation of methane mitigations in all development, including infrastructure

installed by various entities. This oversight should include authority to review design, installation, and initial operation of the required methane mitigation measures. The monitoring entity should report to the Planning Department.

Long-term monitoring of methane mitigation operations would be accomplished by requiring the building owner or property owners' association to test the methane mitigation system at least annually and submit a certification to the Los Angeles Fire Department and the LADBS that annual testing, maintenance, and service has been completed and certifying that all systems are operational.

Section 2 of the Report lists all mitigation requirements and methane mitigation level concentration categories. The CLA concludes that the recommended mitigation measures are adequate for the Playa Vista Development site.

The study addressed five primary questions regarding potential risks at the Playa Vista Development site. The CLA response to each follows:

- 1) Is the adjacent Southern California Gas Company Playa Del Rey Gas Storage Facility leaking and, therefore, the source of the methane contamination on the site and a risk to workers and future residents?

The Southern California Gas Company Playa Del Rey Gas Storage facility is not the source of methane contamination found at the site. Furthermore, there is no evidence which suggests that the gas storage facility is leaking or improperly maintained. There is no evidence that the gas storage facility presents a danger to workers or future residents.

- 2) Is the extent of the methane contamination fully defined and can it be mitigated?

Methane is detected at varying concentrations in the soil gas samples collected throughout the Playa Vista Development Project site, with the highest concentrations located in the western portion of the site. The numerous studies of methane concentrations at the Playa Vista Development Project site has yielded a data set that is more than adequate for the assessment of potential methane hazards and for the design of appropriate mitigation measures. Section 2 of the Report lists all mitigation requirements and methane concentration categories. These mitigations are summarized in the Report Conclusion section above. The recommended mitigation measures are adequate for the Playa Vista Development site.

- 3) Is there significant subsidence on the site currently, or will future methane mitigation measures cause subsidence issues which may undermine the structural integrity of the

future development?

No significant or clearly defined trend of increased subsidence within the Playa Del Rey Oil Field or any other specific area was observed in the vicinity of the Playa Vista Development Project site. Settlement, in the range of 2.66 inches over a 25 year period is localized and appears to be associated with curb, sidewalk, and gutter settlement along major streets.

Design measures are adequate to address the minimal level of subsidence and uplift observed in the area. There is no evidence that proposed methane mitigation measures would result in increased potential for subsidence in the area.

- 4) Does the postulated Lincoln Boulevard fault exist, and if so does it present an unacceptable risk, either from seismic activity which cannot be accommodated under existing building codes or a rapid release of methane from the adjacent storage facility?

The geologic and geophysical data do not support the existence of the postulated Lincoln Boulevard fault. In addition, as indicated above, methane gas at the Playa Vista Development Project site does not come from the Southern California Gas Company Playa Del Rey Gas Storage Field. Therefore, the potential for large volumes of methane gas to escape from the Southern California Gas Company Playa Del Rey Gas Storage Field in the event of an earthquake is unsupported by the evidence.

In addition to the specific Lincoln Boulevard analyses, off-shore imaging was conducted to obtain more comprehensive information on potential seismic activity. Off-shore seismic data in the area of the entrance of Marina Del Rey identified two anomalies that could or could not be off-shore faults. The Division of Mines and Geology reviewed the data and information available regarding these anomalies and indicates that there are several plausible explanations for the anomalies. (Section 7, Letter # 23). It appears that the anomalies could be associated with depositional features characteristic of stream channels.

- 5) Is there BTEX and H₂S contamination along with the methane which presents a health risk to workers and future residents?

Potential health risks associated with BTEX and H₂S soil gas emissions at the Playa Vista Development Project site, whether associated with methane or soil and groundwater contamination, are below the benchmarks established by the regulatory agencies to indicate insignificant risk, with no further investigation or remediation warranted.

With regard to soil and groundwater contaminants, the

LARWQCB, in coordination with OEHHA, has established a soil and groundwater remediation process which adequately protects human health and the environment, including addressing potential cumulative impacts. The health based remediation strategy established for the Playa Vista Development Project site is comprehensive in nature and will consider BTEX soil gases in the cumulative assessment completed for the site as remediation activities are completed. The LADPS has established procedures to ensure close coordination between the City and the LARWQCB as site development progresses. Therefore, potential cumulative impacts associated soil and groundwater contamination, including BTEX, will be addressed in a manner that is protective of human health.

At its meeting held June 5, 2001, the Planning and Land Use Management Committee considered the CLA's report. A representative of the CLA discussed the report and responded to the five area of concerns discussed above.

During the public comment period, members of the public stated the CLA's report does not address concerns raised regarding development at Playa Vista. It was stated that the consultants used to conduct the studies have ties to the developer. Measures designed to mitigate the potential impact of methane gas leakage on new development at the site are inadequate. Methane gas deposits at Playa Vista are of a higher concentration than those found at the City's Fairfax district. It was further stated that the Gas Company recommends buffers for development around areas with methane gas deposits. Citing examples of recent methane gas explosions in Kansas, New Mexico, and Texas, it was stated that it would not be advisable to develop the property for residential use. Permitting residential development at the site will expose the City to future liability should a methane gas explosion occur.

Other members of the public expressed concerns relative to the health risks associated with methane gas leakage at the site. In addition, it was suggested that the CLA's study is narrow in scope, ignores scientific information, and does not address development impact on Ballona Creek and the water system habitat. The completion of a full EIR was recommended. Other members of the public stated that the report understates the level of toxins present at the site and refers to levels of Hydrogen Sulfide once thought safe now deemed to be dangerous to human beings.

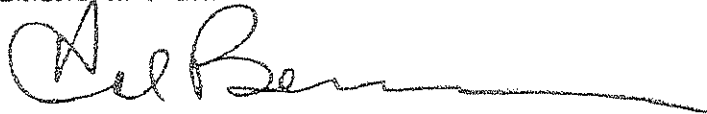
The project developer stated that Playa Vista can be safely developed. Mitigation measures outlined in the CLA report are sufficient to address concerns regarding methane gas deposits at the site. It was stated that methane deposits occur naturally throughout Los Angeles. Its presence does not preclude development, as is the case with successful developments at the Farmers Market and Park La Brea. A local resident stated that thousands of persons live near Playa Vista safely without mitigation measures against methane gas. It was further stated

that project opponents engage in delay tactics by requesting numerous studies and filing frivolous lawsuits. The proposed project will create jobs and badly needed housing while restoring the wetlands. Employees reported that they experienced no ill health effects from working at the site.

The CLA representative assured the Planning and Land Use Management Committee that the findings of the report and study are objective. Conceding that this is a difficult issue and deferring to the findings of the CLA's study, the Committee recommended that Council note and file report entitled "City Investigation of Potential Issues of Concerns for Community Facilities Districts No. 4 Playa Vista Development Project." The Committee further acted to recommend that Council direct the Planning Department to assign a mitigation to oversee the implementation of project mitigation measures and to instruct the various City agencies involved with methane mitigation measure implementation to take enforcement actions as appropriate. The Committee also recommended that Council instruct the CLA to report to Council relative to the qualifications of the various consultants and contract agencies which contributed to the CLA's study, the extent to which collected data and studies can be substantiated, and whether said consultants and contract agencies are willing to guarantee their findings.

Respectfully submitted,

PLANNING AND LAND USE MANAGEMENT COMMITTEE



JAW:ys
6/6/01

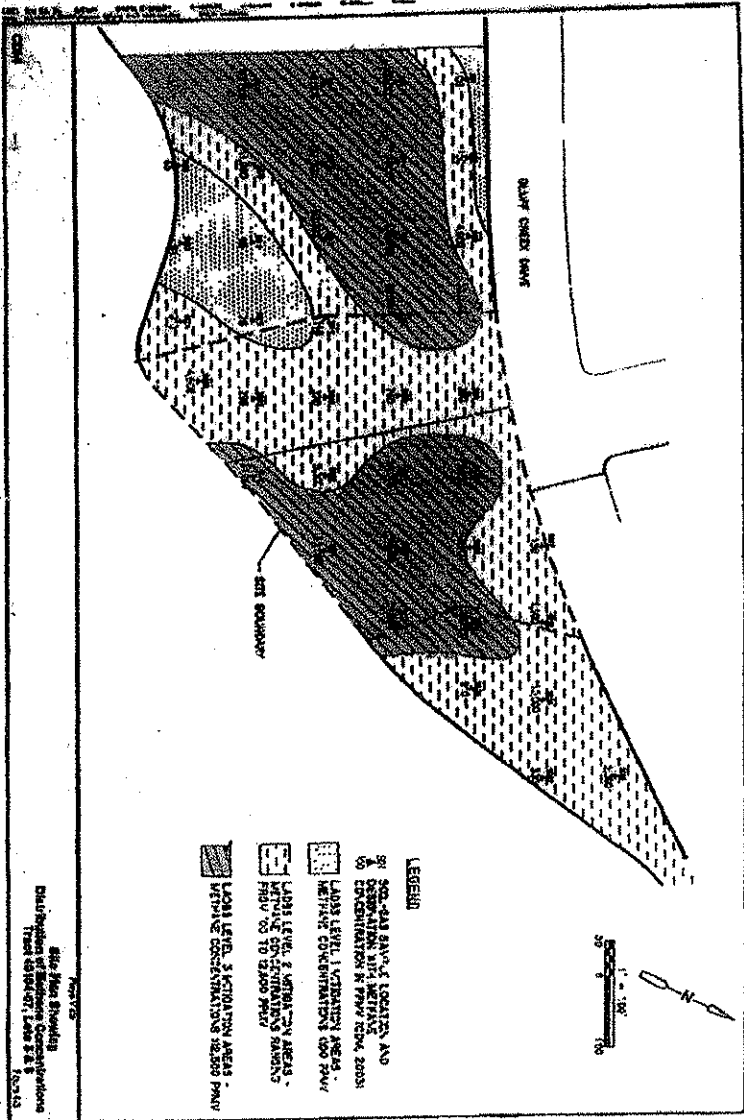
1990385.4

NOTION ADOPTED TO APPROVE COMMITTEE REPORT RECOMMENDATION

ADOPTED

JUN 12 2001

SAN ANGELES CITY COUNCIL



LEGEND

- SOIL-LEAD AND CADMIUM CONCENTRATIONS AND
 CONTAMINATION LEVELS
 (a) CONTAMINATION LEVELS: 2000
 (b) CONTAMINATION LEVELS: 2000
- LEAD LEVEL 1 (CONTAMINATION AREAS -
 METALS CONCENTRATIONS 100 PPBM)
 (PPBM TO 2500 PPBM)
- LEAD LEVEL 2 (CONTAMINATION AREAS -
 METALS CONCENTRATIONS 100 PPBM)
 (PPBM TO 2500 PPBM)
- LEAD LEVEL 3 (CONTAMINATION AREAS -
 METALS CONCENTRATIONS 2500 PPBM)

Map showing
 Distribution of lead and cadmium concentrations
 in soil (ppbm) in the South Creek Basin

Gas Migration: Causes, Cost, and Remedial Correction

A Special Technical Report From Halliburton Services



Gas migration following a primary cement job can occur through microchannels that form in the cement or between the cement and the formation. Ultrafine cement, a unique cementing material with an extremely small particle size, successfully penetrates and squeezes off gas flow channels.

Causes of Gas Migration

The most widely accepted cause given for gas migration through an unset cement column is the cement's inability to maintain overbalance pressure on the gas-bearing formation. Hydrostatic pressure exerted by a column of drilling fluid or cement slurry in the wellbore is usually sufficient to maintain an overbalance pressure on the formation and prevent gas from migrating through the fluid column. However, as the cement begins to set, the cement column's capacity to transmit hydrostatic pressure decreases. Gas migration through the cement column occurs when the hydrostatic pressure falls below the formation pressure. Gas leakage can also occur as a result

of cement shrinkage during hydration. This allows the cement to pull away from the mud filter cake or casing and form a channel through which gas can escape.

Gas Migration Cost

Gas migration is costly for operators. Following are some of the problems that can result from gas migration:

1. *Excessive well pressure* caused by gas migration could result in collapsed pipe, damaged wellhead, and possible blowout.
2. *Safety of personnel* is endangered in the presence of uncontrolled gas.
3. *Production losses* result in lost gas revenue.
4. *Regulatory problems* can result from the introduction of gas into other zones.
5. *Insurance problems* can result on offshore platforms.

Remedial Correction with Ultrafine Cement

As indicated in Fig. 1, gas can percolate

up through microchannels formed while cement sets. Squeeze cementing is used to fill the microchannels through which gas migrates. In order to ensure the best possible penetration into microchannels, ultrafine cement should be used. Ultrafine cement is a finely ground cement designed for penetration of high permeability sands and narrow openings, and it is a technological advance for squeeze cementing applications.

Particle size

The average particle size of ultrafine cement is 20 times smaller than premium cement (5 microns vs. 100 microns). As seen in Table 1, ultrafine cement can penetrate openings as narrow as 0.05 mm or sands as fine as 100 mesh.

Placement Techniques

Ultrafine cement placement techniques include placement by coiled and conventional tubing. A modified back pressure valve (full opening) can be used to reduce hydrostatic head for spotting in low pressure formations. Proper cleaning and correct placement are very important when using ultrafine cement because the small cement volumes necessary to perform the squeeze job are particularly prone to contamination, necessitating accurate control of slurry placement.

Summary

Gas migration is often caused by a lack of overbalance pressure on the formation. Costs are increased when gas migration is not controlled. Ultrafine cement is the smallest particle size cement available (5 microns average particle size). Because of its small size, ultrafine cement is an excellent choice for squeeze cementing microchannels to help stop gas migration. Several types of placement techniques can be used with ultrafine cement.

Availability

Ultrafine cement and associated products are marketed exclusively under the trade name Micro Matrix™ cement by Halliburton Services and are available worldwide. Please respond on the Reader Service Card or contact your local Halliburton Services representative for more information about Micro Matrix™ cement.

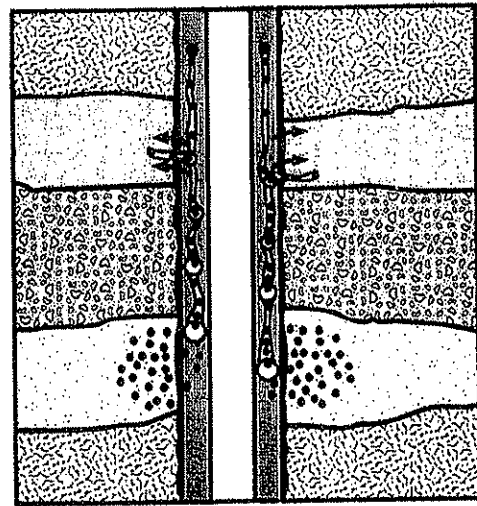


Figure 1: When hydrostatic pressure decreases, gas can migrate through the unset cement column. Ultrafine cement penetrates and seals microchannels during a squeeze operation.

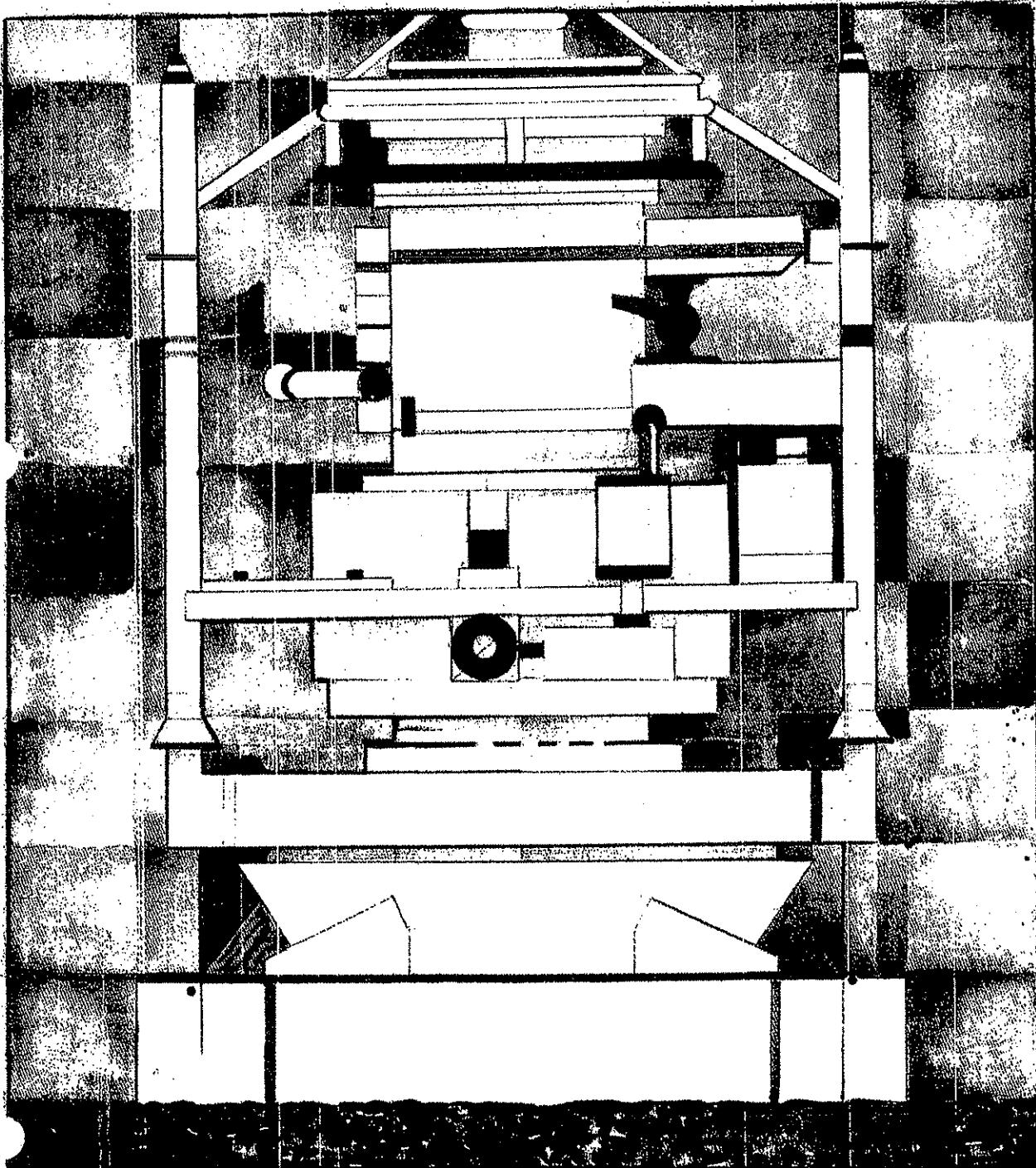
Table 1
Ultrafine Cement vs. Premium Cement
Physical Properties

Property	Ultrafine	Premium
Bulk Density	45 lb/ft ³	94 lb/ft ³
Specific Gravity	= 3.0	= 3.14
Permeability	100 mesh pack 0.05 mm slot	10/20 mesh pack 0.4 mm slot
Water Requirement	100% (bwoc)	40% (bwoc)
Slurry Density	12 lb/gal	16 lb/gal

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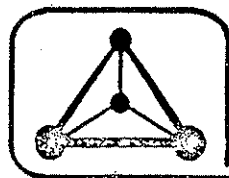
- **Educating New Engineers**
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Journal of Petroleum Technology
AN OFFICIAL PUBLICATION OF THE SOCIETY OF PETROLEUM ENGINEERS

HAZARDS FROM METHANE GAS IN THE SOIL: IDENTIFYING THE PROBLEM AND DETERMINING THE SOURCE

Dennis D. Coleman, Ph.D.



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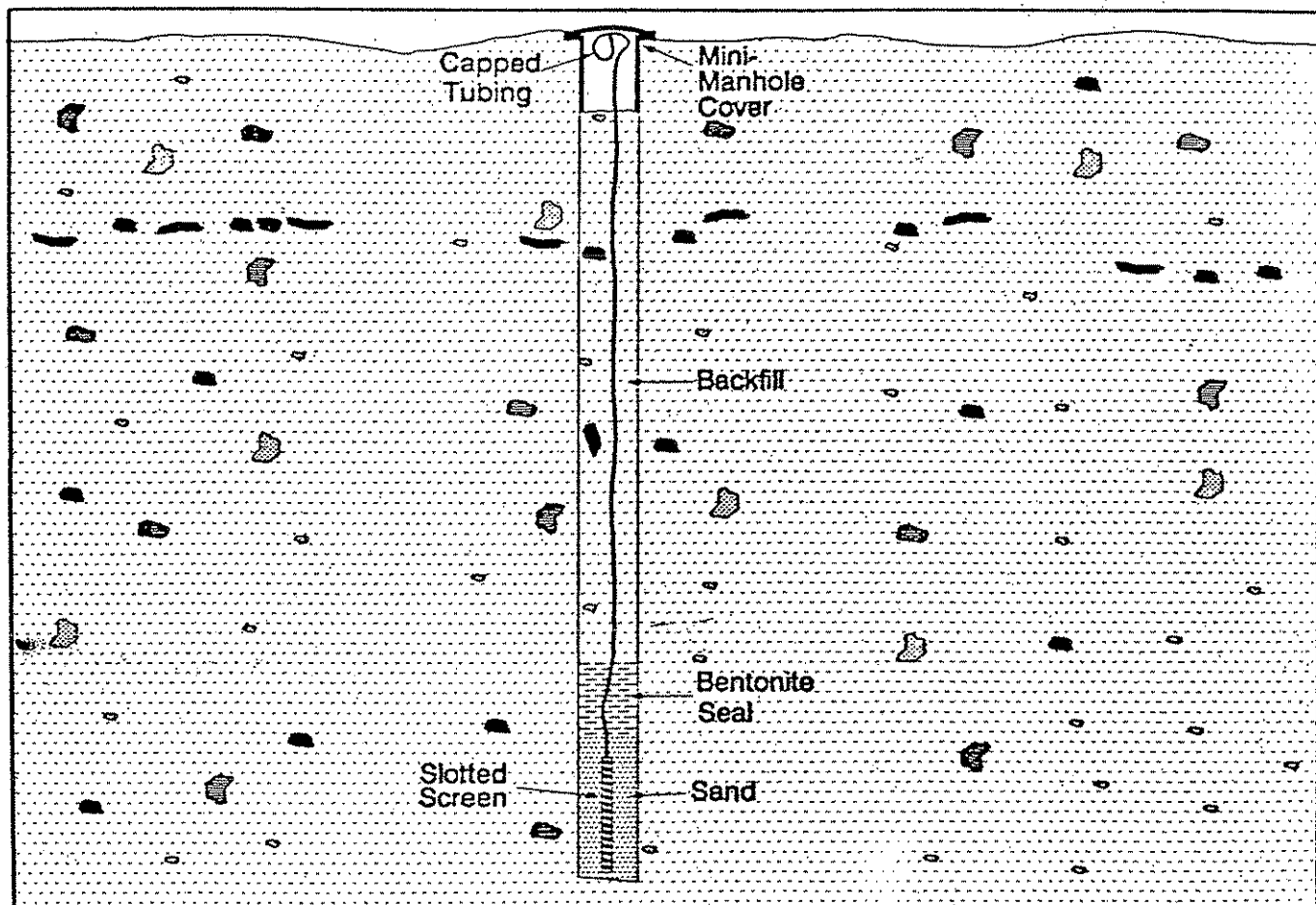


Figure 3. Monitoring probe for determining subsoil gas concentrations.

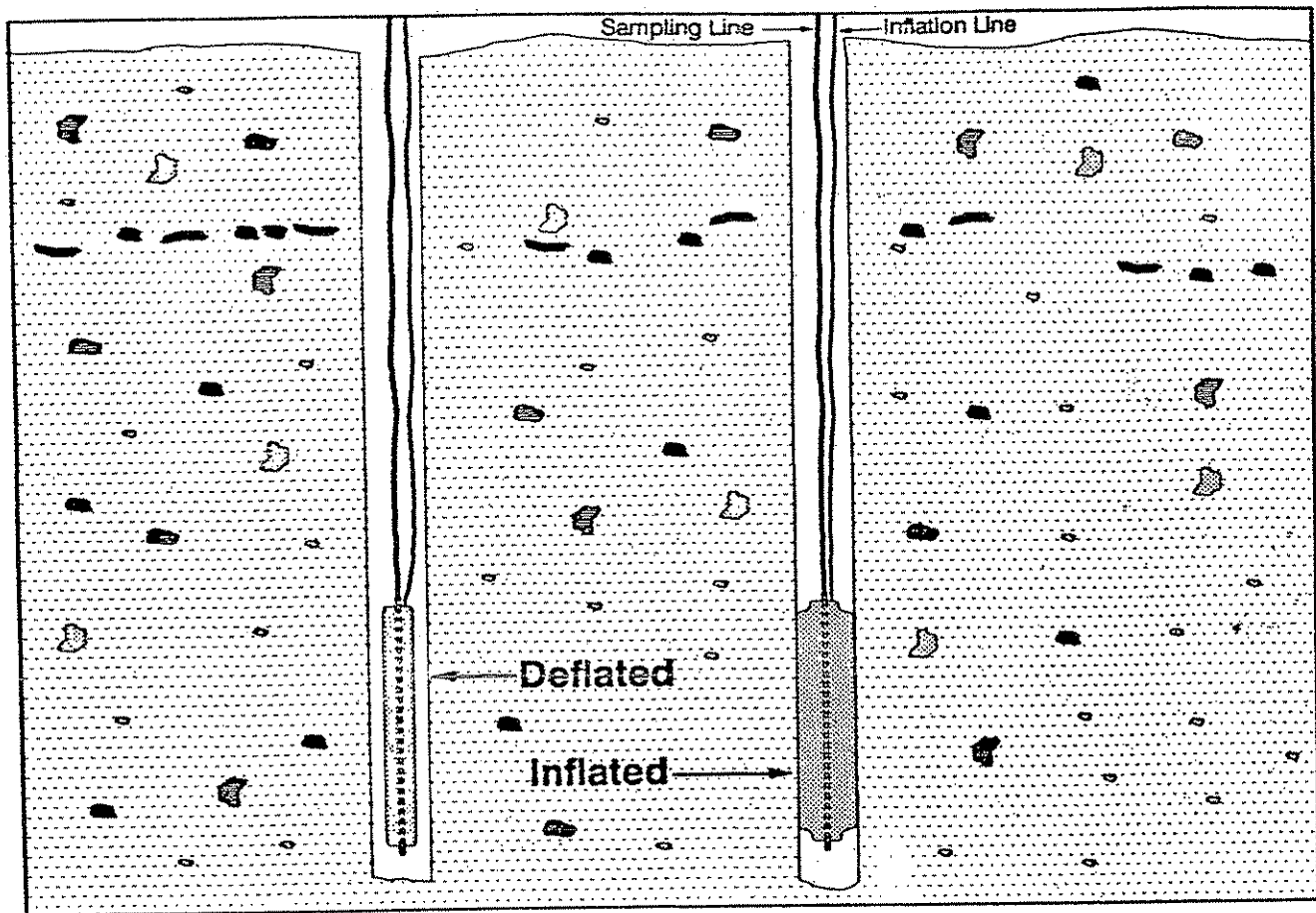


Figure 1. Inflatable Bore-Hole Sampler shown in both inflated and deflated modes.

Introduction

Methane gas, CH₄, is found at low concentrations in almost all environments, including the atmosphere, the oceans, in both groundwater and surface water, and in the subsurface. Methane is the main component of natural gas (which was formed by the *thermal* decomposition of buried organic material), and is also the main component of swamp gas and landfill gas (which is formed by the *bacterial* decomposition of buried organic material).

High concentrations of natural gas serve as energy sources and are common in the deeper strata of most oil producing areas and even in some non-oil producing areas. High concentrations of methane at depth are something to be sought after. However, high concentrations of methane near the surface can create hazardous situations and are to be avoided. When mixed with air in concentrations of 5 to 15%, methane is explosive.

Unfortunately, high methane concentrations do exist in the near surface environment in many urban areas. This methane can come from a variety of sources, both natural and man-made, and can sometimes enter buildings and result in fires and/or explosions. The first step in dealing with this type of problem is identifying the problem itself—that is, identifying the hazardous area. The second step is determining the source of the methane so that corrective action can be designed. The purpose of this paper is to discuss current practices of accomplishing steps one and two—that is, identifying areas with high methane concentrations in the subsurface, and determining the source of the gas. Step three, designing corrective action, which is highly dependent on the source of the gas, is primarily an engineering problem and will only be mentioned briefly here.

Potential Sources of Methane in the Near-Surface

Methane in the near-surface can be derived from a variety of different sources, all of which must be considered in assessing a particular problem. Some of the potential sources are:

1. *Natural gas pipelines.* Leakage from buried gas lines can result in subsurface accumulations of gas.
2. *Abandoned or operating natural gas or oil wells.* Leakage from operating wells, or from abandoned wells that have been improperly plugged, can result in near surface accumulations of combustible gas.
3. *Underground gas storage reservoirs.* In many parts of the country, natural gas is stored underground in porous rock formations. If gas leaks from one of these reservoirs, it can migrate (sometimes several miles) and appear at the surface.

4. *Seep gas.* In areas where either natural gas or coal gas occur, near-surface gas is sometimes observed as a result of natural vertical seepage of this gas along faults or fissures in the rocks. These seeps occur both on land and under water.
5. *Drift gas.* Drift gas is microbial gas which is formed by the bacterial decomposition of peats and organic-rich soils buried by glacial deposits (glacial drift). This gas is typically high in methane and sometimes occurs in sufficient quantities to be used for home heating.
6. *Marsh gas or swamp gas.* Methane and carbon dioxide are the primary components of marsh gas. This gas is formed by microbial decomposition of organic sediments in swamps, marshes, lake sediments, and stream sediments.
7. *Sewer gas.* Sewage decomposes through microbial action which can result in the production of significant quantities of methane. Sewer lines and sewage treatment systems can result in the occurrence of combustible gas in the subsurface.
8. *Compost gas.* Compost gas is defined here as that gas which is formed by microbial decomposition of organic materials which were buried by human activity. An example would be gas formed from trees and brush buried during landscaping activity.
9. *Landfill gas.* The microbial decay of organic material which occurs in landfills results in the production of large quantities of methane. This methane can sometimes migrate off-site and result in hazardous situations.

Which of these various potential sources is responsible for gas at a particular location can generally be determined using chemical and isotopic analyses (geochemical fingerprinting). This, however, requires collection of adequate samples; a non-trivial task.

Sampling Subsurface Gases to Identify Hazardous Areas.

Soil Gas Surveys

A method which has been commonly used to identify areas with potential problems caused by methane in the subsurface is conducting "soil gas surveys". Soil gas surveys generally involve driving a small diameter hollow metal probe approximately 2 to 4 feet into the soil and then sampling the gas drawn from the probe. The gas can either be analyzed on site with a portable gas detector, or taken to a laboratory for chromatographic analysis. Some extremely hazardous sites can be located by this method. However, even though significant concentrations of methane are not detected utilizing this method, a hazard may still exist.

Soil probe studies are subject to error if the gas sample collected and/or analyzed is not pure "soil gas". Leakage around the soil probe can result in air being drawn into the hole and mixed with the soil gas. Depending on the type of soil, the type of probe, and the exact sampling method used, the sample may vary from primarily soil gas to primarily air. Therefore, even if a sample drawn from a soil probe contains only 1 or 2% methane, which is a harmless concentration (methane does not ignite at concentrations below about 5%), if the sample were contaminated with air, the actual concentration of methane in the soil could be much higher than this and even within the explosive range.

Additionally, and more important than the effects of inadequate sampling techniques, are the effects of "methane oxidizing bacteria". The methanogenic bacteria which generate methane are strictly anaerobic, they can only survive in the complete absence of oxygen. If oxygen is present there are other bacteria called methanotrophs which are aerobic and which can "eat" methane as well as other light hydrocarbons such as ethane, propane, and butane. Depending on the soil conditions, the oxidizing zone may vary from only a few inches to tens of feet below the surface. If samples are collected only from the upper portion of the oxidizing zone, the absence of methane does not demonstrate that there is no methane in the area, it may only be that at this depth the methane has been completely depleted by oxidizing bacteria; high methane concentrations may exist only a few inches or a few feet deeper.

The occurrence of high methane concentrations within even 50 to 100 feet of the surface can sometimes result in hazardous situations. Changes in water table level, tectonic activity, or excavation can result in the rapid release of this gas to the surface.

For gas surveys to be effective, it is imperative that samples be collected from depths sufficient to minimize the effects of bacterial oxidation. In many cases, one will see no methane at a depth of 5 feet, even though very high methane concentrations exist at depths of 10 to 50 feet. Ideally, one should drill numerous holes to depths of 50 to 100 feet to test for gas in advance of construction. This is frequently cost prohibitive. An effective alternative is to carry out a subsoil gas survey. For a subsoil gas survey, portable hand-operated drilling equipment is used to put down test borings to depths of 10 to 15 feet. These borings can then be sampled with an inflatable bore-hole sampler, or can be fitted with monitoring probes. Deeper borings are then drilled if significant gas is identified by the subsoil survey.

Subsoil Gas Surveys Using an Inflatable Bore-Hole Sampler (IBHS)

The least expensive method of conducting a good subsoil gas survey is to use portable, hand-held drilling equipment to drill 2 to 3 inch diameter test borings to

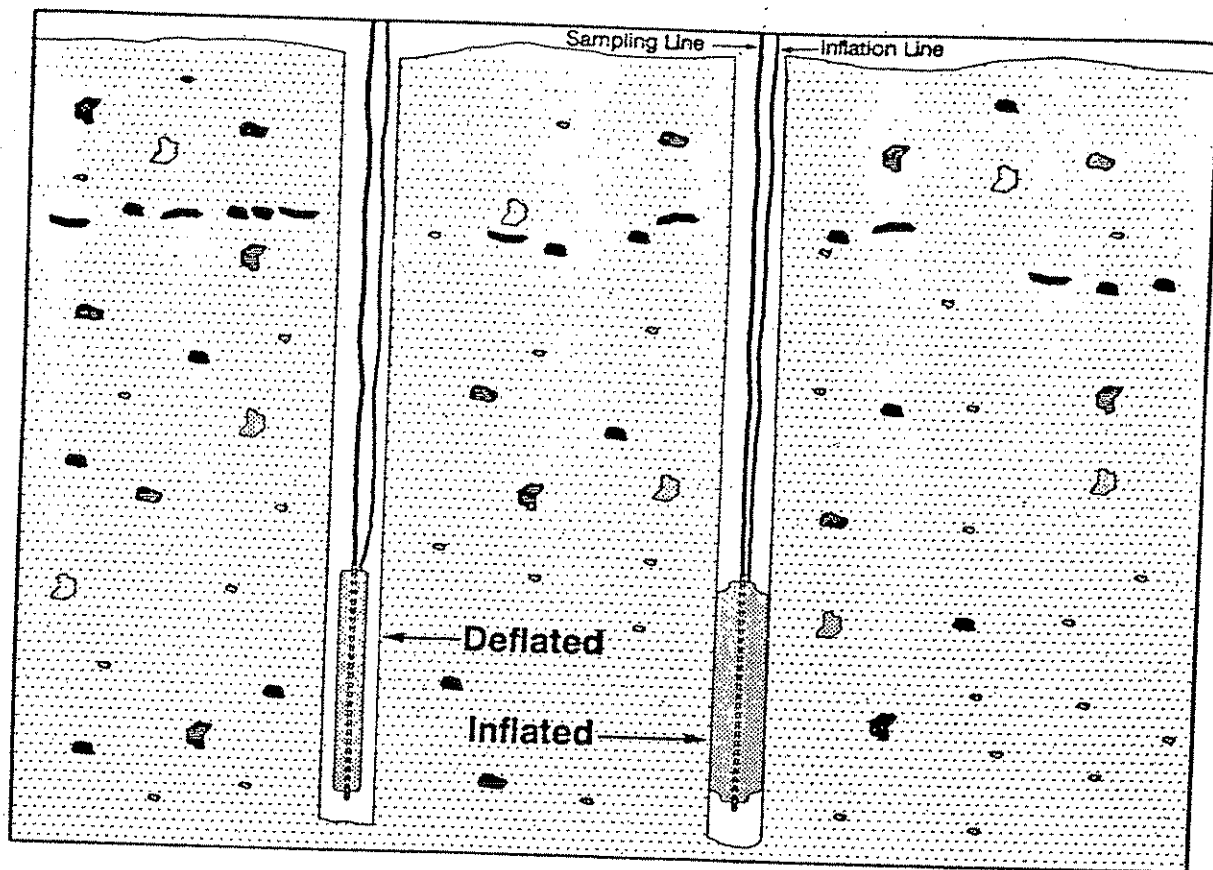


Figure 1. Inflatable Bore-Hole Sampler shown in both inflated and deflated modes.

depths of 10 to 15 feet and then to use an Inflatable Bore-Hole Sampler (IBHS) to seal off the hole and draw gas directly from the rocks or sediments at the bottom of the boring. An IBHS consists of a "balloon type" unit (packer) which can be lowered down into the boring and inflated so it seals against the sides of the hole, plugging it and preventing air from going down to the bottom of the hole. The IBHS has a tube which extends through it, thus allowing gas to be pumped from below the sealed off portion of the hole. Figure 1 shows an example of an IBHS which can be used for conducting subsoil gas surveys.

In practice, the auger used for drilling the hole is removed from the hole and the IBHS is lowered down the open hole to within about 6 inches of the base. A portable, explosion-proof gas pump is then used to inflate the IBHS through one of the two lengths of vinyl tubing which extend from the IBHS to the surface. The pressure required to seal the IBHS can vary from a few pounds to a few tens of pounds, depending on the particular type of packer. Once the IBHS is sealed off in the hole, gas can be pumped from below the IBHS through the vinyl tubing which is

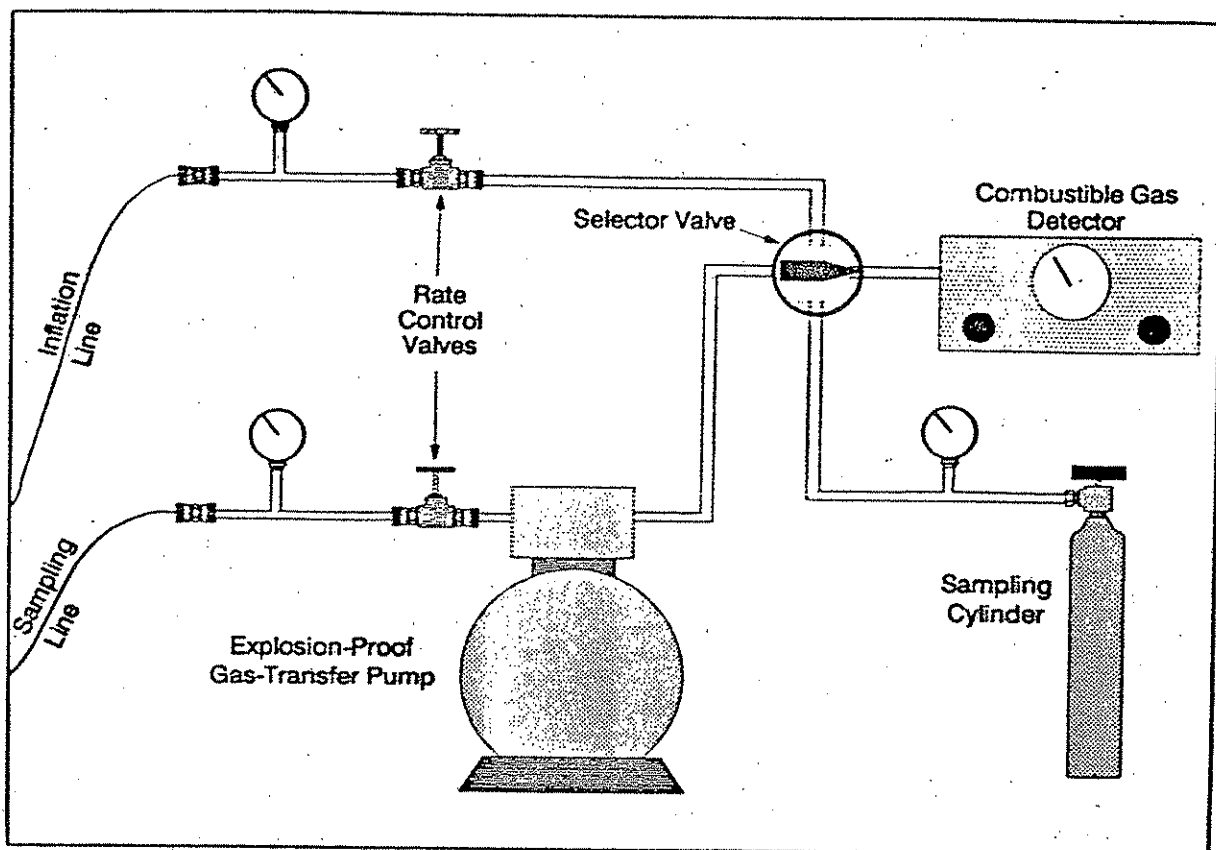


Figure 2. IBHS Controller with Combustible Gas Indicator.

connected to the feed-through tube.

Because some air will have entered the hole before it was sealed off, it is necessary to purge the air from the hole by pumping it out. Generally the volume of gas which must be pumped out is several times the volume of the open hole below the IBHS. The actual amount may vary with the barometric pressure. Soil tends to "breathe" with variations in barometric pressure. If sampling is done shortly after there has been an increase in barometric pressure, the soil may be in the process of "inhaling" and it will thus require more pumping to purge air from the soil at the bottom of the boring. On the other hand, if the soil is "exhaling" (i.e. after a decrease in barometric pressure), air may not have entered the soil itself and it is only necessary to purge the open hole.

Because of the variability in the time required to purge the boring, it is necessary to monitor the gas being extracted from the hole. Ideally, one should use an "on line" gas chromatograph so the concentrations of all of the components in the soil gas could be monitored during purging. However, this practice is generally not

practical. An effective alternative is to monitor the gas being drawn from the boring with a Combustible Gas Detector (CGD) capable of detecting and quantifying methane in the range of 1 to 100%. With a meter of this type hooked up to the explosion-proof gas pump used for purging the hole, one can continuously monitor the methane content of the gas being extracted from the boring. Initially, one will generally not see any methane as the air is being purged from the tubing and from the open hole. However, if there is methane in the soil, the observed methane concentration will gradually increase and reach a constant value indicating that air has been purged. At this point a meaningful sample can be collected.

If there is little or no methane in the soil, the CGD will not allow one to determine if the air has been purged and "pure soil gas" is being sampled. However, experience has shown that if no methane is observed by this method after pumping 20 to 30 times the volume of the open boring, there is probably not a significant amount of methane present in the soil, and thus whether or not the air is totally purged is of little consequence.

Readings obtained in the field using a CGD are extremely helpful in providing some preliminary answers and in directing the testing program (i.e. if high gas concentrations are detected, more borings may be warranted). These numbers are not precise enough, however, to allow determining the actual composition of the combustible gas or the source of the gas. For this, a gas sample must be collected and submitted to a laboratory for complete analysis. Either glass or metal sample containers are acceptable for collecting soil gas samples. Glass provides a very non-reactive material for collection of samples, but glass is fragile and susceptible to breakage. Aluminum or stainless steel gas cylinders are therefore preferred for collection of gas samples. Gas sampling bags made of Teflon or Tedlar are sometimes used for collecting samples for analysis of heavy hydrocarbons and hazardous materials. However, there is some question as to the suitability of these bags for light hydrocarbons and fixed gases. Until further research demonstrates their reliability, they are not recommended.

Using a pumping system such as the one shown in Figure 2, subsoil gas can be drawn from below the IBHS and pumped into a gas sampling cylinder which has previously been cleaned and evacuated. If large samples are needed, as is the case if certain types of analyses are to be performed, several cylinders can be filled consecutively.

Use of Installed Monitoring Probes

A more effective method of monitoring subsoil gas concentrations is the installation of monitoring probes. The use of monitoring probes is common practice around sanitary landfills, and can vary from complex probes completed at several different depths to simple pipes stuck into the ground. Described here is a procedure

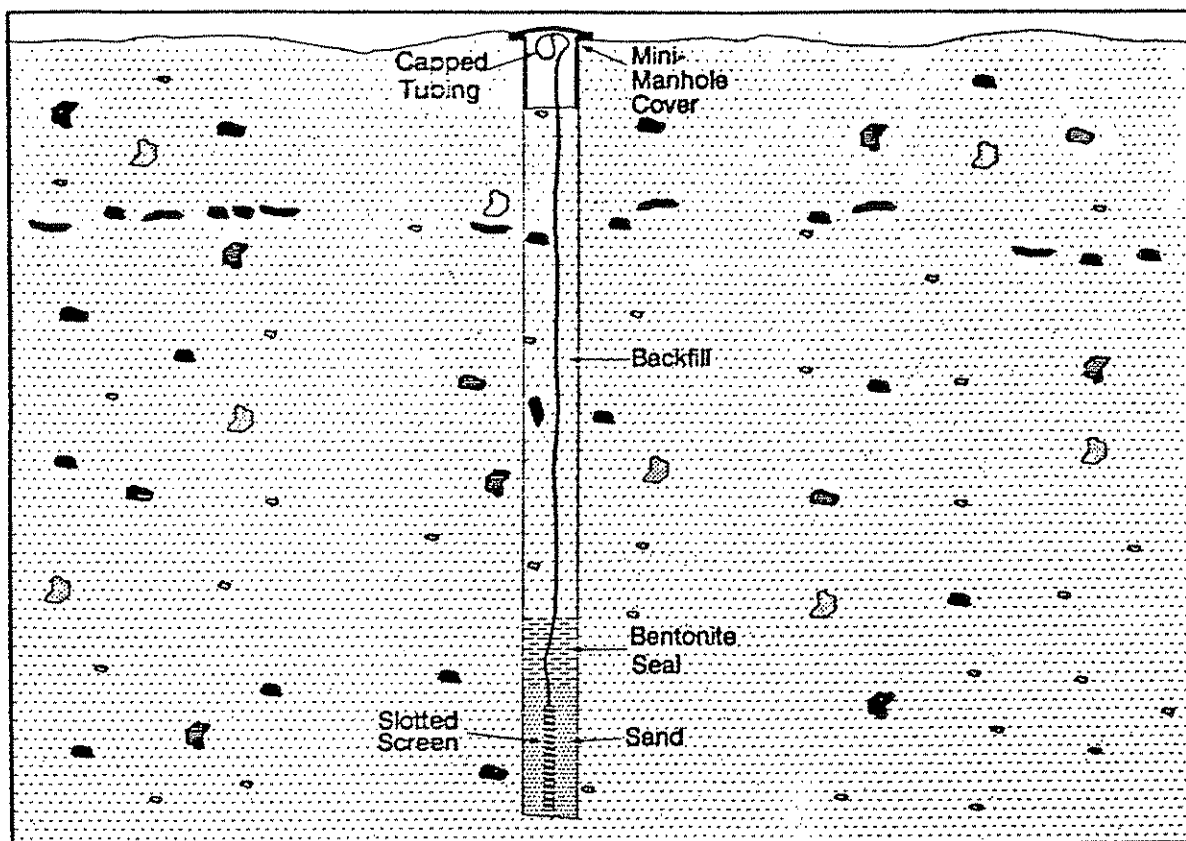


Figure 3. Monitoring probe for determining subsoil gas concentrations.

for installation of simple, inexpensive probes which are suitable for subsoil gas studies. These probes can be installed in small diameter borings and can be used for repetitive monitoring.

Figure 3 shows an example of a simple monitoring probe. After boring a hole to a depth of at least 10 feet (unless shallower depths are selected intentionally), the boring tool is removed from the hole and a probe is lowered into the hole. The probe consists of a slotted section, made from PVC tubing which is capped on one end and, on the other end, is attached to a length of 1/4 inch OD thickwall polypropylene tubing which extends to the surface. Once the probe is in place, sand is dumped in to fill the hole to a few inches above the slotted section of the probe. If desired, a bentonite slurry can be placed on top of the sand, and the hole back-filled with soil.

At the surface, there are alternative methods for completing the probe. If the probe was placed through concrete or asphalt, it may be desirable to install a short

length of casing fitted with a removable cover. This casing can be cemented into place if desired. Similar casings can also be used in unpaved areas.

If it is preferable that the monitoring probe not be visible, it can be entirely buried and the location marked. Another alternative is to coil up a couple feet of the tubing in a large cast-iron pipe cap (for 3 or 4" pipe) and then bury it a few inches below the surface. If the approximate location is recorded, the exact location can be identified later using a metal detector.

Samples can be collected from monitoring probes using techniques similar to those described for sampling with an IBHS. A portable explosion-proof gas pump is attached to the tubing (the tubing is kept capped off at other times) and enough gas is pumped out to purge the pumping system and the probe itself prior to collection of a sample for analysis. A combustible gas detector can be used for routine monitoring of gas probes, but these results must be periodically verified by collection of a sample for complete laboratory analysis.

Collection of gases from other types of sources

The procedures described above involve collecting samples from the shallow subsurface. In many cases, it is also necessary to collect samples from other sources such as gas or oil wells, pipelines, inside buildings, from surface seeps, and sometimes even from underwater seeps.

Collection of gas samples from wells or pipelines generally involves attaching a piece of tubing (high pressure tubing if necessary) to the source, flushing gas through the tubing to purge it of air, attaching it to an evacuated gas sampling cylinder, and filling the cylinder to the pressure present in the pipeline or well.

The method necessary for sampling surface seeps is highly variable and sometimes requires ingenuity. In some cases, gas can simply be drawn from the seep area and transferred to a gas sampling cylinder using either a hand pump or an explosion-proof electric pump. However, this method generally results in samples that are primarily atmospheric contamination. A better method is to attempt to seal off the seep area with a plastic sheet and draw gas from beneath the plastic sheet to minimize atmospheric contamination. NOTE: gas samples should never be collected by untrained personnel as the potential for explosion and/or fire is always present.

Underwater seeps can be collected by water displacement. With this method, a container (Mason jars work well) is immersed to fill it with water and then inverted over the source of gas. Bubbles of gas flowing up into the container will displace the water and fill it with gas. A lid can then be placed on the container while it is still inverted underwater.

Evaluating the Extent of the Problem

If preliminary subsoil gas surveys identify methane concentrations above the lower explosive limit (i.e. greater than 5%), additional studies are warranted. Even identification of lower concentrations of methane in the 1 or 2% range may warrant further investigation if there is not a readily apparent source for the gas (for example buried organic material encountered in the bore hole). Subsoil borings should be laid out in a grid (if possible) completely covering the area where preliminary studies indicated the present of methane. The spacing of the grid is highly dependent on the site and may vary from a few feet, to tens of feet.

The data collected from such a grid arrangement of test borings should allow contouring the "gassy" area to identify the area or areas with highest gas concentrations. The area(s) with the highest gas concentrations should be targeted for additional investigations, including deeper borings for collection of additional gas samples and for obtaining geological information. Deeper borings (sometimes >100 feet) will provide further information about the potential danger and the possible source of the gas. Gas samples from these deeper borings are generally more useful than shallow samples for source determination because the gas is less likely to have been subjected to the effects of hydrocarbon oxidizing bacteria.

Determining the Source of the Gas

The source of the gas can generally be determined by carrying out a complete analysis and comparison to the analyses of gases from possible sources. Because of the significant number of variables involved in the formation of subsurface gas, it is unlikely that gases from two different sources will have identical compositions. Table I lists the chemical compounds typically found in natural gas. Distinguishing gases from different sources may sometimes be accomplished using only standard chemical analyses of the compounds shown in the table. For example, the presence of significant quantities of ethane, propane, butane, etc., indicates that a gas is not of microbial origin; bacteria do not produce these components to any significant degree. The use of only chemical analyses for gas identification, however, can sometimes produce misleading results; due to differences in the size, mass, and solubility of the different chemical components, the chemical composition of gas can change as it migrates. Higher molecular weight compounds (ethane, propane, butane, etc.) can be removed during migration. The resulting thermogenic gas would be chemically similar to a microbial gas. A more definitive method for distinguishing gases derived from different sources is isotopic analysis.

Isotopes are different forms of the same element, varying only in the number of neutrons within their nuclei and thus in their mass. Carbon, for example, has three

Table 1. The chemical constituents of natural gas

<u>Hydrocarbons</u>	
Methane	CH ₄
Ethane	C ₂ H ₆
Propane	C ₃ H ₈
Iso-Butane	C ₄ H ₁₀
Normal Butane	C ₄ H ₁₀
Iso-Pentane	C ₅ H ₁₂
Normal Pentane	C ₅ H ₁₂
C ₆ +	C _{n>5} H _{n>12}

<u>Fixed Gases</u>	
Nitrogen	N ₂
Carbon Dioxide	CO ₂
Argon	Ar
Hydrogen	H ₂
Helium	He

naturally occurring isotopes, carbon-12, carbon-13, and carbon-14. The two stable (non-radioactive) isotopes of carbon, carbon-12 (¹²C) and carbon-13 (¹³C), are present in all organic materials and have average abundances of 98.9 and 1.1 percent, respectively. These two isotopes of carbon undergo the same chemical reactions but because of the small difference in mass, the reaction rates are sometimes slightly different. As a result, the relative proportions of carbon-12 and carbon-13 may not be exactly the same in the reaction products as they were in the source materials. For example, the formation of methane by the microbial decomposition of organic material results in methane that is depleted in carbon-13 (enriched in carbon-12) relative to the original organic material. Once methane is formed, its carbon isotopic composition, or ¹³C/¹²C ratio, is relatively unaffected by most natural processes. Carbon isotopic compositions can be determined for each of the carbon-bearing components present in the gas and can provide a great deal of information about the origin and history of the gas.

The third naturally occurring isotope of carbon, carbon-14, is a radioactive isotope formed in the upper atmosphere by cosmic rays and has a natural abundance in atmospheric carbon dioxide of about 1x10⁻¹⁰ percent. Carbon-14, the basis for the radiocarbon dating method, is present in all living things. Plants extract carbon dioxide directly from the atmosphere and convert that carbon into cell material; animals eat those plants thus obtaining their carbon indirectly from the atmosphere. All living things, therefore, attain a carbon-14 concentration which is essentially equal to the carbon-14 concentration in atmospheric carbon dioxide. However, once a plant or animal dies and stops taking in new carbon from the atmosphere, the amount of

carbon-14 present gradually decreases with time due to radioactive decay. The half-life of carbon-14 is 5,730 years which means that after 5,730 years, half of the original amount will have decayed. After about 50,000 years (10 half-lives), the amount of carbon-14 left is so small that it can no longer be detected by conventional methods. Hydrocarbon gases which are formed from the decomposition of organic materials will have a carbon-14 concentration equivalent to that of the organic material from which they were formed. Microbial gases formed from organic material that is less than 50,000 years old contain measurable quantities of carbon-14. Thermogenic (petroleum or coal related) gases, on the other hand, are generally formed from materials that are millions of years old, and thus contain no carbon-14. This analysis can be used to identify gas which is formed in the soil zone or from recent sediments.

Methane formed from organic materials that are less than about 40 years old has an elevated carbon-14 concentration because atmospheric testing of nuclear bombs in the 1950's and 1960's resulted in a significant increase in the carbon-14 content of the atmosphere. Methane formed from relatively recent organic materials such as that found in modern landfills and in sewage, typically contains some "bomb carbon" and thus has an elevated carbon-14 concentration.

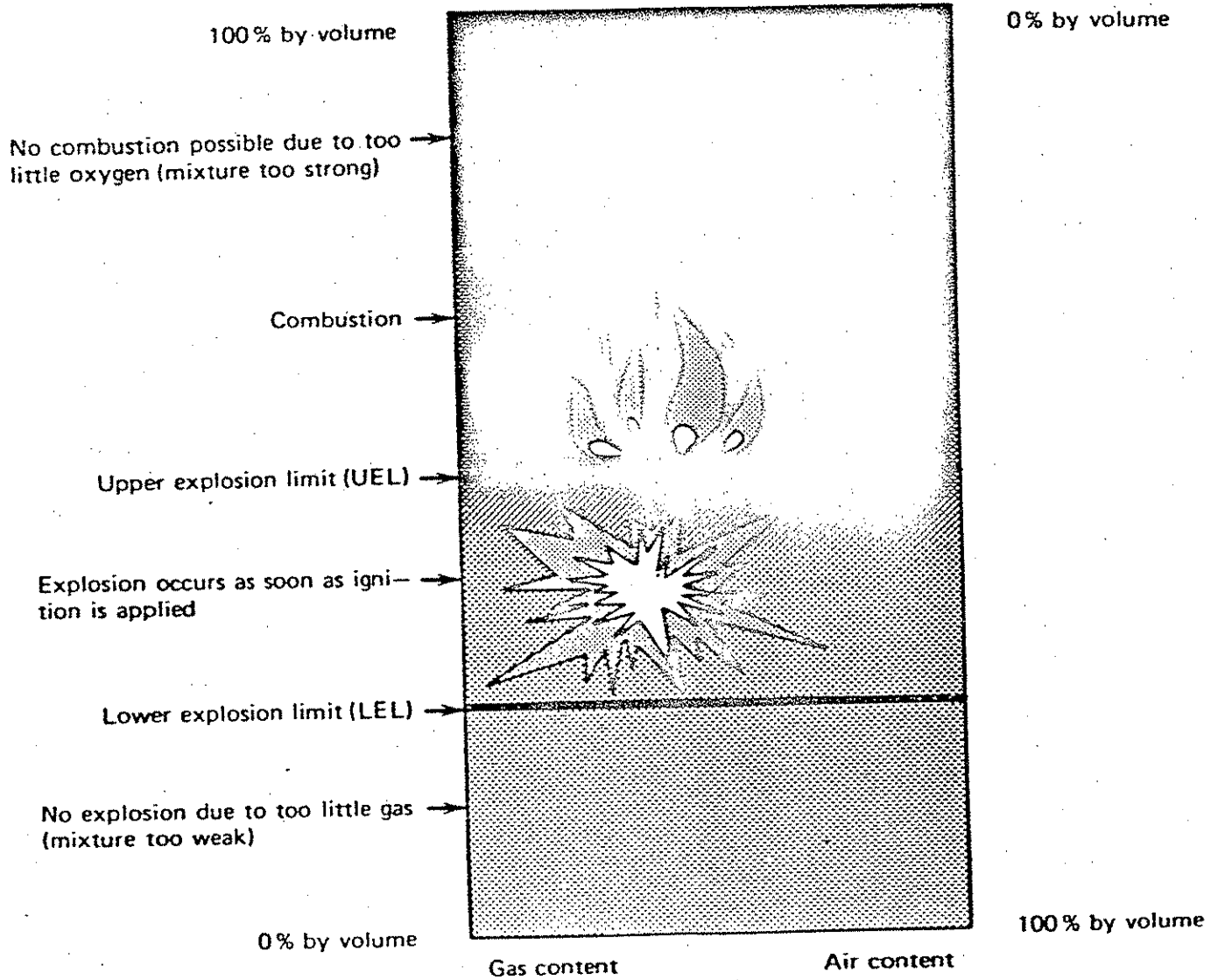
Hydrogen also has two naturally occurring stable isotopes, ^1H or protium (more commonly just referred to as hydrogen, H), and ^2H or deuterium (D). The hydrogen isotopic composition of methane can also provide useful information for distinguishing gases from different sources. Hydrogen isotope analysis of microbial methane can sometimes even help to elucidate the metabolic pathway by which the gas was formed.

Determining the source of gas collected by subsoil sampling therefore involves carrying out a variety of chemical and isotopic analyses. Although the source can sometimes be obtained by analysis of only the subsoil gas samples, to obtain conclusive results, it is generally necessary to also collect and analyze samples from other sources such as nearby gas and/or oil wells, pipelines, landfills, etc. A complete chemical and isotopic analysis can provide information not only on the source of the gas, but also on the chemical, physical, and microbial processes to which it has been subjected. This information can be helpful in evaluating the migration rate and the potential danger in order to determine what, if any, remedial action may be required.

Problem Assessment.

Identification of potential problems caused by combustible gas in the near surface can generally be accomplished using the procedures described. If methane concentrations exceeding a few percent are present, there is a potential for a severe problem. How the problem can be dealt with will depend on the size of the area affected, and on the source of the gas. If the source of the gas is localized and from

a near-surface source such as leakage from a buried pipeline, leakage from a gas or oil well, or from bacterial decomposition of shallow organic deposits, it may be possible to repair or remove the problem. If, on the other hand, the gas is identified as being of thermogenic origin, and related to larger quantities of gas at greater depth, it may not be possible to eliminate the source. One must then "treat the symptoms" by providing vents and/or collector systems to prevent the gas from accumulating in areas where it could result in an explosion, and continuously monitor the problem to be certain that it does not worsen.



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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF LOS ANGELES

JOSEPH STADISH and)
LYN STADISH,)
)
Plaintiffs,)
)
vs.)
)
SOUTHERN CALIFORNIA GAS)
COMPANY,)
)
Defendant.)

No. BC 126952

Deposition of MEHMET R. TEK,
Ph.D., taken on behalf of Defendant,
at 233 Wilshire Boulevard, Suite 550,
Santa Monica, California, beginning
at 1:10 p.m. and ending at 7:07 p.m.
On Friday, March 25, 2000, before
JOHN F. BIEHL, Certified Shorthand
Reporter No. 5859.

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WITNESS EXAMINATION

MEHMET R. TEK, Ph.D.

BY MR. WILKINSON 7

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- 2 Photocopy of a document entitled "Marine Oil Shale in Playa del Rey Field," 15 pages 31
- 3 Photocopy of a memorandum dated July 3, 1998 to Susan Jefferson from Laurie Perry, 1 page with 7 pages of attachments 68
- 4 Photocopy of a document entitled "Order of Magnitude Calculation of How Much Benzene is Released to Atmosphere at Playa del Rey as a Result of So. Cal. Gas Co. Storage Operations," 5 pages 78
- 5 Photocopy of a memorandum dated 4/3/95 to Steve Cardiff from May Lew, 1 page with a 1-page attachment 92
- 6 Photocopy of an untitled document, 1 page 94
- 7 Photocopy of a memorandum dated March 14, 1995 to K. Freeman from J.A. Thompson, 1 page with 13 pages of attachments 97
- 8 Photocopy of a document entitled "Exploration Technologies, Inc.," 9 pages 113

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1 Los Angeles, California, Friday, March 25, 2000

2 1:10 p.m. - 7:07 p.m.

3

4 THE VIDEOGRAPHER: Good afternoon. My name is Barry
5 Varanese. I'm a videotape operator with Biehl & Bell,
6 et al., located in Anaheim, California.

7 This is the videotaped deposition of Mehmet
8 Tek, Ph.D., beginning at 1:10 p.m., March 24, 2000, in
9 the matter of Stadish versus Southern California Gas
10 Company, et al. The case number of which is BC 126952.

11

12 This deposition is being taken at 233 Wilshire
13 Boulevard, Santa Monica, California. This deposition is
14 being taken on behalf of defendants.

15 May we please have introductions beginning with
16 the doctor.

17 THE WITNESS: My name is Rasin Tek. I live in Kona,
18 Hawaii.

19 MR. HERZOG: I'm Ian Herzog. I represent Dr. Lyn
20 Stadish.

21 MR. WILKINSON: Kirk Wilkinson for defendant,
22 Southern California Gas Company.

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MEHMET R. TEK, Ph.D.,

having been duly sworn, was examined and testified
as follows:

EXAMINATION

BY MR. WILKINSON:

Q Dr. Tek, could you please spell your name for
the record?

A M, like in mother, e-h-m-e-t, middle initial
R., last name T-e-k.

Q What's your current business address?

A 73-4329 C, like in Charlie, Haiahi Street,
H-a-i-a-h-i, Kailua-Kona, Hawaii 96740.

Q Are you self-employed at this time?

A Yes, sir.

Q How long has that been the case?

A That's been the case for the last probably 40
years as a consultant.

Q And do I understand correctly that you're here
today to testify as an expert witness retained by the
plaintiff in Stadish vs. Southern California Gas
Company?

A Yes, sir.

Q You're appearing pursuant to a subpoena that was
issued in this matter?

1 MR. HERZOG: No, he's not. He's by agreement.

2 MR. WILKINSON: Let's go ahead and mark as Exhibit 1
3 a copy of the subpoena that was issued in this matter.

4 (Defendant's Exhibit 1 marked
5 for identification.)

6 MR. HERZOG: This has never been served on him.
7 I've never seen this before.

8 MR. WILKINSON: It's the second or third one served.

9 Q Have you ever seen this document before,
10 Dr. Tek?

11 A No, sir, I have not.

12 Q Turn to the typewritten page that has a 1 at
13 the bottom of it --

14 A Uh-huh.

15 Q -- it's behind the tab 1 there. Have you ever
16 seen this page before?

17 A I don't believe I have, no.

18 Q So it states the obvious, since you haven't
19 seen it, but you haven't done any search of your files
20 to try and find the records that are listed in this
21 subpoena to bring with you here today?

22 A What was that question again?

23 Q Were you ever given a list of documents like
24 that reflected on page 1 of Exhibit 1 and asked to bring
25 them with you to your deposition here today?

1 A I was asked to bring my notes. As a matter of
2 fact, I was asked to bring anything that I have relevant
3 to that case by Mr. Herzog.

4 Q Did you bring your entire file with you here
5 today?

6 A My entire work file is here but the documents
7 that were sent to me, which were Xerox copies of matters
8 related to this case, were about maybe 80 pounds or 90,
9 and I did not bother carrying them all the way from
10 Hawaii. I assume they would also be available at the
11 time of the deposition.

12 Q When were you retained in this matter?

13 A Maybe some two and a half, three years ago.

14 Q How were you contacted?

15 A Phone call from Mr. Endres.

16 Q What were you told about the case at that time?

17 A I don't recall the details. I was asked
18 whether I would be able to help them find out facts
19 about the facility, Playa del Rey storage facility,
20 because I happen to know storage facilities.

21 Q And since the time that you were retained, can
22 you provide me an estimate of approximately how much
23 time you put in on this project?

24 A I would say within maybe 50, 60 hours, off the
25 top of my head.

1 Q Can you provide me an estimate as to how much
2 of that time has been put in in the near term, let's say
3 the last three months this year?

4 A Most of it. I would say maybe 80, 90 percent
5 of it.

6 Q Do I understand correctly that your expertise
7 is in underground storage?

8 A Yes, sir.

9 Q And you have worked on, if I read the records
10 correctly, more than 150 underground storage reservoirs
11 in your career?

12 A Probably more than that. I'm supposed to know,
13 but I've been associated with or made research or
14 consulting or actual design in some 25 percent of the
15 reservoirs in the U.S. -- 35 percent reservoirs in U.S.
16 and 25 percent reservoirs worldwide.

17 Q About how many reservoirs are there in the
18 United States?

19 A 380, 390, 370.

20 Q You've worked on roughly a third of those?

21 A I did not work on a third of those. I have
22 been -- consulted with, testified, wrote reports,
23 learned about them, maybe -- maybe 25, 30 percent, yeah.

24 Q And do you have a particular subspecialty in
25 underground storage?

1 A No, I -- more of a general -- in general sense,
2 underground storage. I do happen to have a reputation I
3 enjoy, which I probably don't deserve, in inventory
4 verification, malfunctions, failure modes, et cetera.

5 Q And one of the books you have published is on
6 inventory and deliverability?

7 A Yes.

8 Q That is one of the areas that you focus on in
9 your work?

10 A Yes, sir, I have.

11 Q What is inventory and deliverability as a
12 concept? What aspects of storage reservoir work does
13 that encompass?

14 A Well, in my -- in my first book, not the one
15 that you refer to, which is design of storage fields
16 by -- by Quafi, I defined three attributes for
17 underground storage. They were so stated as
18 verification of inventory, assurance of the
19 deliverability, retention against migration. Kind of a
20 triangular concept.

21 Inventory is a number of goods you have.
22 Deliverability relates to how fast you can move it out
23 to the market and replenish your inventory -- your
24 working inventory. And migration is the concept
25 intertwined with both -- the effects of both and how it

1 is related to both.

2 Q What number should we use, 375 storage fields
3 in the United States, is that a good round number?

4 A U.S. and Canada included.

5 Q In North America, is that a good round number
6 to work with?

7 A Yeah.

8 Q Of those approximately 375 underground storage
9 fields, approximately how many utilize former oil fields
10 as the basis for their storage?

11 A I -- I can give you -- top of -- top of my head
12 an estimate, and I'm familiar with maybe half a dozen,
13 eight of them. If I -- 400 -- I would say maybe 10
14 percent of the total.

15 Q And how many of those have you done some work
16 concerning?

17 A Oh, I worked with the Laudon field in Illinois,
18 depleted oil field originally owned by Exxon, ultimately
19 sold to Natural Gas Pipeline Company. I worked at, more
20 recently, Bell Creek, depleted oil field sold by Exxon
21 to individual operator in Wyoming.

22 I worked with Overisel field, Michigan,
23 depleted oil field operated and stored by Consumers
24 Power. I worked in a number of fields in Niagran
25 Silvrean in Trent, Michigan originally discovered by

1 Shell, ultimately sold as depleted condensate fields to
2 Michigan Consolidated Gas Company and American Natural
3 Gas.

4 There probably are others, but those are, off
5 the top of my -- just -- first -- first-cut estimates,
6 let's put it that way.

7 Q In any of the work that you have done as an
8 expert in underground storage, have you ever performed a
9 study of benzene in connection with any of these
10 facilities?

11 MR. HERZOG: Object to the form of the question as
12 vague and ambiguous and it's also very broad. I don't
13 know how he can -- he may answer the question, but I
14 don't know that the answer will necessarily be
15 responsive to the question because it's vague. He may
16 be thinking one thing and you may be thinking something
17 else by a question like that.

18 THE WITNESS: I have studied many storage
19 reservoirs. I happen to know about benzene, but I did
20 not make a specific directed focused study on benzene
21 except for the one that we're talking about now.

22 BY MR. WILKINSON:

23 Q You've looked at benzene in connection with the
24 case you're here to testify about today?

25 A Yes, sir.

1 Q And if I went through the list of publications,
2 you don't have something out there that is a study on
3 one of these storage reservoirs that's specifically on
4 the concept of benzene or the compound benzene?

5 A I don't know what you mean by the concept of
6 compound of benzene.

7 Q Let me rephrase it.

8 I'm just trying to figure out whether you, in
9 the past, have published any articles, written any books
10 specifically about the presence of benzene in natural
11 gas storage where that was the focus of the publication,
12 not just a word that might have been mentioned in a
13 paper that you wrote.

14 A Well, the concept of presence of benzene is
15 something I know about but I did not publish about.

16 Q Have you ever taken the position that any of
17 those underground storage facilities that you've worked
18 at were a health hazard to the people working there
19 because of the presence of benzene in stored natural
20 gas?

21 MR. HERZOG: Objection; assumes a fact not in
22 evidence that there was benzene in these other
23 facilities like this.

24 THE WITNESS: Benzene probably may have existed in
25 minute quantities but not of the amounts that could

1 cause concern, so I did not particularly look for the
2 hazard by the benzene, but I do look in the overall
3 procedure by which people tend to operate the storage
4 field in a prudent and safe and effective manner; that's
5 all.

6 BY MR. WILKINSON:

7 Q Have you ever told any of your clients in these
8 storage fields that you've worked at that their storage
9 field was a hazard to somebody because of the presence
10 of benzene in natural gas at that field?

11 MR. HERZOG: Objection; assumes a fact not in
12 evidence that it was ever determined to be in hazardous
13 quantities.

14 THE WITNESS: I would not say -- I would not use the
15 word "ever" because I have discussed hazardous materials
16 with my clients in the past. I -- and I happen to know
17 benzene is a hazardous material, so I -- I'm not going
18 to state on the record that I have never ever discussed
19 benzene with my clients. I probably have.

20 BY MR. WILKINSON:

21 Q Have you ever taken the position with any of
22 those clients that their storage facility was a hazard
23 to people living nearby because of the presence of
24 benzene in the natural gas that was stored there?

25 MR. HERZOG: Again, assumes facts not in evidence

1 that there was people nearby.

2 THE WITNESS: I discussed with a client of mine that
3 the hazard that benzene would create if it's collected
4 and mixed up in the -- in the I/W wells and it -- where
5 it would possibly escape from the system and get --
6 where it would get emitted into the atmosphere.

7 BY MR. WILKINSON:

8 Q What client was that?

9 A Questar -- Questar Regulated Services
10 Corporation.

11 Q Other than Questar, have you ever talked about
12 that with anybody else?

13 MR. HERZOG: You know, I -- the problem is I don't
14 know if any of this gets into attorney work product
15 privilege or attorney/client communication privileged
16 matters, and since he's not the holder of the privilege,
17 you're going to have to ask him whether or not any of
18 these others have anything to do with litigation ongoing
19 or whether there's any kind of privilege associated with
20 any of that because if there is, I'm not free to waive
21 the privilege, and he's certainly not free to waive the
22 privilege because we're not the holders of them.

23 MR. WILKINSON: Let's try it a different way, then.

24 Q In these storage facilities that you've worked
25 with, is it fair to say that most of them, if not all of

1 them, are regulated by some government regulatory agency
2 that oversees the safe operation of these facilities?

3 A Well, if -- it's either the state regulatory
4 bodies or Federal Energy -- FERC.

5 Q But at some level there's a regulatory body
6 out there that is responsible for overseeing the safe
7 operations of the facilities that you work with?

8 A I would say the responsibility first belongs to
9 the operator but then also supervised by some other
10 regulatory body, whatever that's -- whatever the
11 location and system is.

12 Q Have you, for any of the storage fields that
13 you've worked with, ever gone to a regulatory agency and
14 indicated to them that there was a health hazard related
15 to benzene at any of the storage facilities that you
16 worked at?

17 A No, I discussed. I did not go to the
18 regulatory body and -- and -- indicated to them that
19 there was a health hazard, but I was party to discussion
20 of health hazard connected with benzene in some of my
21 dealings with the regulatory bodies.

22 Q What regulatory body?

23 A That would be the Fraser Valley Commission --
24 the Royal Commission for Development of Fraser Valley in
25 British Columbia.

1 Q What client was that for?

2 A Mr. Anderson, the commissioner -- royal
3 commissioner called me as a -- as a witness -- expert
4 witness where benzene was much discussed.

5 Q What testimony did you provide concerning
6 benzene?

7 A My testimony related to, not specifically the
8 benzene but the -- but the susceptibility to gas in
9 planned storage facility to escape from the storage
10 environment and possibly carry, if it contained aromatic
11 such as benzene, toluene, zylene, et cetera, et cetera.

12 Q What work have you done in the 50 or 60 hours
13 that you mentioned to prepare your opinions in this
14 matter? What have you devoted your time to?

15 A Oh, read the documents, think about it. I
16 think about it all the time, which I didn't count into
17 the 50 hours. I did some effort to quantify the amount
18 that would be significant figures. If so, it's the
19 relationship between these figures and the -- the amount
20 that could be exposed to the environment, the
21 underground, to the waters, to the air.

22 Q Have you visited the Playa del Rey gas storage
23 facility since you've been retained?

24 A Yes, sir, I have.

25 Q When did you do that?

1 A I have visited Playa del Rey facility within
2 the last maybe month or two, but I have also been there
3 before.

4 Q When were you there in the last month or two?

5 A When was I there?

6 Q Uh-huh.

7 A Last month or two.

8 Q Okay. What --

9 A Exact date?

10 Q What was the purpose of your visit at that
11 time?

12 A I came to discuss this case with Mr. Herzog and
13 his staff.

14 Q Did you go to the facility property itself?

15 A Not the facility property itself. We drove
16 around to refresh my memory, which was very effective
17 because I did recall where the plant was located and
18 where the storage field was, et cetera.

19 Q So was there --

20 A Where the compressor station was, where's the
21 bluffs, that's it.

22 Q So this was a driving tour around the facility?

23 A Yes, sir.

24 Q And you mentioned that you've been there
25 before. When were you there in the past?

1 A Well, I was -- I was hired by Fulbright &
2 Jaworski to act as an expert on the case of -- of --
3 Pacific Enterprise at that time happened to be on the --
4 on the site of Southern California Gas Company.

5 Q When was that?

6 A Early '90s, maybe '91 or '92.

7 Q What was that dispute about?

8 A It was a tax dispute between the Internal
9 Revenue and -- as to the amount of cushion gas carried
10 in the storage and how much it would cost to change, and
11 whether one would save money for the rate payers if
12 certain engineering changes were made in the storage
13 field.

14 Q And how many hours did you put in on that
15 project?

16 A I don't remember.

17 Q Did you actually testify in that matter?

18 A Yes, I did.

19 Q In deposition?

20 A Both in deposition, I recall as -- and in the
21 -- during the trial.

22 Q Where was that trial?

23 A Los Angeles.

24 Q Do you recall the judge?

25 A Judge Cohen.

1 Q What opinions did you offer in that matter?

2 A I analyzed the operations with respect to the
3 inventory, the cushion gas, working gas, overall
4 reservoir capabilities, deliverability and the matters
5 that are related to the storage attributes.

6 Q What did you conclude?

7 A I conclude that the company was operating with
8 reasonable level of cushion gas, that it would be
9 considerably expensive matter to lower the threshold of
10 the cushion gas to get more gas out per unit, gas kept
11 in place.

12 Q Did you review any gas company records in
13 reaching those opinions?

14 A Yes, I have.

15 Q And did any of your opinions in that matter
16 concern any hazardous substances present in natural gas?

17 A I did not look for any. It was not a matter of
18 contention at the time.

19 Q Did you do any physical testing of any type at
20 the Playa del Rey gas storage facility in connection
21 with that?

22 A No, sir. I have not done any physical testing,
23 no.

24 Q Have you done any physical testing at the Playa
25 del Rey gas storage facility in connection with

1 preparing your opinions for your testimony here today?

2 A What do you mean by "physical testing"?

3 Q Have you gone out there and taken a sample of
4 any type?

5 A No, I haven't.

6 Q Can you describe for me the opinions that
7 you're prepared to give at trial in this matter?

8 A Yes, sir, I can.

9 To begin with, having studied the background
10 that's been made available to me on the two occasions,
11 the first Playa del Rey tax case and the present
12 litigation, I came to the main opinion that the field is
13 most unique, perhaps in more than one aspect, but
14 basically the field is unique because it happens to be
15 in a depleted oil field that contained aromatics. And I
16 think it's -- as far as I know, it's undisputed that
17 aromatics exist in that crude oil, and if they do, I do
18 happen to know that those aromatics, particularly
19 cyclohexane, benzene, toluene, xylene, perhaps some
20 others, will go into the contracting phase with the
21 injected dry pipeline quality gas to revaporize into the
22 produced withdrawn storage gas, and as such will be
23 brought to the surface.

24 Now, there are also -- on the basis of my
25 knowledge of the Playa del Rey, I believe there are many

1 THE WITNESS: It would be my pleasure.

2 MR. HERZOG: Sure.

3 BY MR. WILKINSON:

4 Q Let's start out with your opinion wherein I
5 think you described it as the uniqueness of this field.

6 A Yes, sir.

7 Q Let's break that down a little bit.

8 When I was asking you about storage fields in
9 general, you indicated that about 10 percent of those in
10 North America are depleted oil fields.

11 A I ventured a wild guess. Yes.

12 Q Something in that range. So we're talking 30,
13 40, 50 in the United States, that kind of range?

14 A Probably.

15 Q And when you say it's a depleted oil field with
16 aromatics, are there aromatics remaining in any of those
17 other storage fields?

18 A Possibly.

19 Q Have you made any study of that in preparing
20 your opinions for this?

21 A I did not make a study of the -- how many of
22 them have aromatics, but I do happen to know that many,
23 many crude oils have aromatics, not very frequently, but
24 not -- I don't believe to the extent that there are
25 aromatics in the Playa del Rey field.

1 MR. HERZOG: That's your second one. I'm counting.

2 BY MR. WILKINSON:

3 Q Is benzene present in natural gas as a
4 naturally occurring constituent?

5 A Probably sometime.

6 Q Do you have any estimate as to the
7 concentration range at which benzene is present in
8 natural gas?

9 A You mean naturally occurring?

10 Q Yes.

11 A I don't have an estimate, no.

12 Q When you say that the aromatics exist in the
13 crude oil in this field, what have you relied upon to
14 identify the existence of those aromatics in this
15 particular field?

16 A Well, just some literature that I happen to
17 come by.

18 Q Can you tell me what literature that is? Do
19 you have it with you here today?

20 A Yeah, I have a copy of it here. Blount Jones
21 and another author, an article called "Marine Oil Shale
22 In Playa del Rey Field," by Harold W. Hoots, A.L. Blount
23 and P.H. Jones.

24 Q When was this published?

25 A Long time ago. I couldn't find the date, but I

1 would -- I would venture in maybe '40s, '30s.

2 Q Anything else that you've relied upon in
3 reaching your conclusion that there are aromatics in the
4 crude oil in the Playa del Rey storage field?

5 A Well, I happen to know that the geologic
6 occurrence of the crude oils in California are known to
7 have, to some extent, more aromatics than in general
8 crude oils found, I would say, elsewhere.

9 Q Can you describe the difference for me?

10 MR. HERZOG: I don't know what you mean by that
11 question. It's vague and ambiguous.

12 THE WITNESS: Crude oils contain several families of
13 hydrocarbons. Saturated long-chain hydrocarbons,
14 methane, ethane, propane, butane, C1 -- so called C1,
15 C2, C3, et cetera, and there's the -- the cyclo
16 compounds, cyclopentane, cyclohexane, et cetera. Some
17 of those cyclics are aromatics.

18 Then there is the semi-cyclic, semi-long-chain
19 molecular structure, which are called, I believe,
20 naphthenes, there are some that are undersaturated
21 aromatics, such as ethylene, et cetera, that I don't
22 think ethylene ever occurs in crude oil, but similar to
23 ethylene, I should say to be correct, that they're
24 called olefiant. Of these various occurrences,
25 sometimes certain type of crude oils are more

1 susceptible to yield more the old aviation gasoline,
2 more volatile, more benzene-like, if you will.

3 Others are quite devoid of such aromatics are
4 crude oils that one would encounter in West Texas and
5 Australia and North Sea, et cetera.

6 My knowledge on these are limited, but I do
7 happen to know that you do find more aromatics in some
8 of the California crudes, Rincon oil field comes to
9 mind, where I believe there has been a case where
10 aromatics have been measured.

11 BY MR. WILKINSON:

12 Q Do you know what they were measured at?

13 A Where they are measured at?

14 Q What levels at Rincon?

15 A Well, the number that rings into my mind and I
16 recollect, order of 600, maybe 700 parts per million.

17 Q In the oil?

18 A In the --

19 Q In the crude oil?

20 A In the vapor that's in equilibrium with the
21 crude oil in the reservoir.

22 Q You said that this field was most unique, and
23 you said that in connection with the aromatics issue.
24 I'm trying to find out whether you've done anything to
25 quantify what it is about this field that's unique

1 compared to other fields that have aromatics.

2 MR. HERZOG: Part of the question is argumentative,
3 the other part of the question I don't understand, so I
4 object to it as argumentative and ambiguous.

5 Answer it if you can.

6 THE WITNESS: It's unique, probably from several
7 respects, but the one aspect that you're interested,
8 they're interested and everybody is interested, is that
9 in aromaticity, the contents of the material that you
10 would distill and identify as benzene, cyclohexane,
11 toluene, zylene, et cetera, aromatic materials.

12 But also, I happen to know that the field is
13 unique because of the subgeological source bed migration
14 and occurrence of oil. I know people have looked into
15 this field where normally the crude oil that's formed
16 through eons and eons of geologic time migrates in the
17 formation, but that migration is normal, they're usually
18 vertically upward.

19 In this case, there's evidence pointed out by
20 some geologists in some of the literature that I read
21 that originally the crude oil which does contain the
22 aromatics migrated downward against gravity. Now, this
23 sometimes happened to a phenomenon called the compaction
24 of shales and some geophysical phenomenon where I'm not
25 an expert, but I happen to know that sometimes you find

1 very peculiar route which the molecules have taken
2 before they are accumulated under a cap rock or under a
3 stratographic trap which captured that material.

4 Now, Playa del Rey is also unique with
5 respect -- third area that I would suggest again, off
6 the top of my head which makes me think that it's a
7 unique field, it's much larger in -- in its extent than
8 it was first originally thought. It communicates
9 laterally more freely with extended environment than
10 fields normally do. That being the case, it's a kind of
11 a field that I would perhaps think twice before I turned
12 into a storage field, but that's neither here nor there,
13 it's been done in the past, I guess.

14 BY MR. WILKINSON:

15 Q Have you done anything to quantify the presence
16 of the aromatics at the Playa del Rey storage field?

17 A Quantify the presence of the aromatics in the
18 crude oil you mean?

19 Q Yes.

20 A No, I did not measure -- I did not analyze it,
21 but I happened to see some literature that had some
22 distillation results that indicated to me that there are
23 aromatics in the Playa del Rey field.

24 Q What literature are you talking about?

25 A They're ones that I mentioned -- the one that I

1 mentioned before.

2 Q Any others?

3 A 19.2 percent, as I recall, in the deep Playa
4 del Rey crude and about maybe up to 30 percent in the --
5 in the nodular shale, which is really the cap rock to
6 the storage field -- crude oil found in the cap rock to
7 the storage field.

8 Q And that's again from the Hoots and Blount and
9 Jones article?

10 A Yeah. Yeah.

11 Q Do you have a copy of that with you?

12 A Well, a copy of part of it.

13 Q Can I make a copy of it?

14 THE WITNESS: Well, part of it.

15 MR. HERZOG: Why don't you put stickies on whatever
16 you'd like to have copied. I'll be happy to have that
17 done at any time you would like.

18 THE WITNESS: That's not the entire paper but the
19 part that's kind of relevant to you.

20 MR. WILKINSON: Let's go ahead and we'll get a copy
21 of this later and mark this as Exhibit 2.

22 (Defendant's Exhibit 2 marked
23 for identification.)

24 BY MR. WILKINSON:

25 Q Can you tell me where it is within that

1 particular article that you got the information
2 concerning the percentage of aromatics in the crude?

3 A It's marked with a paper clip -- page marked
4 with the paper clip.

5 MR. HERZOG: The one that almost fell off.

6 BY MR. WILKINSON:

7 Q Page 199, in Table 5 there that has the
8 percentages in it?

9 A Yes, sir.

10 Q Do you have any other information concerning
11 the quantity of aromatics in the Playa del Rey storage
12 field?

13 A No, sir, I have not been able to find. I
14 looked for it.

15 Q Have you searched the literature to find
16 information concerning the quantity or percentage of
17 aromatics in the other depleted oil storage fields
18 operated in the United States?

19 A Have I searched for it?

20 Q Yes.

21 A No, I have not searched for it. No.

22 Q Do you have any numerical comparison to other
23 depleted oil storage fields as to the percentage of
24 aromatics that would be present in the distillate from
25 crude in those formations?

1 A Oh, I've seen in the past lots of distillation
2 analyses and -- which had some aromatics, but I cannot
3 specifically cite to you one as in support of what
4 you're talking about.

5 Q Have you made any study to determine whether
6 this is higher or lower than the other depleted oil
7 storage fields?

8 A Oh, no, I -- one doesn't need to make a study
9 to find out whether this is higher and lower, it's very
10 significant and it's -- it's obvious to anyone
11 knowledgeable in this business.

12 Q Have you formed any opinion concerning what the
13 presence of those aromatics does to the concentration of
14 benzene, if any, in the natural gas that's withdrawn
15 from this storage field?

16 MR. HERZOG: You say "study"?

17 THE WITNESS: Could you please repeat that question?

18 MR. HERZOG: I'm reading it here, and I heard a word
19 that's not on the thing here.

20 MR. WILKINSON: It wasn't said.

21 Q Have you formed any opinion concerning what the
22 presence of those aromatics does to the concentration of
23 benzene in the natural gas removed from the Playa del
24 Rey storage field?

25 MR. HERZOG: I think he answered that before.

1 But tell him again.

2 THE WITNESS: Yes, I have.

3 BY MR. WILKINSON:

4 Q What opinion have you formed?

5 A Well, my opinion is that the amount of -- the
6 amount of benzene that would be in equilibrium were the
7 crude oil in Playa del Rey -- let me restate that,
8 please.

9 I have formed the opinion that the -- the
10 solution gas that had -- that had come out of the Playa
11 del Rey crude, if it's depressurized at reservoir
12 temperature, would contain rather large amount of
13 benzene.

14 Q How much?

15 A I would say conservatively perhaps on the order
16 of anywhere between 1,000, 2,000, perhaps even more,
17 parts per million.

18 Q Have you seen any data to confirm that?

19 A I have made some calculations to confirm it. I
20 have seen some -- I have heard some data to confirm it.

21 Q Let's start with the calculations.

22 Have you brought those calculations with you
23 here today?

24 A Yes, sir. Would you like to see it?

25 Q Please.

1 A There you go.

2 Q In making these calculations, you made certain
3 assumptions concerning the percentage of aromatics
4 present in the crude?

5 A Yes, sir.

6 Q And you relied on the 19.2 percent provided in
7 the Hoots, et al. article?

8 A Is an approximation, yeah.

9 Q Do you know if that has been measured at any
10 time since that article was published in the 1940s?

11 A I have no reason to think that it would be
12 different in order of magnitude type of calculation than
13 what it is in the article. I have no reason to doubt
14 that article either.

15 Q And you made an assumption that benzene is 10
16 percent of the aromatics present in the crude?

17 A Just to be generous and conservative.

18 Q Based on that assumption, you've reached the
19 conclusion that the storage gas contains up to 2,000
20 parts per million benzene?

21 A Yes.

22 MR. HERZOG: Maybe even more, he said.

23 THE WITNESS: Could be more approximately order of
24 magnitude, yes.

25 BY MR. WILKINSON:

1 Q And do you know what the benzene content of the
2 gas is when it's injected into the storage field?

3 A I have seen some documents related to that
4 ranging anywhere -- can I --

5 Q Please.

6 A -- look at my notes?

7 Ranging anywhere 100, 200, 300, maybe up to 500
8 parts per million.

9 There was a paper by Katherine Lynn which
10 indicated that specific program at Southern California
11 Gas Company had by enlisting laboratories to measure the
12 amount of benzene in the gas which they buy. Here they
13 are.

14 MR. HERZOG: This one was just of assistance to me,
15 so I thought I would share it.

16 THE WITNESS: So many things --

17 MR. WILKINSON: If Mr. Endres wants to testify, he's
18 welcome to do so. We'll put him under oath and start
19 asking him questions. If not, he can --

20 THE WITNESS: Thank you, Mr. Endres.

21 MR. WILKINSON: -- refrain.

22 THE WITNESS: As I said, up to 500 -- I guess I
23 wasn't too far off -- benzene parts per million pipeline
24 gas analysis as document says 139, 137, et cetera, 236,
25 27, 45, 565 parts per million.

1 BY MR. WILKINSON:

2 Q Do you know if any of the gas that is listed on
3 this particular sheet is stored at the Playa del Rey
4 storage field?

5 A I am led to believe that's the gas from the
6 suppliers to Southern California Gas Company.

7 Q Do you know if the gas from these particular
8 suppliers is stored at Playa del Rey as opposed to
9 anyplace else?

10 A I don't know where they are stored, but I'm
11 assuming that since it was part of -- of an effort by
12 the gas company, and I -- I -- I understood the gas
13 company to have some concern about the benzene and the
14 gas they buy, incidentally, which surprised me because
15 if the gas company had such a concern about the benzene
16 in the gas they buy, I think the same gas company ought
17 to have some concern about the benzene which they sell
18 which comes out of the storage field. And since those
19 numbers are pretty high and my numbers are even higher,
20 I think that's a matter that should be of concern to
21 both of you folks.

22 Q Do you know whether any gas supplied by Grainer
23 is stored at the Playa del Rey storage field?

24 A I did not, but I do happen to know that it's of
25 interest to the gas company because gas company buys

1 various amounts of natural gas materials, which it --
2 had it analyzed by companies for benzene content.

3 Q Do you know what percentage of gas purchased by
4 the gas company comes from that particular supplier?

5 A No, I don't.

6 Q Do you know whether this list here represents
7 the universe of suppliers for gas at Playa del Rey?

8 A I don't know that constitutes a universe. I
9 have no detailed knowledge of that.

10 Q In doing your work or your calculations, did
11 you reach a conclusion as to the benzene concentration
12 of the gas coming into the storage field?

13 MR. HERZOG: Object to the form. At what time?

14 Vague as to time.

15 MR. WILKINSON: At the time of delivery.

16 MR. HERZOG: Again, vague as to time.

17 THE WITNESS: My calculations did not even account
18 for the benzene that's injected into the storage field.
19 My calculations were focused on the amount of benzene
20 which emanate from the indigenous crude oil present in
21 the storage field, which I believe is now in the order
22 of some 50 million barrels or so.

23 BY MR. WILKINSON:

24 Q Did you reach any conclusion as to the amount
25 of benzene that's in the gas when it's delivered to the

1 field? Did you use that in any way in your opinion?

2 A No. My calculations assumed that it's 0
3 benzene goes into the storage field, and how much would
4 come out from the crude oil that's indigenous to the
5 storage field, that's all.

6 Q Your calculation of the approximately 2,000
7 parts per million --

8 A Uh-huh.

9 Q -- is that a good round number to use?

10 A Yeah, it's a good number.

11 Q It's based entirely upon contact with crude oil
12 in the reservoir itself?

13 A Yes, sir, it is.

14 Q Have you done any testing to confirm or refute
15 those calculations?

16 A Testing to confirm or refute?

17 Q Yes. Have you attempted to measure?

18 A I've just been in the discovery phase, I would
19 say, maybe last four weeks. I -- obviously, I neither
20 have attempted or thought about measuring the amount of
21 crude oil, but I wished the company did, and maybe --
22 perhaps those records are available that they could be
23 found.

24 Q Where at the Playa del Rey facility would you
25 expect to find this concentration?

1 MR. HERZOG: I've got to take a break after this,
2 please, or right now, whatever is convenient. I've just
3 been summoned.

4 MR. WILKINSON: That's fine.

5 MR. HERZOG: Can we take a break now or do you want
6 to finish this?

7 MR. WILKINSON: Actually, yes. Can I have two
8 minutes?

9 MR. HERZOG: Sure. Sure can.

10 BY MR. WILKINSON:

11 Q Where at the Playa del Rey storage facility
12 would you expect to find this concentration of 2,000
13 parts per million benzene in natural gas?

14 A I would say in the withdrawn storage gas in the
15 wells, in the gathering system, throughout the various
16 succession of unit operations before the gas is sent to
17 the city gate, the market pipeline connection.

18 Q Now, I just want to make sure I understand
19 location.

20 You're talking about when you did this
21 calculation, you didn't worry about what it was going
22 in?

23 A Uh-huh.

24 Q Started at 0?

25 A That's correct.

1 Q You assumed or you calculated, I'm sorry,
2 didn't mean to --

3 A Yeah. Yeah.

4 Q -- that when it came back out of the ground --

5 A Uh-huh.

6 Q -- that gas contains 2,000 parts per million
7 benzene --

8 MR. HERZOG: Approximately.

9 MR. WILKINSON: -- approximately --

10 THE WITNESS: Approximately, yes.

11 BY MR. WILKINSON:

12 Q -- as it's delivered to the facility to go
13 into the processes at the facility that separate liquid
14 from gas?

15 A Yes, and many other things.

16 MR. WILKINSON: Let's stop there. I'll let you take
17 your break and then I'll follow-up from there.

18 THE VIDEOGRAPHER: Off the record. The time is 2:06
19 p.m.

20 (Recess.)

21 THE VIDEOGRAPHER: We are back on the record. The
22 time is 2:21 p.m.

23 BY MR. WILKINSON:

24 Q Did you make any assumptions concerning the
25 amount of crude oil present in the reservoir at Playa

1 del Rey in calculating this 2,000 part per million?

2 A That 2,000 part per million would be invariant
3 with respect to how much crude oil is present in the
4 reservoir. It would not be related to -- so long as
5 there is enough of it, that is.

6 Q What do you mean by "so long as there is enough
7 of it"?

8 A Well, if you ran out of 100 percent of all of
9 the existing crude oil, there wouldn't be any -- any
10 aromatics because there wouldn't be any crude oil and
11 then the gas wouldn't come into equilibrium and the
12 revaporization of the benzene in the gas phase would not
13 occur. So then there is residual in this crude oil,
14 that phenomenon of phase behavior revaporization will
15 occur. I happen to know that.

16 Q For what elements of the processing at the
17 Playa del Rey storage facility would you expect to find
18 this 2,000 parts per million concentration?

19 A In the gas produced I said. In the gas that
20 comes out of the wells going into the -- going into the
21 gathering system --

22 Q Okay.

23 A -- upstream of the processing.

24 Q What happens to the concentration during
25 processing?

1 A Some changes might occur -- may occur, but by
2 and large, overall numbers I don't think would be
3 effected.

4 Q So you would expect that after the processing,
5 the natural gas that's being delivered to customers
6 still contains approximately 2,000 parts per million?

7 A Order of magnitude, maybe slightly less because
8 some -- some of the -- some of the benzene may go in the
9 solution with various contacting devices into the water
10 and then transported wherever that goes in the system.

11 Q Some of it may go to the liquid-gathering
12 processes?

13 A It may.

14 Q And have you made any estimate as to how much
15 of it goes with the liquid-gathering processes versus
16 how much goes with the gas?

17 A I did not, but I -- I'm hoping and planning to
18 do that if I had an opportunity again.

19 Q It's your estimate here today that that would
20 not change the 2,000 part per million figure greatly?

21 A Not greatly. That's well-stated.

22 Q You'd expect it to stay within two to five
23 percent of that number?

24 A I would not like to be pinned down to two to
25 five percent. I don't know what percent. I would be

1 glad to make you an analysis of that some time.

2 Q You haven't made that analysis yet?

3 A No.

4 Q Would you expect the concentrations to be
5 higher than 2,000 parts per million in any parts of the
6 processing at the Playa del Rey facility?

7 A No, I would not because there's no reason --
8 considering the physical phenomenon that would be
9 involved in benzene getting into the natural gas, once
10 it is produced, there is no reason for it to enrich the
11 benzene content in natural gas any further.

12 MR. HERZOG: I don't want interrupt. I assumed by
13 your question you're assuming in the hypothetical it's
14 2,000 parts per million coming out of the gas well,
15 because he said, of course, it could be more, could be
16 less --

17 MR. WILKINSON: Yes.

18 MR. HERZOG: -- but you're just making that
19 assumption. You just want to know --

20 MR. WILKINSON: Yes.

21 MR. HERZOG: Okay. I understand.

22 BY MR. WILKINSON:

23 Q I'm using, for purposes of my questioning here
24 today, the 2,000 number that's in your calculations, and
25 I'm working from that, I understand you said that's an

1 approximation, but it could be even a little higher,
2 right?

3 A Or lower.

4 Q Okay.

5 A Order of magnitude is really --

6 Q That's an order of magnitude kind of estimate?

7 A Yes.

8 Q How much lower could it be?

9 A Could be 600, 650, that was measured at -- by
10 Professor Kaplan at the Rincon field. In fact, that
11 number is the one that makes me kind of comfortable
12 about my first-cut, very approximate assumption
13 calculations.

14 Q So you're saying that the range at Playa del
15 Rey could go from as little as 650 parts per million to
16 something greater than 2,000 parts per million?

17 A It is possible.

18 Q Did you use your 2,000 parts per million
19 estimate -- shall we call it an estimate calculation?

20 A "Estimate" is a good word.

21 Q 2,000 part per million estimate to calculate
22 the benzene emission from the Playa del Rey facility?

23 A I calculated the total amount which would be
24 involved if 2,000 parts per million was carried out to
25 the surface via I/W wells during the withdrawal process.

1 Q How did you calculate that?

2 A Well, if you -- I happen to know that the Playa
3 del Rey is a peak shaving facility as such when gas
4 control demands, it produces, in those days, 200 to 600
5 million cubic feet per day.

6 If a stream is running at a rate of, say, 200
7 million cubic feet per day, and if it contains 2,000
8 parts per million, a simple matter of arithmetic will
9 tell you that the total amount of benzene involved would
10 be 200 times 2000, 400,000 standard cubic feet.

11 Q Of benzene?

12 A Benzene alone.

13 Q Did you perform this calculation for any
14 substances other than benzene?

15 A You mean such as hydrogensulfide and other
16 things?

17 Q Yes.

18 A No, I did not. No.

19 Q Again, I want to understand the calculation and
20 the basis for it. When you said 200 million cubic feet
21 per day, you were talking about a demand-type figure
22 when this field is on withdrawal?

23 A Yes, sir.

24 Q And you're not saying it's running at that rate
25 every day?

1 A No, it's -- it's a peak-shaving facility I
2 said, yeah.

3 Q So when called upon it can produce between 200
4 and 600 million cubic feet per day?

5 A Yeah. Yeah.

6 Q And the calculation that you were working
7 through was how much benzene would be coming out of the
8 ground in that gas if it's withdrawing at that rate?

9 A Yes, sir.

10 Q Did you do anything to calculate how much of
11 that benzene gets to the atmosphere?

12 A Well, part of it will go to the groundwaters,
13 part of it will be leaking to the atmosphere, part of it
14 will be blown out to the atmosphere through the blowdown
15 stack, part of it will be carried all the way to the
16 city gate and in the pipeline system.

17 Q I guess that's precisely what I'm trying to
18 figure out.

19 As I understand it, this 400,000 cubic feet of
20 benzene for a 200 million cubic feet withdrawal day --

21 A Yes, sir.

22 Q -- did you make any attempt to segregate where
23 that benzene goes?

24 A Well, ultimately it goes to the atmosphere.
25 Some will go to the groundwaters carried out, and

1 depending upon where the groundwater or sewer system
2 goes, ultimately most of it would evaporate out of that
3 and dissipate and diffuse into the atmosphere.

4 Q Well, you said part of it's going to the city
5 gate and the pipeline, you mean --

6 A Part of it will be carried by the gas through
7 the system.

8 Q It's going off to Del Rey junction to be
9 delivered to customers?

10 A Yes.

11 Q And it's your estimate that that could be as
12 high as 2,000 parts per million benzene?

13 A No, I said part of it.

14 Q Okay.

15 A Part of it, not entire of it.

16 Q Okay.

17 A Part of it, yeah. Some concentration will be
18 there.

19 Q Is the concentration different than what's
20 going to the customers? I thought you said that was to
21 be relatively the same.

22 A It may change a little, that's what I'm talking
23 about. It may change a little bit, yeah.

24 Q You haven't estimated what the concentration is
25 going to the customers?

1 A No, I wish -- I wish the gas company did that.

2 Q So you haven't estimated what the volume of
3 benzene is going to the customers?

4 A I -- I have estimated what the total volume to
5 benzene removed from the indigenous crude oil by the
6 process of revaporization and processing and sending
7 and -- whereby part of it would be going to the
8 atmosphere, part of it will be going to the system.

9 Q And you haven't tried to break it down between
10 atmosphere, stack, system, groundwater; is that correct?

11 A No, I haven't broken it down, no.

12 Q Did you make any effort to estimate the amount
13 of benzene emitted from the plant itself, the operation
14 of the facility?

15 MR. HERZOG: I don't know what you mean by
16 "estimate."

17 Object; vague and ambiguous.

18 THE WITNESS: Of the total amount that's transferred
19 to the surface there are some four, possibly five routes
20 that the benzene would get to the atmosphere. Part of
21 it would go through seepage through the wells directly
22 to the atmosphere. I can give you an estimate of that.

23 Part of it will go through the various unit
24 operations such as filters, contractors, emulsion
25 breakers, demisters, which I would call -- which I will

1 call liquid water separators. At that point, it would
2 go to the atmosphere.

3 Part of that benzene would go in the solution
4 with water. Part of it, I thought, would be going
5 through the dehy system, but I am told that the -- the
6 dehy system is nothing but just cooling the gas and
7 hoping that its water/vapor content would be down to
8 those legally required and practically necessary
9 levels.

10 If so, the gas that came in this unique
11 circumstance and in unique field would have to go to the
12 atmosphere or being circulated and keeps leaking into
13 the atmosphere.

14 And there's one more aspect that I think the
15 record would show. I happen to know Playa del Rey is a
16 working inventory of 2.6 billion cubic feet per year,
17 but it is also entirely possible that because this is a
18 peak shaving facility that there's been -- that has been
19 used and replenished and used. It may circulate its
20 working gas more than once, in fact, perhaps maybe as
21 much as three^m times. I've seen some data that shows
22 that maybe as much as 900 billion -- as much as 9
23 billion cubic feet is going through the system. If so,
24 during that year that's a lot of benzene that goes out
25 into the atmosphere.

1 Now, how much of it would be leaking from --
2 from a faulty gasket in a water-collecting tank, how
3 much of it would be leaking from the vapor recovery
4 system, how much of it would be directly ejected into
5 the atmosphere through blowdown stack, there's some data
6 and those numbers are rather high, but it is available
7 and can be calculated, but I did not make those
8 calculations.

9 BY MR. WILKINSON:

10 Q You have not done that work?

11 A No.

12 Q That's part of what I'm trying to figure out.

13 A Yes.

14 Q You indicated that some of this is released
15 through seepage through wells and that you have an
16 estimate of that amount.

17 A Yes, sir.

18 Q What is that estimate?

19 A Well, the normal storage field would -- would
20 seep its -- some of its inventory through well bore
21 leaks, Christmas tree leaks, equipment leaks, valve
22 leaks, through all kinds of sundry ways, to the extent
23 of, let's say, a fraction of 1 percent to maybe 1
24 percent and I've seen as high as 2 percent of their
25 maximum inventory each year on the average.

1 It so happens that from my background and
2 experience, Playa del Rey is a little notorious in the
3 extent and amount of seepage that it encounters because
4 of the various data and the documentation that I have
5 seen. So I would not be surprised if it amounted to,
6 say, 1 percent, maybe 1-1/2 percent of its maximum
7 inventory per year on the average.

8 Q You're talking about the working gas?

9 A Total inventory -- total maximum inventory at
10 the end of the injection cycle.

11 Q Which at Playa del Rey is?

12 A About 8, 9 -- I think 7 1/2 to 8, some number
13 in that order.

14 Q And you're saying that 1 percent of that in a
15 given year would be released to the atmosphere?

16 MR. HERZOG: 1 to 1/2 he said.

17 THE WITNESS: 1 to 1/2 percent, maybe.

18 BY MR. WILKINSON:

19 Q Have you seen any documentation that supports
20 that conclusion?

21 A I -- I had hoped to see such documentation
22 because that goes right into the heart of the matter of
23 inventory verification, where I said I enjoyed this
24 reputation that I don't deserve.

25 I haven't seen any inventory verification of

1 significance from the -- from the records that was
2 offered to me in study of this case.

3 Q You haven't performed any analysis of the
4 specific losses at the Playa del Rey facility?

5 A No. I've seen some data that indicates to me
6 that there's rather substantial losses that have been
7 occurring over the last, say, 30, 40 years.

8 Q What data?

9 A The data that's called "Hysteresis Performance
10 of the Storage Reservoir", which is really nothing other
11 than pressure versus content of the growth storage
12 field.

13 Q A data that's called "History Performance of
14 the" --

15 MR. HERZOG: Hysteresis.

16 THE WITNESS: Hysteresis.

17 BY MR. WILKINSON:

18 Q Written by whom?

19 A Written by whom?

20 Q I'm trying to figure out --

21 A Collected by the engineers, and I suppose shown
22 to the management and supposedly offered to the
23 Department of Oil & Gas.

24 Q For what years did you review this data?

25 A For the years preceding 1992, that's -- I got

1 that information from the case that I have -- I have
2 studied for Fulbright & Jaworski on the Pacific
3 Enterprise case. The total -- total gas is -- I just
4 happened to find now is about 7 billion cubic feet total
5 maximum capacity -- 70.06 billion cubic feet.

6 Q Did you bring any of the data that you
7 reviewed, the hysteresis data, with you today?

8 A No, I did not. But I've seen it in the
9 records, and I'm sure must be somewhere in the company
10 records.

11 MR. HERZOG: Let the record reflect when he answered
12 that question he gestured to the papers in front of him.

13 BY MR. WILKINSON:

14 Q Well, do you have it with you here today?

15 A No, I don't believe I have it with me.

16 Q Have you provided it to counsel at any time?

17 A It's counsel that provided it to me among the
18 papers that I've seen that I've --

19 Q I'm trying to figure out whether it's materials
20 that you obtained when working for Fulbright & Jaworski
21 as opposed to material that --

22 A I have seen it as -- in the -- in part of the
23 -- of the data that was given to me when I was working
24 for Fulbright & Jaworski.

25 Q Okay.

1 A But it is -- it is the kind of material that's
2 made available by -- by legal requirements to, I
3 suppose, state regulatory requirements to DOG, so it
4 must be available to --

5 Q I'm just trying to figure out whether it's in
6 the room here today.

7 A I'm sorry, I don't have it with me.

8 Q Okay.

9 A I can describe it to you, if you'd like.

10 Q Please.

11 A Can I show you a piece of paper now that I'm
12 on the -- on the TV?

13 What -- what simply that involves, one
14 carefully
15 plots the pressure versus content. Now "content" means
16 inventory. In a given day you have a certain
17 inventory. At that day, you have an indicator well
18 that's showing the pressure. Now, it's really P over Z,
19 but let's say a measure of the pressure. That's the
20 status of the -- just like the State of the Union,
21 status of the storage at that particular day, on another
22 day, another year, another year.

23 Now, if you followed this curve over a given
24 year you'll find that the storage performance follows a
25 curve that's different on the descending phase than on

1 the injection phase, that's why they call it hysteresis
2 curve.

3 If that curve is stable and moves at the same
4 place, that means you're not losing gas, but if it moves
5 to the right from one year to the next, or six months,
6 hence, that's an indication -- I wish I had my book here
7 to show it to you because there's a chapter in my book,
8 "Indication of the Migration of the Gas plus the
9 Seepage," cumulative loss we call it.

10 If it keeps moving -- now, I've seen the data
11 for Playa del Rey where it literally points like this
12 over the -- P over Z versus content quadrant, which to
13 me indicates that it probably was in the early '50s to
14 the left and kept moving, kept moving, kept moving to
15 the right. That would indicate the total amount of gas
16 that's lost from the field's going to the atmosphere
17 which would have carried the benzene with it.

18 Q Have you attempted to calculate this for the
19 period August 1992 to February 1995 when the plaintiff
20 lived in Playa del Rey?

21 A No, I haven't, but I'm sure that's available
22 and can be done.

23 Q Have you looked at any hysteresis data from
24 that time frame to determine what the losses were during
25 that time frame?

1 A I -- I have looked at the data of how much gas
2 was produced during that time, and I have formed an
3 opinion that a rather large amount of benzene was
4 released to the atmosphere.

5 Q Where was that benzene released?

6 A In Playa del Rey facility.

7 Q How much?

8 A By my rough order of magnitude calculations,
9 the total amount of effluent times the 2,000 to 600
10 parts per million.

11 Q And all of that's released in Playa del Rey?

12 A Yes. We're talking about Playa del Rey.

13 Q I thought some of that was traveling with the
14 gas that's being transported out of the facility.

15 A Yes, some of it would. Some of it would.

16 Q I guess that's what I'm trying -- the figure
17 that you have, for example, what were we working with,
18 400,000 --

19 A 400,000 standard cubic feet per day --

20 Q Right.

21 A -- yeah.

22 Q On a given withdrawal day.

23 A Yeah. Uh-huh.

24 Q How much of that goes down the pipeline?

25 A I suppose you can estimate that. I did not

1 calculate that.

2 Q Are you saying more gas is lost to the
3 atmosphere than goes down the pipeline?

4 A No. No. The amount of -- the amount of gas
5 that's going through the pipeline, let's say, is 600
6 million cubic feet a given day. If the amount of gas
7 that is -- if the amount of benzene that's involved is
8 600 times 2,000; 600, 2,000, 1.2 million standard cubic
9 feet --

10 Q Okay.

11 A -- 1.2 standard million cubic feet as compared
12 to 600 million cubic feet would, to me, indicate that
13 it's like 1 part out of 600, one-sixth of 1 percent, not
14 the entire amount by just simple arithmetic.

15 Q I'm lost on your simple arithmetic.

16 A Well, all I'm saying -- let's say they would
17 produce -- let's say a typical --

18 Q Well, let's stick with the day that you gave
19 me, which was 200 million cubic feet.

20 A Okay. 200 million cubic feet.

21 Q 400,000 standard cubic feet of benzene you're
22 saying is in that gas when it comes out of the well?

23 A 400,000, yes.

24 Q Okay.

25 A Okay?

1 Q And --

2 A Go ahead.

3 Q And it goes through the processes at the plant?

4 A Uh-huh.

5 Q And --

6 A Goes through the various steps.

7 Q Right.

8 How much of that 400,000 cubic feet of benzene

9 is delivered down the pipeline with the gas?

10 A Well, the total amount that came out of the

11 ground, minus the amount that's been leaked out through

12 the well bores, minus the amount that migrated and came

13 to the surface, minus the amount that's gone through the

14 blowdown stack, minus the amount that was collected in

15 the water tank, went into the -- into the solution with

16 water, whatever remains is going to the pipeline to your

17 customers -- to their customers.

18 Q And have you done anything to figure out how

19 much of this 400,000 standard cubic feet that is?

20 A I have to figure out how much that 400,000 is?

21 Q Have you tried to figure out how much of that

22 400,000 standard cubic feet of benzene that came out of

23 the reservoir by your calculations --

24 A Uh-huh.

25 Q -- goes down the pipeline?

1 Q Do you have that data with you here today?

2 A Yes, I have some data. I have some data with
3 the -- to the effect that the groundwaters were
4 saturated with -- with benzene.

5 I need my glasses on. That one.

6 I happen to -- happen to have some data as to
7 the number of barrels of liquids produced, such number
8 is 2,500 barrels per day, and I do know the solubility
9 of benzene, toluene, the ditox materials into that
10 groundwater, so it would be a similar calculation, which
11 I did not calculate, but it can be estimated. And I --
12 furthermore, I have --

13 Q Before you move -- go ahead.

14 A And furthermore, I think we can -- we can put
15 some numbers to do the well bore leaks.

16 Q I'm not in well bore leaks, Dr. Tek. I'm
17 trying to figure out whether you've calculated the
18 emissions from the facility.

19 A Well, don't you think well bore leaks would be
20 part of the emissions from the facility?

21 Q I told you before I asked the question I want
22 to take those as two separate categories.

23 A Good.

24 Q Okay?

25 A Yeah.

1 Q We're talking about emissions now, and you've
2 given me something about spills, and I'm looking for --

3 A Well, how much of the benzene you said will go
4 out into the environment.

5 MR. HERZOG: He's answering your question.

6 I thinking you're answering a slightly
7 different question.

8 THE WITNESS: Well, the benzene that goes into
9 solution somehow gets either into the sewage line or
10 into a tank that leaks -- evaporates and goes into the
11 atmosphere.

12 BY MR. WILKINSON:

13 Q I understand that, Dr. Tek, and we can talk
14 about benzene that goes all over Los Angeles if we want
15 to --

16 A Yeah.

17 Q -- but this case is about a plaintiff who lives
18 in Playa del Rey who we really do want to focus on.

19 MR. HERZOG: Now you're being curt because it's
20 exactly what he was telling you about. What he's saying
21 is he's saying significant quantities, excessive
22 quantities. Now, what you want him to do is to know
23 whether or not he -- he gave you -- he gave you a
24 qualitative answer, and you want to know whether he can
25 give you a quantitative answer, and so he doesn't need

1 that kind of lecture, and frankly, that was little out
2 of line.

3 MR. WILKINSON: Okay.

4 Q Dr. Tek, I'm just trying to break it down a
5 step at a time.

6 A Okay.

7 Q I'm trying to focus on the various components
8 of what you've given me.

9 MR. HERZOG: He's given you the qualitative answers
10 and now you're asking for quantitative, that's a
11 different issue.

12 BY MR. WILKINSON:

13 Q You said you'd seen some data about emissions
14 and spills. What data is that concerning the Playa del
15 Rey facility?

16 A I've seen -- I've seen data -- I've seen as to
17 the benzene content that was measured in the water in
18 the -- in the liquid phase, and I am using the -- I am
19 really applying that -- the data -- the concept to
20 indicate to you that enormous quantity going into the
21 solution, part of it would evaporate because benzene is
22 one of the most highest vapor pressure materials that
23 are known.

24 If the benzene goes into solution with water
25 during the processing, and if the water was collected

1 into that tank and if that tank, even though it's got a
2 vapor cushion on top of it and gaskets around it leaks,
3 that -- that water contains enough benzene to evaporate
4 to go out into the atmosphere.

5 Q Okay.

6 A Now, how much of it is calculable, I did not
7 calculate.

8 Q That's what I'm trying to find out.

9 But you were talking about some data. What
10 data are you relying upon?

11 A Well, the amount of benzene concentration in
12 the water. Now, I am not hands-on experienced with all
13 this papers. I'm trying to find -- there was a table
14 here someplace that I'll show you.

15 Bernie, please help me.

16 Q Well, Bernie is not testifying.

17 MR. HERZOG: Bernie is not testifying. If you want
18 the data on which he relied on, you want to play paper
19 chase with him, that's up to you. I mean it's there, he
20 knows it's there.

21 THE WITNESS: I mean I've seen it.

22 MR. HERZOG: Mr. Endres -- if you don't want him to
23 do it, then he won't do it. Do you want to know or do
24 you just want to play a paper chase game?

25 MR. WILKINSON: I want to know what's there. I want

1 to know what data he's talking about.

2 MR. HERZOG: Well, then he asked Mr. Endres to --
3 because he knows that he can put his finger right on it
4 so he doesn't have shuffle papers.

5 Go ahead, Bernie, show him.

6 THE WITNESS: Yeah, it was --

7 BY MR. WILKINSON:

8 Q Too close, huh?

9 A It was too close, yeah. Here you see typically
10 12/31/97 -- now, if -- counsel, are you going to say
11 that's not '93 maybe there's one for '93 anyway.

12 Typically first month 20 -- 25 -- 52,000
13 gallons discharged. Date sampled, 10/8/97, 3610
14 micrograms per liter. 14 days later, 3,200 micrograms
15 per liter. That's a lot of benzene, you know, getting
16 in the water. Benzene is the highest vapor pressure of
17 the -- of most of the hydrocarbons that I know of except
18 probably normal -- normal hexane. If that is so it's
19 going to evaporate, depending upon temperature and
20 pressure. That's the data that I base my comment.

21 Q Let's take it a step at a time.

22 The data that you're relying upon in terms of
23 the water concentration of benzene --

24 A Uh-huh.

25 Q -- is a July 3, 1998 memo called "Benzene

1 Surcharge Program"; is that correct, Dr. Tek?

2 A Yes, sir.

3 MR. WILKINSON: We go next in order, is that 3?

4 Let's mark that as Exhibit 3.

5 (Defendant's Exhibit 3 marked

6 for identification.)

7 BY MR. WILKINSON:

8 Q Do you understand where that sampling is taken?

9 A Frankly, I don't know where it is taken.

10 Q Do you know what it represents as far as
11 whether this benzene is in water or in gas?

12 A In the water.

13 Q So as part of the process at the plant do they
14 segregate the liquids?

15 A I'm sure they do.

16 Q Do you know where this water is going?

17 A Well, I'm told that the water is going to the
18 collection point, from there it's -- it's -- it's
19 trucked or discharged into a sewer line -- trucked away
20 or discharged into a sewer line.

21 Q Does this tell you that there's anything
22 irregular going on in terms of the separation of the oil
23 and gas and water in the operation of this facility?

24 A No, I did not allude that there was anything
25 irregular. No.

1 Q This is what's supposed to happen as part of
2 the process?

3 A As part of the data.

4 Q Yes. But the water is supposed to be
5 segregated from the gas through the separation process?

6 A Yeah, no question about it.

7 Q These measurements are of water being
8 discharged to a sewer, do you know that?

9 A I imagine -- I accept that.

10 Q Well, do you know where this water is stored at
11 the station?

12 A At some tank.

13 Q And do you know what emissions factors there
14 are for that tank?

15 A I have seen lots of data that that tank leaked
16 very seriously, a certain episode that I may also -- we
17 may have to dig out and find out, but I have -- I have a
18 clear recollection. Let's see if I can find it. Well,
19 perhaps this may help.

20 MR. HERZOG: What's the question, please?

21 THE WITNESS: There's a location of that --

22 MR. HERZOG: I'm sorry, Dr. Tek.

23 What's the question, please?

24 MR. WILKINSON: Well, I asked him if he knew what
25 the emissions from that tank were and he started

1 referring to some data about the tank and started
2 searching for it.

3 THE WITNESS: Somewhere in the records there's an
4 episode where a tank -- a tank which was a rather large
5 collector, gasketed and vapor blanketed leaked
6 approximately a million cubic feet and -- for 29 hours
7 or more, there's some testimony to that effect, and that
8 emitted the gas -- the vapor phase to the atmosphere,
9 hydrocarbons, which contained benzene to go with.

10 BY MR. WILKINSON:

11 Q Do you know what tank that was?

12 A One of the main collection tanks. If you show
13 me the flow sheet, maybe I can locate it. I -- even the
14 big aerial -- aerial picture of the facility. I think
15 it's one of the tanks that are right in front of the
16 block in line with the prevailing winds to the Stadish
17 home.

18 Q Do you know when this event occurred?

19 A I -- I have asked and I was told that it
20 occurred in the 1993-plus time frame where -- the -- she
21 lived there.

22 Q Do you know what type of operation the tank was
23 in when this took place?

24 A I don't understand the question. What do you
25 mean the type of operation?

1 Q Was the tank operating at the time?

2 A I presume so. Is there any reason why a tank
3 shouldn't be operating any time?

4 Q I don't know.

5 A I need --

6 Q I'm asking you about the event that you recall.

7 A I'm --

8 Q How do you recall an estimate of a million
9 cubic feet being leaked from that tank?

10 A Or more.

11 Q In what period?

12 A 29 hours or more, and that's -- that's what I
13 heard from the record.

14 Q Do you know why that leak occurred?

15 A Oh, with -- with so much hydrogensulfide the
16 gaskets probably corroded, the equipment is old. And
17 it's been my experience, and I have had some 40-plus
18 years in storage experience, all storage fields,
19 compressor stations, gathering system, valves, they all
20 leak, that's why we have a designation accepted by our
21 government that's called LUGF, lost and unaccounted for
22 gas. When the gas leaks, so goes the --

23 Q Do you know why the leak occurred on that
24 occasion?

25 A Gasket failed, probably.

1 Q Have you reviewed any documents that indicate

2 --

3 A Or maybe -- maybe the same -- some safety valve
4 has blown up.

5 Q As you sit here today, do you know what caused
6 that leak?

7 A No, I don't.

8 Q Who prepared the estimate that this was a
9 million cubic feet?

10 A I don't know who prepared it, but I've seen
11 some data. I suppose the company, Southern California
12 Gas Company.

13 Q Any other leaks from that tank that you're
14 aware of during the time frame that Ms. Stadish lived on
15 the hill?

16 A No, I'm --

17 MR. HERZOG: I'm sorry, what was the question again?
18 I don't know what you mean by -- are you talking about
19 major blowouts like this or just leaks?

20 MR. WILKINSON: Major blowouts like this.

21 THE WITNESS: Well, I -- I suggested that as an
22 example, and I'm assuming that this is not uncommon that
23 such an occurrence did take place, but I do not know of
24 any specific other leak information.

25 BY MR. WILKINSON:

1 Q Do you know what the emissions factors are from
2 that tank in normal operation?

3 A I don't know what you mean by "the emissions
4 factor."

5 Q Does that tank operate with a vapor recovery
6 system?

7 A It is my understanding that it does have a
8 vapor recovery system, it's blanketed, I said, and it's
9 gasketed.

10 Q And so it's intended to run as a closed system;
11 is that fair?

12 A Yes, sir. I -- I -- it is my understanding.

13 Q So absent something like a flange leak or a
14 gasket leak or a relief valve leak, it would not be
15 emitting gas into the atmosphere; is that fair?

16 MR. HERZOG: You mean absent leaks it wouldn't be
17 leaking, is that what the question is?

18 THE WITNESS: What you're saying it should not leak,
19 maybe better phrase, it should not leak but it did leak,
20 so no reason to believe it might not have leaked some
21 other time as well.

22 BY MR. WILKINSON:

23 Q Do you have any evidence that it leaked any
24 other time?

25 MR. HERZOG: I object to the form of the question as

1 vague and ambiguous. What do you mean by any other
2 evidence? The basic characteristics of what's involved
3 would be evidence, so I don't know what you mean by that
4 question.

5 BY MR. WILKINSON:

6 Q Have you seen any data that it leaked at any
7 other time?

8 A I've seen lots of -- lots of malfunctions in
9 the entire facility but not necessarily that particular
10 tank. The well bores that failed, the casing shouldn't
11 leak, this and that --

12 Q I'd like to stick with the tank that we're
13 talking about right now.

14 Have you seen any evidence that that tank
15 leaked at any other time?

16 MR. HERZOG: Well, why don't you ask data. Now
17 you're talking about evidence. He asked the question
18 before of when it becomes evidence, is this the nature
19 of the gas and of the tank and of the whole situation,
20 it's going to leak. If that's what you mean by
21 evidence, he's already asked and answered that. If
22 you're asking some other question, then I'll let you --
23 then I don't know what it is you're asking because it's
24 -- you changed from data to evidence back to data back
25 to evidence again, so you flip-flop back and forth and

1 there's a big difference. He's given you the evidence
2 already.

3 BY MR. WILKINSON:

4 Q Do you have any estimate as to how much vapor
5 is released from that tank during normal operations?

6 A I don't believe the company measured that.

7 Q Do you have any estimate?

8 A Well, the number that I suggested and that I'm
9 told, that I have seen some place, million cubic feet
10 per day for 29 hours, perhaps more.

11 Q Do you have that information with you about the
12 size of that particular leak?

13 A Somewhere I've seen it, but I'm not sure where.

14 Q Well, you wouldn't consider that the normal
15 operation, though?

16 MR. HERZOG: I don't know what you mean by "normal."

17 Object to the form of the question, it's vague
18 and ambiguous.

19 What do you mean by "normal"? Normal operation
20 with the characteristics of volatile gases is a
21 different issue. So I don't know what you mean by
22 "normal." Normal for -- what's normal for volatile
23 gases.

24 THE WITNESS: Whether it is normal or typical, I
25 wouldn't venture a guess. But based on some prejudices

1 I have, I'm thinking that perhaps it's happened more
2 than once, but I have no data to prove it to you right
3 now at this --

4 BY MR. WILKINSON:

5 Q I want to take that million cubic feet and put
6 it over here as something you've seen in the data that
7 you can't show me as you sit here right now; is that
8 correct?

9 A Yes, that's correct.

10 Q Put that million cubic feet aside. Do you have
11 any estimate as to how much gas vapor mixture was
12 emitted from this tank between August 1992 and February
13 1995?

14 MR. HERZOG: Could I please ask you, are you asking
15 for a quantitative answer or a qualitative answer?

16 MR. WILKINSON: Let's start with a quantitative
17 answer.

18 MR. HERZOG: Because the qualitative answer he's
19 already given you.

20 MR. WILKINSON: I don't think he has.

21 Go ahead.

22 THE WITNESS: I think sufficiently high to be of
23 concern to people.

24 BY MR. WILKINSON:

25 Q Do you have any estimate as to how big that

1 was?

2 A No.

3 MR. HERZOG. One more time, I'm sorry.

4 THE VIDEOGRAPHER: Off the record. The time is 3:12
5 p.m. End of tape one.

6 (Recess.)

7 THE VIDEOGRAPHER: We are back on the record. The
8 time is 3:22 p.m. This is the beginning of tape two.

9 MR. HERZOG: Just so the record will reflect that
10 each time -- I'll remind myself that when we're off the
11 record, we've had a chance to at least browse through
12 some of Dr. Tek's materials. I'm saying that for my own
13 note taking so at a later time I'll remember that that
14 happened.

15 MR. WILKINSON: Yeah, I would at some point like to
16 get a copy of everything that he's brought here today as
17 his file, and I'll go through the notice with him and
18 make sure we haven't missed something by virtue of his
19 being in Hawaii and not wanting to bring everything with
20 him. I think he's got a few things that he's identified
21 as data that we haven't been able to find in the room
22 today.

23 Let's mark Exhibit 4 what's called "Order of
24 Magnitude Calculation," dated 3/13/Y2K on the first
25 page. It's got four typed pages and one handwritten

1 page.

2 (Defendant's Exhibit 4 marked
3 for identification.)

4 BY MR. WILKINSON:

5 Q Can you identify Exhibit 4 for the record for
6 us, Dr. Tek?

7 A That's a calculation that I -- I summarized,
8 first in order to calculate the -- how much benzene
9 would be released, so called order of magnitude
10 calculation, and that's page -- titled page, page 2, and
11 amount of benzene that's likely to be discharged, and
12 then density of benzene, how many pounds, how many
13 gallons per day, per hour.

14 Then -- then I made a parallel calculation by
15 using the figures given by Mr. Langer in his testimony
16 of admitting 40 parts per million benzene being present
17 in their gas, how much benzene would be involved to
18 provide that kind of a bracketing comparative basis, a
19 yardstick, if you will.

20 And then the final page entitled "3/12/Y2K" is
21 -- is the detailed step-by-step calculation of how much
22 benzene would be involved even if only 40 parts per
23 million, which Southern Cal says involved in their gas,
24 came with the produced gas on a peak day.

25 Q These are calculations that you've performed in

1 order to assist you in giving opinions in this matter?

2 A Yes, sir.

3 Q And you did all these calculations yourself?

4 A Yes.

5 Q And at the end of the second page, the 2,000
6 parts per million estimated concentration in the benzene
7 storage gas, that's the calculation we were talking
8 about earlier?

9 A Yes. Yes, sir.

10 Q And then down at page 3 you've taken that
11 through some -- when you say "benzene discharged," what
12 do you mean in terms of this calculation?

13 A Well, the -- when I first made that
14 calculation, I was under the impression that -- that
15 collection from all of the wells were funneled through a
16 dehy system, and the dehy system, one -- one, would have
17 to remove the water vapor from the gas before the gas is
18 committed to the marketplace. Every storage field that
19 I know of does that.

20 I understand -- I'm told by other people's
21 testimony that Playa del Rey is also unique, that it
22 does not have a typical dehydration system. If it did
23 have a dehydration system, that page that you're looking
24 at would be how much benzene will be directly ejected
25 into the atmosphere.

1 Now, if the field does not have a
2 absorption-type of glycol dehy system, it would have to
3 have an adsorption-type of desiccant or packed column
4 system. In the packed column system, the benzene that
5 comes through the system with the gas phase eventually
6 goes into the water but later gets evaporated out from
7 the water. So no matter how we look at it, the benzene
8 that's removed from the formation matrix that came to
9 the surface goes to the water, to the groundwater, to
10 the atmosphere, and the rest of it is blowdown stack,
11 and the remaining part of it to the meters. So the
12 overall picture is indicated.

13 Q When you say "benzene discharged," it's benzene
14 going to all those places you've just listed?

15 A Yeah. That part refers to my earlier
16 calculation. You know, in a -- in a dehy system you
17 have -- you have glycol absorbing the water, water also
18 carries benzene with it, then it goes through a
19 regenerator where it's blown out to the atmosphere
20 directly, that's why I call it discharge.

21 Q But "discharged," as you're now using that
22 term, means to all of those places that you described in
23 your previous answer?

24 A Yes, overall. Overall.

25 Q You've got some handwritten notes down here,

1 and I won't make you do this very much, but I'm having a
2 little trouble with your handwriting. Can you just tell
3 us what your entry is down there at the bottom of page
4 3?

5 A Every time I make a note I put a date to it,
6 3/22nd, which is really just a few days ago, I was told
7 that "Well, we don't have any ethylene glycol system.
8 Would it change your opinion?" And I made immediately
9 the note if desiccants or adsorption units are used for
10 dehy, then the above amount of benzene would show up in
11 the regeneration phase of -- regeneration phase, some in
12 gas phase, and a substantial part in the liquid effluent
13 where it would be evaporating and leaking -- leaking
14 out, as compared to discharging out of the plant area
15 into the atmosphere. Some during -- during the filling
16 of the trucks and et cetera.

17 Q Do you know how that liquid effluent is
18 transported away from the plant?

19 A Well, first -- I'm assuming that first it is
20 collected into some -- some receptacle which is -- like
21 we discussed, would be properly vapor cushioned, or
22 vapor protected is a better word, and gasketed and
23 pressurized and then would discharge into the trucks and
24 the trucks would carry it out to some far location or it
25 would be discharged into the sewer water. And in

1 that --

2 Q And do you know amongst those things which of
3 those things are actually done at Playa del Rey?

4 A I -- I -- I read and I'm told -- I heard that
5 both is occurring. I've -- I've heard -- I've either
6 read or heard reference to discharge into the sewer
7 water or trucking away to some location far away from
8 the plant facility.

9 Q And now that you've learned that there's no
10 dehydration unit, have you tried to make any estimate as
11 to the amount of benzene released to the atmosphere at
12 the facility by virtue of the handling of these liquids
13 at the facility, a quantitative estimate?

14 A Essentially, the total amounts involved would
15 be the same except that when you -- when you discharge
16 it into atmosphere, in the case of glycol units or when
17 you leak it -- evaporate and then subsequently leak it
18 in the case of desiccant systems, would be involved.

19 Now, the third one that's been suggested is
20 the -- cooling the gas or the liquids drop out, which I
21 really don't understand and I've never seen.

22 Q All I'm trying to figure out is whether you've
23 performed a quantitative estimate on the amount emitted
24 by virtue of handling the liquids a little differently
25 than you had thought when you initially did these

1 calculations?

2 A I did not calculate it, but I am observing
3 it. It's large enough -- rather substantially large
4 number that would be calculable.

5 Q You have not made that calculation?

6 A No.

7 Q Do you have an estimate of that amount emitted
8 by virtue of handling the liquids as you sit here today?

9 A I did not do that calculation.

10 Q You went on in these typed calculations to
11 another page that has a conclusion, and I guess what I'm
12 trying to figure out is did that conclusion change now
13 that you've got different assumptions concerning a
14 dehydration unit?

15 A No, it does not change except that this -- this
16 conclusion part of the calculation -- let's see -- it
17 simply translates the 2,000 parts per million, the
18 number of barrels per day or number of tons per day .45.
19 I've seen some figure -- some other measurement, .4 some
20 tons per day, 4,000 standard cubic feet a day benzene,
21 just depends what type of numbers we're talking about.

22 Q So you're saying that the barrels per day and
23 tons per day are essentially the equivalent or another
24 way of expressing the 400,000 standard cubic feet per
25 day?

1 A Yes, that's correct.

2 Q They're just conversion factors?

3 A Yes.

4 Q And then down below you went through the
5 alternative calculation using 40 parts per million, is
6 that what the last entry of that --

7 A Yes, bracketed. That's correct. Yeah.

8 Q And so using 40 parts per million, you came up
9 with an estimate of .45 tons per day or 4,000 standard
10 cubic feet per day of benzene; is that correct?

11 A That's correct. That's correct.

12 Q And you go on to conclude that with the
13 prevailing winds, the parts per million which would
14 reach the Stadish home from the regenerators -- what do
15 you mean by "regenerators"?

16 A Again, that was written at the time where I
17 thought it would be -- ethylene absorber unit would have
18 regenerator that would put out a plume that would go by
19 the prevailing winds. It now so happens I just learned
20 that it would have to come out in the form of leaks and
21 in the water phase. And benzene being heavier than --
22 about approximately, I say, three times heavier than
23 air, it would be kind of a blanket of benzene which
24 would stay at the surface and carry it by entrainment
25 with the winds and fluid mechanics of the topography

1 towards the bluffs where it would rise and expose that
2 home.

3 Q The regenerators that you were referring to
4 when you typed these calculations are no longer part of
5 your opinions in this case?

6 A That's correct.

7 Q Okay.

8 A If -- if there is no dehy --

9 Q I understand you're excepting testimony to
10 reach that conclusion --

11 A Yeah.

12 Q -- that there is no dehydration unit.

13 A Yeah.

14 Q Then I want to go back to the conclusion.
15 Okay?

16 Having now obtained the information that there
17 isn't a dehydration unit there --

18 A That's correct.

19 Q -- have you made any estimate as to the parts
20 per million of benzene that would reach the Stadish home
21 between August 1992 and February 1995?

22 MR. HERZOG: Object as to asked and answered. He
23 already said he did.

24 Are you looking for a quantitative or a
25 qualitative answer?

1 MR. WILKINSON: I'm looking for whether he has made
2 a quantitative estimate as reflected in the notes.

3 THE WITNESS: It is my opinion -- I did not make a
4 quantitative estimate, but it is my opinion that on even
5 qualitative basis the numbers are sufficiently high to
6 provide a concern that a substantial amount would reach
7 Stadish home. I did not calculate that in quantitative
8 manner.

9 BY MR. WILKINSON:

10 Q You refer in your calculation notes to AQM
11 limits. What's that?

12 A Well, I read it again that there's some -- when
13 you have repeated exposure to benzene and the air
14 quality standards call for, according to one place 4
15 parts per million, another one 1 part per million, I'm
16 really not sure what's the real AQM limits myself.

17 Q Do you know where those limits come from, the
18 ones that you're referring to? The 4 part per million,
19 do you know what agency establishes that?

20 A I suppose the Environmental Protection Agency.

21 Q Do you know what agency establishes the 1 part
22 per million?

23 A I do not know.

24 Q Have you done anything quantitatively to
25 determine if the amount of benzene emitted from the

1 Playa del Rey facility exceeds those limits at the
2 Stadish house?

3 MR. HERZOG: I'm sorry. Which limits of these are
4 we talking about?

5 MR. WILKINSON: The 4 part per million or the 1 part
6 per million.

7 THE WITNESS: I have only looked at the large
8 picture, and with the numbers sufficiently high, I did
9 not go into detail on quantitative determination of the
10 amount of the benzene that is emitted to the atmosphere
11 as a result of the storage operation.

12 MR. HERZOG: But they would be significantly higher
13 than these limits?

14 THE WITNESS: Oh, I'm sure.

15 BY MR. WILKINSON:

16 Q You're offering the opinion that the amount of
17 benzene emitted from the Playa del Rey facility at the
18 Stadish residence would exceed 4 parts per million?

19 A For the -- for the average prevailing
20 conditions at some certain days, perhaps a number of
21 consecutive days during those peak shaving operations in
22 the wintertime when the field is being produced to it's
23 full design or near design capacity that the -- the
24 exposure would be far more than those few parts per
25 million.

1 Q Do you have any estimate as to how much greater
2 than 4 parts per million?

3 A I did not calculate that.

4 Q Would you expect it to exceed the 4 parts per
5 million every day that the well field is working on a
6 withdrawal basis?

7 A I would expect that it would be far more during
8 the withdrawal season than in the injection season.

9 Q Do you have any estimate as to how high that
10 would be?

11 A Well, during the -- during the injection season
12 only amount of the benzene that would be emitted would
13 be the one that has previously leaked out near the
14 surface and more or less stabilized in the -- in the
15 gravel zone or is staying near the surface and is
16 leaking from the wells, plus perhaps if there is any
17 maintenance operation requiring blowdown stacks to
18 become operated, then that gas would carry some benzene
19 out.

20 In the withdrawal season, all that would also
21 happen plus the fact that some benzene that's going to
22 go through the processing will be carried out and leaked
23 out of the system into the groundwater or into the
24 atmosphere.

25 Q I think you answered my question, but I'm

1 trying to break it down into the two parts.

2 A Okay. Sure.

3 Q I want to focus first on the withdrawal part.

4 A Okay.

5 Q Do I understand from your last response that
6 you think the concentrations would be higher during
7 withdrawal operations than during injection operations?

8 A Concentrations of benzene in the air would be
9 higher.

10 Q And do you have any estimate as to on the
11 withdrawal side of things --

12 A Uh-huh.

13 Q -- by how much the concentrations in the air at
14 the Stadish residence would exceed 4 parts per million,
15 a quantitative estimate?

16 A I don't think one could say right off the top
17 of his head. It would be impossible.

18 Q That's fair.

19 You haven't calculated that?

20 A Yeah. Yeah.

21 Q Let's go to the injection portion of the
22 equation.

23 Do you have any estimate, during the time that
24 the Playa del Rey storage field is operating in
25 injection mode, as to whether or not the emissions from

1 the facility would exceed 4 parts per million at the
2 Stadish residence?

3 A I believe certain times, certain days, certain
4 hours it may. I have not calculated that.

5 Q Do you know how often during the injection
6 phase of the operations it would exceed those limits?

7 A Well, I would say if during the injection phase
8 there is frequent discharging of the blowdown stack due
9 to maintenance operations, and if such coincided with
10 the normal calculable leak of 1 percent of the maximum
11 inventory per year averaged over the time period under
12 consideration, and that number should be available, but
13 I did not calculate that.

14 Q Do you have any estimate as you sit here today
15 whether it is more often than not during the injection
16 operations at the facility that the concentration of
17 benzene at the Stadish residence would exceed the 4
18 parts per million level?

19 A I have no opinion with that respect.

20 Q The handwritten page here dated 3/12 which is
21 the last page of Exhibit 4, is this what you described
22 as the calculations based on the 40 part per million
23 concentration?

24 A Yes, sir.

25 Q And so you went through the same steps you had

1 gone through for the 2,000 part per million
2 concentration only using that different figure?

3 A Uh-huh. That's correct.

4 Q Is there anything else different about the
5 approach that you took on the handwritten page that is
6 the last page of Exhibit 4?

7 A No, sir.

8 Q In terms of the 4 parts per million and the 1
9 part per million concentrations, I was using the term
10 "facility." I want to make sure I understand what you
11 were thinking were the sources that get there. Are you
12 thinking in estimating that the concentrations at the
13 Stadish residence are above 4 parts per million during
14 withdrawal?

15 MR. HERZOG: I'm sorry?

16 BY MR. WILKINSON:

17 Q During withdrawal, are you including emissions
18 or releases from the wells as well as the operating of
19 the facility?

20 A I am including, and one would have to include
21 blowdown stack, migration lateral to the surface,
22 migration vertical from the wells, seepage from the
23 wells plus the amount that's collected, concentrated,
24 discharged in the water, evaporated, leaked out of the
25 tanks.

1 Q All sources of benzene --

2 A Yes.

3 Q -- are part of your estimate that it would be
4 above 4 parts per million?

5 A When you add them all up.

6 Q Yes.

7 A Yes.

8 MR. WILKINSON: Let's mark as Exhibit 5 a piece of
9 paper that you handed to me earlier.

10 I just want to make sure the record is clear.
11 This is a fax from May Lew to Steve Cardiff that
12 contains benzene readings for certain suppliers.

13 (Defendant's Exhibit 5 marked
14 for identification.)

15 BY MR. WILKINSON:

16 Q Is that information that you reviewed in
17 preparing your opinions in this case?

18 A It's part of it.

19 Q Did you have any other information concerning
20 the concentrations of benzene in the gas coming to the
21 facility?

22 MR. HERZOG: Other than testimony he just told you
23 about a few moments ago? He had that -- I don't know if
24 you mean to include that or exclude that.

25 THE WITNESS: There's a paper by Katherine Lynn.

1 BY MR. WILKINSON:

2 Q Katherine Lynn?

3 A That indicated that certain samples were sent
4 to different laboratories, and the company has attempted
5 to ascertain to what extent variability occurred, and I
6 guess -- as I recall, her conclusion were now you see
7 it, now you don't, that the benzene is very elusive
8 quantity to measure.

9 Q Do you know whether the paper that Katherine
10 Lynn wrote concerned gas that was going to the Playa del
11 Rey storage field?

12 A I don't believe it's mentioned in the paper.

13 Q Do you know one way or the other --

14 A Whether the gas is going to --

15 Q -- whether the gas that was the subject of the
16 Katherine Lynn article was ever stored at the Playa del
17 Rey facility?

18 A I don't know that. She doesn't say so in the
19 paper.

20 Q Other than the Katherine Lynn article, the
21 testimony of Claus Langer that you've referenced here --

22 A Yes. Uh-huh.

23 Q -- and the sheet that we have marked as Exhibit
24 5, did you have any other information concerning the
25 concentration of benzene in the gas coming to the

1 facility?

2 A No, I have not seen any other sample data.

3 Q How, if at all, did you use that information
4 concerning the concentration of gas coming to the
5 facility in your opinions?

6 A I testified earlier that I did not even use
7 that figure. I assumed 0 benzene came into the
8 facility, and I calculated the amount of benzene out of
9 the facility as a result of the storage operation.

10 Q So you had that information available but it's
11 not part of the calculations you have done?

12 A Because in order to be able to prove my point,
13 my thesis, one would have to exclude that if it is -- if
14 it's going to obscure the picture.

15 MR. WILKINSON: Let's mark as Exhibit 6 a one-page
16 diagram that you had pulled out in one of those
17 discussions that we were having when we were talking
18 about emissions and spills.

19 (Defendant's Exhibit 6 marked
20 for identification.)

21 BY MR. WILKINSON:

22 Q I just want to ask you what Exhibit 6 is.

23 A It's a -- it's a chart indicating the
24 correlation of the solubility of aromatics as a function
25 of their carbon number, in other words, the molecular

1 structure, and the family of the -- the family of the
2 aromatics, benzene, toluene, et cetera, is indicated as
3 a specific linear correlated curve.

4 Q Is this information you obtained from the gas
5 company? Is this from a public --

6 A I assume it came from the gas company because
7 it's been offered to me as the discovery proceedings.

8 Q Do you know what report this came from?

9 A Well, there's some -- some references in the --
10 in the page, Figure 3.2.9, indicating that it was part
11 of a report. And there's references to fraction price,
12 those were the only --

13 Q Those are references to other reports, though,
14 aren't they, not the report that this Exhibit 6 came out
15 of?

16 Do you know where Exhibit 6 came from?

17 A No, I don't.

18 Q How, if at all, did you use Exhibit 6 in
19 forming your opinions?

20 A I really did not use it except that I indicate
21 that benzene is the highest soluble of almost -- of all
22 highest soluble material in water. The solubility is
23 very important to us in this case because so much
24 contact in demisting and emulsion breaking and so forth
25 going on that benzene has many opportunity to get into

1 the solution with water, and whether dehydrating or not,
2 and if so, benzene is also, I happen to know, one of the
3 most volatile hydrocarbons known more likely to escape
4 from the system.

5 Q Did you adjust emissions estimates in the
6 qualitative sense to reflect the volatility of benzene?

7 A No, I did not adjust, but it confirmed and
8 supported my understanding of the volatility of the
9 benzene

10 Q During the withdrawal portion of the
11 operations, do you have an opinion concerning whether
12 the benzene emissions from the facility would exceed the
13 4 parts per million level more days than not at the
14 Stadish house?

15 A I would say what you just described would occur
16 in those days where when the storage field is put on gas
17 control peak shaving mode of operation.

18 Q I'm just trying to understand your term. Peak
19 --

20 A Peak shaving.

21 Q If you had a withdrawal that was at 200 MCF or
22 above, is that what you call peak shaving?

23 A 200 to 600.

24 Q If you had a withdrawal day that was between
25 200 and 600 MCF --

1 A I do not know that.

2 Q Well, we've talked about the Coleman testing.
3 Where was that done?

4 A In the general area, I believe.

5 Q And did that testing include any speciation for
6 BTX, do you know?

7 A Not to my knowledge.

8 Q And you were referring earlier to an
9 Exploration letter from a Victor Jones. Is this
10 something that you reviewed in preparing your opinions
11 in this matter?

12 A No, I never reviewed that but I heard the name.

13 Q That's one of the documents that you brought
14 here today?

15 A Yeah, probably.

16 Q You haven't looked at this one?

17 A You know, some of these documents I really
18 haven't read, but I just looked at them quickly.

19 Q Okay.

20 A Maybe that's what it is, I'm not sure.

21 Q Well, you were reading from it a minute ago.
22 Have you used this Exploration Technologies,
23 Inc. letter in any way in forming your opinions?

24 A No, I did not.

25 Q Do you know what Exploration Technologies was

1 looking into?

2 A I assumed they were looking into identifying
3 the gas in the surface samples.

4 Q Do you know what they concluded about the
5 source of the gas?

6 A I do not know.

7 Q Do you know who hired Exploration Technologies
8 to do this testing?

9 A I suppose developers. I really don't know.

10 Q Do you know if it was also conducted in that
11 area east of Lincoln Boulevard?

12 A I don't know that for a fact.

13 MR. WILKINSON: Let's go ahead and mark the
14 Exploration Technologies letter as Exhibit 8.

15 (Defendant's Exhibit 8 marked
16 for identification.)

17 BY MR. WILKINSON:

18 Q Do you know whether Dennis Coleman's testing
19 has been submitted to any regulatory agency concerning
20 the development that's going on in that area?

21 A I do not know -- I don't know that for a fact.

22 Q In talking with Dennis Coleman, did you talk to
23 him about whether the gas was storage gas or just
24 whether it was thermogenic gas?

25 A I was talking to him in general terms in that

1 he and I --

2 Q So --

3 A He and I worked on the Fairfax case, and that's
4 why we occasionally exchanged telephone talks because I
5 -- I work with him in some other storage fields in
6 Wyoming, in Louisiana and other places. In one of our
7 conversations I mentioned to him that -- what was going
8 on in California because I happened to see his paper in
9 the SPE -- SPE technology journal.

10 Q And you don't have a copy of the Coleman
11 material here with you today?

12 A I don't. I'm sorry.

13 Q Let's talk about the leaks themselves then.

14 A Okay.

15 Q Have you made an effort to review files and
16 identify leaks from wells at the Playa del Rey facility
17 in preparing your opinions in this case?

18 A Yes.

19 Q What have you done in that regard?

20 A Well, I read some of their literature that came
21 from the company. That one I think I can locate. There
22 is about five or six sources where the gas could leak.
23 The leakage can occur at the well bores due to cement
24 bond failure, corrosion pinholes, casing collars.

25 They're diagnosed and documented by -- by

1 temperature logs and confirmed usually by noise logs
2 that follow it. They can occur at any length, including
3 all the way down to the shoe. And here -- here's a
4 document that I looked -- casing leaks, type 1, type 2,
5 these are all well-known leaks that occur. Sometimes
6 you have leaks of the tappers at the bottom, other times
7 you have leaks in the casing tubing annulus, cement bond
8 failure. Those are the leaks that are generally
9 encountered in the storage.

10 If they -- if they occur in a case where high
11 pressure gas is exposed to low-depth field, you usually
12 find it with a sonic closed because the gas now is
13 undergoing a rather sharp pressure drop from inside to
14 outside. It generates a sound wave and you can listen
15 to it.

16 If the leak is occurring deep where it cannot
17 be heard, at the beginning there's a temperature pique
18 that comes up in the thermal log that usually is
19 indicative of casing leak. Sometimes you go back with
20 the cement bond failures, take pictures and you squeeze
21 cement and it goes away.

22 There are a number of leaks that occur in the
23 Christmas trees, in the master valve, in the valves and
24 gauge and metering devices that are fixed on the
25 Christmas trees. Without getting into any more gruesome

1 details, that's all I would say on that.

2 Q In your work, those are the types of leaks that
3 somebody who's operating a gas storage field would be
4 concerned about?

5 A Yes, sir.

6 Q And you've referred to a series of diagrams
7 that are called Exhibit I, page one, two, three and four
8 and five?

9 A Uh-huh. Yes, sir.

10 Q Those were provided to you as part of your work
11 on this case?

12 A Yes, sir.

13 Q Do you know where these came from?

14 A Well, it -- it looks like it came from
15 Mr. Thompson's deposition, John Thompson's deposition.

16 Q John Thompson?

17 A It says J.A. Thompson.

18 Q You think those are together with this other
19 document that's stapled?

20 A I don't know, maybe.

21 Q I'm asking you about the five pages of
22 drawings. I think they've been clipped with some of
23 your other materials as they've traveled here from
24 Hawaii.

25 A Yeah. Yeah -- no, I didn't have this in

1 Hawaii. I saw this morning.

2 Q You got this for the first time today?

3 A Yes, sir.

4 Q So that's illustrations of the types of leaks
5 that you've been talking about?

6 A Yeah, I'm familiar with those kind of leaks.

7 Q Do you know where this document came from?

8 A No, I don't.

9 Q Do you know whether any of those types of leaks
10 occurred at Playa del Rey?

11 A Most likely I would say.

12 Q Okay.

13 A It says corrosion. What kind of corrosion?

14 Sulfur corrosion because there's hydrogensulfide.

15 Where's the hydrogensulfide coming from? Well, in the

16 casing tubing annulus space, usually there is bacteria,

17 methane, methanomas, methane introducing that material

18 and water. They put bacteria aside but corrosion goes

19 on and on. This is an old field. The equipment are old

20 and they are corroding and it's well-known in the

21 storage business.

22 MR. WILKINSON; Let's go ahead and mark as Exhibit 9
23 the five pages of diagrams that he received this
24 morning.

25 (Defendant's Exhibit 9 marked

1 for identification.)

2 BY MR. WILKINSON:

3 Q What documents have you reviewed to try and
4 identify leaks of these various types at the Playa del
5 Rey
6 storage field?

7 A All right.

8 MR. HERZOG: I would object to the form of the
9 question on the grounds that it's broad, and I don't
10 know that his answer, because it's so ambiguous -- that
11 your question is so ambiguous it would be answering the
12 question asked.

13 He might and then you may later on state it
14 wasn't due to its ambiguity.

15 THE WITNESS: There was, I recall, a well behind the
16 Stadish home which indicated some leaks. There's also
17 in the vicinity of that well, Blackline or Black Well or
18 something, there's a slanted well hole I understand, and
19 there's some gathering system lying -- criss-crossing
20 going every what way. And I've seen some company
21 documents related to that. That's one.

22 I have seen several leaking well data in other
23 locations as documented because I have seen some
24 abandonment reports and reabandonment reports on wells
25 which I assumed and I concluded that that would be

1 because of the gas showing up at the top.

2 BY MR. WILKINSON:

3 Q I was trying to get to something much more
4 simple than that, Dr. Tek, which is what documents have
5 you been through to try and identify the leaks? Can you
6 describe for me generally the -- since I don't have them
7 in the room, the records that you've been through to try
8 and identify leaks at the Playa del Rey storage field?

9 A Well, those are -- those were the company
10 documents that have been discovered during the
11 proceedings and copied and sent to me or showed to me.

12 Q Let's try it this way. For example, there are
13 some memoranda in the room that concern leaks. Where
14 did you obtain these?

15 A Where did I obtain these?

16 Q Yes.

17 A Mr. Herzog's office provided these to me.

18 Q And all I'm trying to figure out, Dr. Tek, is
19 whether you had a mountain of paper and went through it
20 yourself to pick out memoranda or other documentation
21 concerning leaks or whether they were provided to you.

22 MR. HERZOG: I have to object. Assumes a fact not
23 in evidence that he -- that's what he did, went through
24 the documents --

25 MR. WILKINSON: That's all I'm trying to get out,

1 whether you did.

2 MR. HERZOG: -- to do that.

3 THE WITNESS: I'm sorry, what was the question
4 again?

5 BY MR. WILKINSON:

6 Q Sure.

7 We can do it one at a time, but I'm trying to
8 group these things. It appears there's multiple copies
9 of some of these.

10 You mentioned, Dr. Tek, that you did not bring
11 all of your files from Hawaii because they were too big.

12 A Yeah, big box.

13 Q Big bogs of stuff, right?

14 A Yeah.

15 Q Did you go through that box that was provided
16 to you looking for documentation concerning leaks at the
17 Playa del Rey storage field?

18 A No. I just read what was sent to me as much as
19 I could, and on that basis I formed an opinion. I did
20 not go looking for leaks because I do know wells leak, I
21 didn't need to see the documentation. I thought it was
22 my job to find the facts if it -- if such leaks
23 occurred, which I have known that they always occur, but
24 it only confirmed what I thought would be naturally
25 occurring.

1 Q Did you prepare a list of the evidence that you
2 found concerning leaks at the Playa del Rey storage
3 field?

4 MR. HERZOG: Objection; assumes a fact not in
5 evidence that he looked specifically in that regard,
6 which he just said.

7 MR. WILKINSON: I didn't ask him whether he looked
8 for it, I just asked him whether he had a list.

9 MR. HERZOG: I'm going to object. Assumes facts not
10 in evidence that he -- he did the predicate in order to
11 get -- to make a list.

12 THE WITNESS: I did not make a list. I did not
13 attempt to make a list. I observed that there were
14 leaks in the multitude of documents that I have browsed
15 through.

16 BY MR. WILKINSON:

17 Q In gathering your documents to bring with you
18 today, did you try and bring with you the documentation
19 that you had concerning leaks at this storage field?

20 A Some I brought, some probably I left home. I
21 have a list for you of the things that I thought I
22 received, which may not be a complete list, but it's the
23 ones that I recalled. And in the material that I read,
24 such as Sanchez deposition and the attending exhibits,
25 then there's another Samuelson deposition, this and

1 that, and there was several mention of leaky wells,
2 abandonments, reabandonments. At the time, that area
3 was being leaked. The episodes related to spills and
4 leaks. All -- that's all my recollection.

5 Q Let me try it another way, Dr. Tek.

6 I've got here a pile of memoranda that
7 concerned some of these well leaks that you've been
8 talking about; is that correct?

9 A I suppose. I accept --

10 Q I'll hand it to you.

11 MR. HERZOG: Well, you interrupted him. He said, "I
12 suppose." He said "I" and then you cut him off. "I
13 accept" and then you cut him off.

14 BY MR. WILKINSON:

15 Q Did you have any assistance in reviewing the
16 documents provided to you in this case?

17 A No.

18 Q Did you ask for any assistance from Dr. Endres
19 in reviewing the documents provided to you in this case?

20 A No, sir.

21 Q Did you ask for him to screen the documents
22 provided to you in this case in any way?

23 A What do you mean by "screen"?

24 Q I mean to do some preliminary look through
25 things to try and help you identify things that were

1 more important to your opinions rather than going
2 through a bigger volume of paper.

3 A Nothing that I can specifically recall.

4 Q Are there any memoranda concerning well leaks
5 that you have in the white notebook that you brought
6 with you here today?

7 A Well, let me see. I'm sure in the depositions
8 there were some. There were some documents related to
9 complaints about the odor. There were some documents
10 related to abandonment, reabandonment of wells, which
11 suggested the plug in the abandon function did not work.

12 Q What are you referring to, Dr. Tek?

13 A The list of documents that I tried to remember
14 that I didn't -- that I didn't bring with me.

15 MR. WILKINSON: Why don't we go ahead and mark as
16 Exhibit 10 this first page of notes numbered 1 through
17 17.

18 (Defendant's Exhibit 10 marked
19 for identification.)

20 BY MR. WILKINSON:

21 Q Is this a separate standing list?

22 A Yeah, it is one I that I made this morning.
23 Yeah.

24 Q And this is a list that you made after you got
25 here, then, of your recollection of the things that have

1 been provided to you?

2 A Yes, sir.

3 Q This is essentially an index of the files that
4 you've been provided?

5 A Approximately, yeah.

6 Q To the best your recollection?

7 MR. HERZOG: You did it by memory, right?

8 THE WITNESS: Yeah.

9 BY MR. WILKINSON:

10 Q You didn't have the files in front of you when
11 you wrote this out?

12 A No. As much as I could remember.

13 Q At any time in forming your opinions in this
14 case, have you sat down to write out a list of the leaks
15 that have occurred at wells at the Playa del Rey storage
16 field?

17 A I don't think I felt that would be necessary
18 because I made an enumeration of various ways the gas
19 was leaking to the surface in my notes. And having
20 confirmed that opinion, I -- I did not make another
21 specific list other than those.

22 Q What enumeration did you make of the ways that
23 the gas was getting to the surface in your notes?

24 A Okay. Somewhere -- page 3/4/Y2K it says at the
25 bottom, "How does benzene get into the air? 1, storage

1 gas to reservoir rock matrix through injection. 2,
2 intimate contact in the pore space with residual crude
3 containing X percent of benzene, toluene, et cetera. 3,
4 retrograde revaporization of benzene from liquid to gas
5 phase, Y equals KX. That's some equation. 4, aromatics
6 absorbed in dehy units by ethylene glycol. 5, aromatics
7 discharged into the atmosphere through glycol
8 regenerators. 5, glycol regenerators. 6, prevailing
9 winds towards Stadish home."

10 Now, I have -- I have one more reference.

11 Q Can you pull out that reference you've put away
12 so we don't lose it so we can get it marked and --

13 A Sure. Sure.

14 MR. WILKINSON: Let's mark the reference which is
15 3/4/Y2K in red at the upper right-hand corner as Exhibit
16 11.

17 (Defendant's Exhibit 11 marked
18 for identification.)

19 BY MR. WILKINSON:

20 Q You said you had one more reference concerning
21 how the benzene gets to the surface?

22 A I attempted one time to think of all the
23 possible routes of the gas from the -- from the PDR rock
24 matrix to the atmosphere. I showed, in this particular
25 reference, arrows showing the gas coming out of the

1 Black in terms of revaporization.

2 Then it says, "Benzene which revaporates from
3 the indigenous residual crude. Then I have a very clear
4 red arrow line showing gas leaking from the well bore to
5 the subsurface. Then I have gas leaking from well bores
6 again to the surface. Well bore and reservoir limit
7 leaks to the surface also carries benzene.

8 Then I have blowdown stack also contains
9 benzene. I have prevailing winds, and I have that now I
10 am corrected type of dehy units.

11 Q This is your way with some notes to --

12 A Visualization, yeah.

13 Q -- visualize the -- what should I call this,
14 exposure --

15 A Where does it come from.

16 Q -- description?

17 A Yeah.

18 MR. WILKINSON: Let's go ahead and mark the
19 illustration as Exhibit 12.

20 (Defendant's Exhibit 12 marked
21 for identification.)

22 BY MR. WILKINSON:

23 Q If I understand your testimony correctly then,
24 because you had outlined these methods by which benzene
25 could reach the surface, you did not feel the need to

1 prepare a list of well leaks?

2 A That's correct. The list of the well leaks
3 that are present in the files discovered already would
4 be in support of what I am really saying there. I have
5 an estimate of benzene seeping from the storage field to
6 the atmosphere, but it is based on the 1 percent of the
7 maximum inventory we talked about. You might call it in
8 the same category.

9 Q Can I have that, too, so we can get that
10 marked?

11 I'm going to mark as Exhibit 13 a one-page set
12 of notes that is undated, it may have been parts of some
13 of the other notes since you've been pulling them out of
14 your notebook as we went.

15 A Yes.

16 (Defendant's Exhibit 13 marked
17 for identification.)

18 BY MR. WILKINSON:

19 Q Do I understand correctly that this is the
20 estimate as to total losses through wells that you were
21 talking about in your earlier testimony?

22 A That's the -- may I look at it again?

23 Q Sure.

24 A That's the -- that's the estimate of benzene
25 seeping from the storage field, not migrating away. But

1 usually seepage is viewed as separate from migration in
2 the storage business. This is the seepage occurring,
3 which people normally write off in their gas accounting.

4 Q And we talked about this earlier, but since we
5 have the calculations in front of us, I just want to
6 make sure I understand. This is the -- the 7.06 BCF is
7 the total --

8 A Total capacity, yeah.

9 Q And you have here "assumed seepage 1/2 of 1
10 percent of maximum inventory/year."

11 A Uh-huh.

12 Q That's what you used for this calculation?

13 A Yes.

14 Q And then you went through a calculation to
15 determine if the storage field is leaking 1/2 of 1
16 percent of maximum inventory every year, how much
17 benzene would be released that way?

18 A That's correct.

19 Q And where is this benzene released to?

20 A Well, released from the formation to the
21 surface, and at the surface it's released either to the
22 water phase then eventually to the atmosphere or
23 directly to the atmosphere or through the blowdown stack
24 to the atmosphere.

25 Q What did you conclude is the volume of seepage

1 of benzene that seeps when you perform this calculation,
2 seeps to the surface?

3 A Based on -- based on the 2,000 -- 2,000 parts
4 per million.

5 Q So you used the 2,000 parts per million?

6 A If you figure how much -- if you figure the 1
7 percent of the 7 billion would amount to 70 million
8 cubic feet per year, so many cubic feet per day, and if
9 each one million part will carry 2,000 parts of -- of
10 benzene, so much benzene would be released to the
11 surface.

12 Now, the benzene that comes -- that comes to
13 the surface, part of it goes to the air, part of it goes
14 to the water and eventually part it -- it goes to the
15 air and then the rest of it goes to the stack and the
16 remaining part goes to the --

17 Q None of this is going to -- I'm sorry, you put
18 in "stack." This is an estimate of seepage, right?

19 A Seepage, yeah.

20 Q Has nothing to do with the stack?

21 A I'm sorry. I --

22 Q Okay. I didn't mean to --

23 A I overstated my case. You caught me in that
24 one. I stand corrected.

25 Q Are you giving the opinion that this is an

1 accurate estimate of the seepage of natural gas that
2 occurs at this field?

3 A Not this field, it's really average field. I
4 think this field is about maybe three times worse than
5 the natural. It's like 1/2 percent. That one is about,
6 I believe, 1/2 of 1 percent.

7 Q So you think that the amount of natural gas
8 seeping at this field as a reflection of total inventory
9 is three times this amount?

10 A Three times, yeah.

11 Q And in this calculation you came up with 386
12 standard cubic feet of benzene per day --

13 A Uh-huh.

14 Q -- leaking to -- seeping to the surface --

15 A Uh-huh.

16 Q -- through wells?

17 A Yes, sir.

18 Q And that is throughout the entire area of the
19 storage field?

20 A Yes, that's for the entire storage operations.

21 Q The entire surface area calculation?

22 A Yes.

23 Q And that concentration coming to the surface is
24 part of what went into your estimate that the
25 concentrations at the Stadish residence could exceed 4

1 parts per million?

2 A Possibly accumulation, yeah.

3 Q Back in Exhibit 11 you had a reference to the
4 dehydration units.

5 A Yes, sir.

6 Q And that's part of what you've taken out of the
7 opinions as you've finalized your opinions, right?

8 A Yeah. Yeah.

9 Q Did you identify any leaks of storage gas to
10 the surface between August 1992 and February 1995?

11 MR. HERZOG: Object; asked and answered. He said he
12 did.

13 THE WITNESS: I did not look for identifying storage
14 gas leaking to the surface in any specific period of
15 time. I looked at overall average annual seepage. I
16 looked at how much production occurs in a given year,
17 and I based my overall analysis on -- on the large
18 picture rather than a specific time frame or specific
19 geographic location.

20 BY MR. WILKINSON:

21 Q In doing your work in this case, did you
22 understand that Lyn Stadish lived in Playa del Rey from
23 August 1992 to February 1995?

24 A I surmised that from the various conversations.

25 Q Did you do anything to determine whether any

1 wells that were close to her house had any leaks during
2 the time frame that she lived there?

3 MR. HERZOG: I have to object to what you mean by
4 "anything." I think he's testified that the
5 characteristic of the field and whatnot would indicate
6 there would be leakage. He talked the casing, the
7 cement, the valves, all that kind of thing, so I don't
8 know what you mean by "anything." You mean to go out
9 and do a specific test or is this from -- I don't
10 understand your general characterization of the area and
11 of the wells.

12 BY MR. WILKINSON:

13 Q Dr. Tek, you weren't around in 1992 so you
14 didn't go out and do a specific test to see whether
15 there was a leak during that time?

16 A In 1992 I visited the Playa del Rey facility.

17 Q Did you?

18 A Compressor plant.

19 Q Did you do any testing of the wells at that
20 time?

21 A No, we weren't doing testing of the wells. It
22 was summertime, and we looked at the compressor plant.
23 I talked to Claus -- Mr. Langer when he was
24 superintendent at Honor Rancho at the time, but I didn't
25 have any idea about, of course, this case.

1 But I do -- I do have some recollection that
2 some of the Vidor wells being subject to rather unusual
3 scrutiny, and I just note that these V-wells, I believe,
4 are the ones that are -- if you put an air of prevailing
5 winds not too far from the Stadish home.

6 Q Did you identify any leaks from those wells?

7 A I did not identify, but I've seen lots of
8 literature concerning Vidor this, Vidor that occurring,
9 and also Blackline and some slanted well behind the --
10 behind the street.

11 MR.. WILKINSON: Let's mark as a group Exhibit 14, a
12 series of gas company memoranda and related documents
13 concerning well leaks that are among the documents that
14 you've brought with you here today.

15 (Defendant's Exhibit 14 marked
16 for identification.)

17 BY MR. WILKINSON:

18 Q Take a second to thumb through those.

19 A Okay.

20 Yes, sir. I have just gone through these.
21 Some of these I've seen before.

22 Q Are these documents that you brought with you
23 from Hawaii or are these documents that were provided to
24 you since you've arrived today?

25 A Here's an example, good question. See, I

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BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

In the Matter of the Application of SOUTHERN CALIFORNIA GAS COMPANY for Authority Pursuant to Public Utilities Code Section 851 to Sell Certain Real Property in Playa del Rey, California.

(U904G)

Application 99-05-029
(Filed May 12, 1999)

INTERVENOR'S PREPARED TESTIMONY

June 20, 2005

Patricia McPherson, President
GRASSROOTS COALITION
11924 W. Washington Boulevard
Los Angeles, CA 90066
(310) 397-5779

1 **I. OVERVIEW OF THIS PROCEEDING:**

2 A Prehearing Conference (PHC) was held on May 10, 2005 before Administrative Law
3 Judge Carol A. Brown. Pursuant to that hearing, an "Administrative Law Judge's Ruling
4 Scheduling Evidentiary Hearings" was issued in which Evidentiary Hearings (EH) are
5 scheduled for July 18-20, 2005, at the Commission's Los Angeles courtroom, located at 320
6 West 4th Street, 5th Floor, Los Angeles, California.
7

8 As part of this ruling the following dates were established:

9

10 June 20, 2005	Intervenor Testimony
11 July 8, 2005	Reply Testimony
12 July 15, 2005	Telephonic PHC
13 July 18, 2005	EHS begin at 10:00 a.m.

14 The subject document is being submitted as Intervenor's Prepared Testimony in
15 compliance with the above ruling and scheduling.
16

17

18 **II. SUMMARY AND OVERVIEW OF ISSUES:**

19 On May 12, 1999 Southern California Gas Company (SOCALGAS) filed an Application
20 with the California Public Utilities Commission (PUC) for authorization to sell certain real
21 property located in Playa del Rey ("PDR"), California pursuant to Public Utilities Code Section
22 851. In particular, approval was sought for the sale of certain lots that fell into three (3)
23 categories:
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CATEGORY	NUMBER OF LOTS
<ul style="list-style-type: none">• Lots currently under contract• Lots sold between 1996 and 1998• Lots sold between 1950 and 1995	35 25 12
Total number of lots where approval is being sought pursuant to § 851	72

The description of these lots is summarized within **TAB D** of the subject Application, by way of the identification of the lot number, the block number and tract number. For example, **TAB D** under the sub-title "Those Lots Currently Under Contract" states in the first paragraph:

"Lots 15, 16, 17, 18, 28, 29, 30, in Block 13 of Tract No. 9809, in the City of Los Angeles, County of Los Angeles, State of California, as per map recorded in book 145 pages 91 to 96 inclusive of maps, in the office of the County Recorder of said county."

Conspicuously absent from these so-called "legal descriptions" (see Page 1 of the Application) is any identification of the location of oil or gas wells on the individual lots. Furthermore, nothing is outwardly identified regarding ownership and/or responsibility over the oil and gas wells after completion of the purchase and sale agreements. Indirectly, some relevant information can be inferred from the purchase and sale agreements set forth under

TAB E:

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BUYER(S)	PROPERTY DESCRIPTION
(1) Bruce D. Resnick and Robyn M. Martin	Lot 26, Parcel Number 4114-019-801, Tract 36857
(2) Don R. Hankey	Lots 3 and 4, in Block 1 of Del Rey Beach, Parcel Number 4294-006-800
(3) Paragon Enterprises, Inc.	29 Lots described in Exhibit A attached to the Purchase and Sale Agreement
(4) D.N.A. Builders	Lots 3 and 4 on 82 nd Street, Tract 9578, Block 4, Parcel Number 4114-022-800; Lots 6 and 7 on 85 th Street, Tract 9578, Block 6, Parcel Number 4114-023-800.

Regarding oil and gas wells located on these properties, the only description provided in the Purchase and Sale Agreements are as follows (viz, pertaining to each of the four contracts identified above):

(1) BRUCE D. RESNICK AND ROBYN M. MARTIN:

“The Property may contain an oil/gas well that has been abandoned to the standards promulgated as of this date by the California Department of Oil, Gas and Geothermal Resources. As a result of the well, if any, the Property may contain underground piping and/or contamination resulting from oil production or well maintenance” (emphasis added).

(2) DON R. HANKEY:

No well identification, or exclusions relating thereto appear in the Contract.

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(3) PARAGON ENTERPRISES, INC.:
(See Exhibit A to the Purchase and Sale Agreement.)

Lots 28, 29, 30	Playa del Rey Storage Field MERRILL-1
Lots 14, 15, 16, 17, 18	Playa del Rey Storage Field 13-1
Lots 17, 18, 19, 20, 22, 23, 24, 25	Playa del Rey Storage Field 23-1
Lots 14, 15, 16 83 rd & Saran Drive	Playa del Rey Storage Field LOR-MAR-1
Lots 5, 6, 7, 8 83 rd & Billow Vista Drive	Playa del Rey Storage Field SUMARKAND
Lots 5, 6, 7, 18, 19 between Falmouth & Calabar	Playa del Rey Storage Field 29-1
Lot 11 on Saran Drive	Playa del Rey Storage Field HISEY 1

(4) D.N.A. BUILDERS:

“The Property may contain an oil/gas well that has been abandoned to the standards promulgated as of this date by the California Department of Oil, Gas, and Geothermal Resources. As a result of the well, if any, the Property may contain underground piping and/or contamination resulting from oil production or well maintenance” (emphasis added).

The Purchase and Sale Agreements, with the exception of the sale to DON R. HANKEY (as will be discussed below), contains the following exclusion to the Property Description, all set forth in capitalized print:

1
2 “EXCEPTING THEREFROM ALL OIL, GAS, MINERALS,
3 OTHER HYDROCARBONS AND STORAGE RIGHTS IN AND
4 UNDER SAID PROPERTY BELOW A DEPTH OF FIVE
5 HUNDRED FEET WITHOUT THE RIGHT OF SURFACE ENTRY
6 FOR THE PURPOSE OF EXPLORING AND DEVELOPING SAID
7 RIGHTS, OR OPERATING AN UNDERGROUND STORAGE
8 FIELD NOT PREVIOUSLY GRANTED TO OTHER PARTIES”
9 (emphasis added).

10 This language will be especially important in the detailed discussion that will follow
11 relating to the central issue regarding the relevant language contained within Public Utilities
12 Code Section 851:

13 “No public utility . . . shall sell, lease, assign, mortgage, or
14 otherwise dispose of or encumber the whole or any part of its . . .
15 plant, system, or other property, necessary or useful in the
16 performance of its duties to the public, . . . without first having
17 secured from the Commission an Order authorizing it so to do”
18 (emphasis added).

19 The key phrase in this Code Section is “necessary or useful in the performance of its
20 duties to the public.” The focus of the discussion herein will be to establish that SOCALGAS
21 cannot satisfy its “duties to the public” by selling these lots. As will be shown herein, these lots
22 are necessary, and profoundly useful, to provide SOCALGAS access for making repairs to oil
23 and gas wells located under, upon or adjacent to the proposed lot sales.

24 Oil and gas wells located within these lots have had a long history of both leaking, and
25 developing new leaks, where the oilfield gasses follow the path of least resistance along the
26 wellbores to the surface. Accordingly, SOCALGAS has an ongoing (viz., a nondelegable duty)
27 obligation to conduct proper soil gas monitoring within the vicinity of these wells, and to reenter
28 the wells to repair gas leaks as they develop.

1 This obligation is imposed by operation of law since SOCALGAS owns all of the
2 mineral rights located below the subject lots. See *Wells Fargo Bank v. Goldzband* (1997) 53
3 Cal.App.4th 596, 61 Cal.Rptr.2d 826. This case held that the mineral rights owner and its
4 predecessors in interest were responsible for the plugging and reabandonment of a leaking oil
5 well.

6
7 It is clear from Civil Code Section 654 that SOCALGAS is the owner of all of the
8 oilfield gases that are leaking to the surface at the Playa del Rey and Venice oilfields:

9 “The ownership of a thing is the right of one or more persons to
10 possess and use it to the exclusion of others. In this code, the
11 thing of which there may be ownership is called property.”
(Civil Code § 654 – emphasis added.)

12 Namely, all of the lots that have been made part of the subject Application lie directly
13 over the mineral rights owned by SOCALGAS. Also, the *migration* of these oilfield gases
14 upward has invaded the surface soils, and the fresh water aquifers, at extremely dangerous
15 levels.

16
17 These dangers have been identified as giving rise to an explosion and fire hazard, and a
18 health and safety hazard. Soil gases have been measured at many multiples of the explosion
19 limit. Proposition 65 chemicals, including benzene and toluene have been measured as
20 volatilizing from super saturated oilfield gases that have migrated into the shallow fresh water
21 aquifers.

22
23 Most of the oil and gas wells that had been abandoned by SOCALGAS to the so-called
24 current standards of the State of California Division of Oil, Gas and Geothermal Resources
25 (DOGGR) have developed leaks. Oftentimes these leaking abandoned wells were discovered
26 shortly before real estate construction was to begin on the lots previously sold by SOCALGAS,
27 and made a part of this Application.
28

1 Noteworthy of these leaking wells is **Block 11**, located in the Townsite area of the Playa
2 del Rey gas storage field. The Intervenor herein identified this well to the PUC during a hearing
3 held in this subject matter, and presided over by Administrative Law Judges Orville Wright and
4 Carol Brown. On September 8, 2000, Matt Epuna, from the Safety Division of the PUC, was
5 designated to inspect this leaking well. The Intervenor accompanied Mr. Epuna to the leaking
6 well site, and was able to directly identify oilfield gas leaking to the surface at the uncovered
7 wellhead.
8

9 The wellhead for **Block 11** had been uncovered as part of the permitting phase for a
10 planned real estate construction over the abandoned well. As a result of this, SOCALGAS was
11 required to move in a drill rig, while the well was still accessible, and attempted to reabandon
12 the well a second time. No assurance has been provided that this leak was successfully repaired.
13 No soil gas probes were placed into the ground for follow-up verification, and a significant
14 portion of the lot was built-over by the real estate project. The construction of a building on the
15 lot now prevents a drill rig from reentering the well to make repairs.
16

17 The leaking well problems experienced in the SOCALGAS Montebello Gas Storage Field
18 required homes built over the leaking wells to be torn down to allow access to the wells by a
19 very large drilling rig.
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21 Pursuant to *Wells Fargo Bank v. Goldzband*, supra, the cost would be an obligation of
22 SOCALGAS. Also, this would indirectly burden the ratepayers for potential huge liability.
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1 **TOWNSITE WELL PROBLEMS NOT ADDRESSED**
2 **IN THE APPLICATION**

3 In the subject Application, the **Block 11** well is described as part of the Townsite wells,
4 under the caption "Abandoned Wells with Land Sold Pre-January 1999." For example, on
5 Page 3 of the Prepared Direct Testimony of Jim Mansdorfer, located at **TAB G** of the
6 Application, the following description is provided:
7

8 "Block 10R, Block 11, Townsite 2, and Townsite 11 – In order to
9 better centralize more efficient operations, five gas migration
10 collections wells (Block wells 10R & 11, Townsite wells 2, 3 & 11)
11 with surface locations separated from the main area by Marina del
12 Rey were abandoned. They were first replaced by two directional
13 wells (Harlan 1 and Fast 1) drilled from the tank farm to subsurface
14 locations close to the five original wells. As a result, no field
15 impairment occurred from abandonment" (emphasis added).

16 It is noteworthy that the Prepared Direct Testimony of Jim Mansdorfer, set forth at
17 **TAB G** of the subject Application, repeatedly uses the phrase "no impairment of the field
18 occurred" or "no field impairment occurred." This is especially important as it relates to the
19 standard of review as set forth in Public Utilities Code Section 851:

20 "Necessary or useful in the performance of its duties to the
21 public" (emphasis added).

22 Namely, the standard that Jim Mansdorfer has adopted in concluding that the lots are no
23 longer necessary or useful relates to "no field impairment," as opposed to "duties owed to the
24 public."

25 The duties owed by SOCALGAS to the public relate to health and safety issues, and not
26 to issues involving "no impairment to the field."
27
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1 **THE DECLARATION OF JIM MANSDORFER HAS FAILED**
2 **TO ESTABLISH THAT THE SUBJECT LOTS ARE**
3 **NO LONGER NECESSARY OR USEFUL IN THE PERFORMANCE OF**
4 **SOCALGAS'S DUTIES TO THE PUBLIC, AS**
5 **REQUIRED BY PUBLIC UTILITIES CODE SECTION 851**

6 In the subject Application, SOCALGAS has relied upon the Prepared Direct Testimony
7 of Jim Mansdorfer, and the attached Affidavit of Jim Mansdorfer, executed on the 10th day of
8 May, 1999 (hereinafter "Declaration" – see TAB G of the Application), to establish their burden
9 of proof under Public Utilities Code Section 851. On Pages 1 and 2 of the Application it is
10 stated:

11 "Code Section 851 by its terms is limited to the sale of 'property
12 necessary or useful in the performance of [a utility's] duties to the
13 public . . .' As demonstrated herein by the testimony of Mr.
14 Mansdorfer, the wells originally located on the subject parcels of
15 property became unnecessary and no longer useful to the PDR
16 storage operations and therefore were abandoned without
17 adversely affecting SoCalGas' PDR storage operations"
18 (emphasis added).

19 It is clear from this statement that this Declaration has relied upon a standard not addressing the
20 utility's duties to the public, but:

21 "the subject parcels of property became unnecessary and no
22 longer useful to the PDR storage operations" (emphasis added).

23 Further, the statement claims, without foundational support in the Declaration that the
24 wells were:

25 "Abandoned without adversely affecting SoCalGas' PDR storage
26 operations" (emphasis added).

27 As discussed more fully herein, many problems arose as a result of the abandonment of
28 these wells. As identified above, for example, the PUC Utilities Safety Branch (viz., Matt
Epuna) became involved on or about September 8, 2000, in the investigation of the **Block 11**
well leakage, and the need to reabandon this well. This was after the date of the Declaration of

1 Jim Mansdorfer, executed on May 10, 1999. Accordingly, the Declaration has failed to address
2 many serious problems with well leaks that have become known after May 10, 1999.

3 During the Prehearing Conference held on May 10, 2005 (exactly six years after the
4 execution of this Declaration), SOCALGAS declared that it was not going to amend the
5 Application, including the Declaration of Jim Mansdorfer. For this reason alone, it is
6 inappropriate for SOCALGAS to represent, as they did on Page 2 of the Application:
7

8 “Since none of this real property is or will be ‘necessary or useful’
9 to the PDR storage operations, SoCalGas submits that
10 Commission Authorization under Code Section 851 would not be
required prior to the sale of these properties” (emphasis added).

11 It is important to note that the health and safety aspects of the PDR storage operations
12 have been ignored, including in the Declaration of Jim Mansdorfer. As previously stated, the
13 critical issues regarding the lot sales relate to the dangers posed by the leaking wells, and the
14 critical need to provide soil gas monitoring at the well locations. SOCALGAS cannot satisfy its
15 legal duties to the public unless these lots are used for proper maintenance, monitoring and
16 repairs when these wells leak.
17

18 Civil Code Section 1714, providing that everyone is responsible, not only for the result
19 of his willful acts, but also for an injury occasioned to another by his or her want of ordinary
20 care or skill in the management of his or her property. See *Rowland v. Christian* (1968) 69
21 Cal.2d 108, 70 Cal.Rptr.97.
22

23 The chief element in determining whether SOCALGAS owes a duty to the public is the
24 foreseeability of the risk. Foreseeability is not to be measured by what is more probable than
25 not, but includes whatever is likely enough in the setting of modern life that a reasonably
26 thoughtful person would take account of in guiding practical conduct. See *Onciano v. Golden*
27 *Palace Restaurant* (1990) 219 Cal.App.3d 385 at 392, 268 Cal.Rptr.96.
28

1 The emphasis of the Exhibits set forth herein is to identify, with particularity, the
2 foreseeability of the risks presented by the leaking wells within the Playa del Rey Gas Storage
3 Facility, and the urgent need for conduct to deal with the resultant hazards posed to the public.
4

5
6 **THE PUBLIC UTILITIES COMMISSION HAS THE AUTHORITY,
7 GRANTED TO IT BY THE CALIFORNIA CONSTITUTION,
8 TO ADDRESS THE SAFETY HAZARDS POSED TO THE PUBLIC
9 BY THE LEAKING WELLS**

10 The Second Appellate District Court, in the opinion set forth herein in Exhibit 1,
11 established the authority of the PUC to exercise jurisdiction over the safety aspects of the Playa
12 del Rey Gas Storage Facility. This would include the safety and risks posed to the public by the
13 oil and gas wells that are associated with the subject lot sales.

14 At Page 5 of the Second Appellate District's decision, the following relevant language is
15 set forth:

- 16 • Public Utilities Code § 701:
17 "The Legislature has conferred far broader powers on the
18 PUC in the Public Utilities Act:"
19 "The commission may supervise and regulate every public
20 utility in the State and may do all things, whether
21 specifically designated in this part or in addition thereto,
22 which are necessary and convenient in the exercise of such
23 power and jurisdiction" (emphasis added).
- 24 • This is to be Liberally Construed:
25 "This broad mandate has been liberally construed.
26 (*Consumers Lobby Against Monopolies v. Public Utilities*
27 *Commission* (1979) 25 Cal.3d 891, 905.)"
- 28 • Public Utilities Code § 2106:
"The second statute states, 'Any public utility which does,
causes to be done, or permits any act, matter or thing
prohibited or declared unlawful, or which omits to do any
act, matter or thing required to be done, either by the
Constitution, any law of this State, or any order or decision
of the commission, shall be liable to the persons or
corporations affected thereby for all loss, damages, or
injury caused thereby or resulting therefrom. If the court

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finds that the act or omission was willful, it may, in addition to the actual damages, award exemplary damages. An action to recover for such loss, damage, or injury may be brought in any court of competent jurisdiction by any corporation or person.”

In summary, a public utility which does, causes to be done, or permits any act, matter or thing prohibited or declared unlawful, or which omits to do any act, matter or thing required to be done by any law of this State, or any order or decision of the Commission, shall be liable to the persons or corporations affected thereby. This would include certain criminal laws of this State, especially relating to offenses that threaten the environment.

Herein, many of the oil and gas wells that relate to the mineral rights owned by SOCALGAS are leaking explosive and toxic oilfield gases into the air, and the freshwater aquifers that overlie their mineral rights. This has included millions of cubic feet of oilfield gases that have invaded the Silverado and Ballona Aquifers that overlie the oilfields operated by SOCALGAS.

This gas has caused a significant pressure build-up in the Ballona Aquifer, or sometimes referred to as the “50-foot gravel.” It is this gas that has caused such an enormous fire and explosion hazard to the surrounding community. For example, shallow wells drilled into the Ballona Aquifer at depths of approximately 50 feet have caused well blow-outs, and large gas flows measured up to 80 liters per minute.

Also, this shallow, high-pressure gas, contains benzene and toluene and other hazardous gases, including hydrogen sulfide. Benzene and toluene are constantly volatilizing to the atmosphere, creating a health and safety risk to those living in the area.

Benzene, a constituent of natural gas, is a known human carcinogen, and a Proposition 65 chemical. Toluene is known as a birth defect chemical. This information is made clear, for example, in the Proposition 65 – Public Warning (see **Exhibit 8**) that states in relevant part:

1 "Natural gas, in its original state, contains radon and benzene,
2 chemicals 'known to the State of California to cause cancer.' It
3 also contains toluene; both toluene and benzene are chemicals
4 'known to the State of California to cause birth defects or other
5 reproductive harm'" (emphasis added).

6 Playa del Rey gas storage wells contain significant levels of benzene. For example,

7 Exhibit 19 reveals the following:

8 WELL	9 DATE	10 BENZENE (ppm)
11 Del Rey 13	12 7/27/2000	13 169
14 Del Rey 17	15 7/27/2000	16 101
17 Vidor 1	18 7/27/2000	19 118
20 Vidor 2	21 7/27/2000	22 172
23 Vidor 14	24 7/27/2000	25 114

26 These data reveal a serious health risk posed by leaking wells within the mineral right
27 area of SOCALGAS. This risk is exacerbated by the large shallow gravel zone that overlies the
28 oilfields operated by SOCALGAS. Both the Playa del Rey and Venice oilfields are subtended
by a thick, shallow gravel zone. This gravel zone is highly permeable, and allows the oilfield
gases to spread out and saturate the entirety of the fresh water aquifers that extend eastward
under the Playa Vista real estate development.

Extensive soil gas studies performed in the vicinity of the Playa Vista real estate
development have confirmed in great detail the existence of the above-described hazardous
conditions.

1 **Exhibit 23** is a Staff Report prepared by the City of Los Angeles that states in relevant
2 part:

3 “One of the areas not previously identified where methane was
4 encountered is Playa Vista. For the Playa Vista project, LADBS,
5 along with its peer reviewer Exploration Technologies, Inc.,
6 (ETI), investigated the location and source of the methane and
7 determined the soil gas source at Playa Vista was thermogenic
8 (originating from oilfields) and developed a methane mitigation
9 system for the site” (emphasis added).

10 Recent efforts by the Intervenor has identified an extremely large gas seep that is
11 surfacing in the immediate area of the abandoned well University City Syndicate. This well
12 subtends the mineral rights that are owned by SOCALGAS. This well leak is also directly
13 interconnected with the shallow fresh water aquifers, and gravel zones that extend underneath
14 the Playa Vista project.

15 Gas fingerprinting has established that the gas leaking to the surface at the University
16 City Syndicate well location matches the gas leaking up many of the other oil and gas wells in
17 the area. Also, the gas fingerprint matches the surface seeps that continually occur under the
18 Playa Vista site.

19 It is noteworthy that in the recent Prepared Rebuttal Testimony of James Mansdorfer,
20 dated April 11, 2005, in which he states that the purpose of his testimony is to respond to the
21 allegations regarding leakage of the wells and reservoir at Playa del Rey as presented in the
22 testimony of Grassroots Coalition, he states as follows:

23 “GC’s statement ‘*the enormous levels of gas that have been*
24 *discovered in the 50-foot gravel are coming from the underlying*
25 *oilfield, as confirmed by isotopic gas fingerprinting studies.*’ may
26 or may not be true, but even if true there are a number of possible
27 causes for the presence of “oilfield” gas that have nothing to do
28 with leakage from SoCalGas wells or from the SoCalGas storage
reservoir. There are other permeable zones that contain naturally
occurring pockets of oil and gas located in the area above the
storage zone. Early oil and gas exploration wells not owned by

1 SoCalGas that were not abandoned in a manner that would
2 prevent flow of fluids between zones is one possible cause that is
3 unrelated to SoCalGas' storage operation. For example, the
4 University City Syndicate well #1 was an exploration well drilled
5 in the early 1930's that hit a shallow pocket of naturally occurring
6 gas at about 1800 feet and blew out, flowing at an estimated rate
7 of 5 MMcf/d. Drill pipe became stuck in the hole, and the well
8 was abandoned by cementing at 155 feet, leaving an open
9 pathway from the gas zone nearly to the surface. This well did
10 not penetrate the SoCalGas gas storage zone and is outside the
11 influence area of the storage field, and so SoCalGas has never had
12 any association with it. Within the last several years this well was
re-entered and properly abandoned by the Playa Vista developer
so it is no longer a potential conduit for gas migration, but until
then it was a potential source for gas to get into the "50-foot
gravel" zone, unlike the closely monitored wells of SoCalGas. In
addition, there are other early, poorly abandoned exploration wells
north and east of SoCalGas' field and unrelated to the storage
operations (some recently also re-abandoned) that could also have
been the source of any possible oilfield gases in shallow aquifers."

13 This statement highlights the conscious disregard of SOCALGAS for the wells that
14 subtend their mineral rights, but have delegated their responsibilities for well leaks to others,
15 including Playa Vista. The holding of the previously discussed case of Wells Fargo Bank v.
16 Goldzband, supra, establishes that SOCALGAS has direct responsibility over the University
17 City Syndicate well, which is now leaking profusely.

18 Also, the Bank v. Goldzband case held that the current mineral rights owner is also
19 responsible for the predecessors in interest of the abandoned wells. Accordingly, the willful
20 failure of SOCALGAS to take action in dealing with the existing University City Syndicate well
21 leak is a violation of Public Utilities Code § 2106.

22 It is important to note that Penal Code § 375(a) provides in relevant part:

23 "It shall be unlawful to . . . pour, deposit, release, discharge, or
24 expose, . . . in, upon or about any . . . , place of business, . . . or any
25 place of public assemblage, any liquid, gaseous or solid substance
26 or matter of any kind which is injurious to person or property, or
27 is nauseous, sickening, irritating or offensive to any of the senses"
28 (emphasis added).

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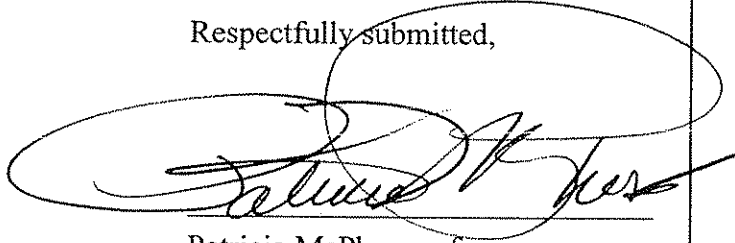
Also relevant to the unlawful conduct referenced in Public Utilities Code § 2106 is Penal Codes 387, otherwise known as the California Corporate Criminal Liability Act of 1989. That is substantial evidence to indicate that SOCALGAS has been acting for many years to conceal the true dangers posed by the leaking wells at the Playa del Rey Gas Storage Facility.

CONCLUSION

The Exhibits that are attached hereto will be used to provide evidentiary support at the time of the Evidentiary Hearing, regarding the Intervenor's Prepared Testimony submitted herein.

DATED: June 20, 2005

Respectfully submitted,



Patricia McPherson for
GRASSROOTS COALITION

CERTIFICATE OF SERVICE

I hereby certify that I have this date, served a copy of "INTERVENOR'S PREPARED TESTIMONY" dated June 20, 2005 to all known interested parties of record in Application 99-05-029 by mailing by first-class, U.S. mail a copy thereof properly addressed to all other parties included on the service list for this application.

Dated in Los Angeles this 20th day of June, 2005.

A handwritten signature in cursive script, reading "Kathy Knight", written in black ink. The signature is positioned above a horizontal line.

Kathy (Mary K.) Knight

EXHIBIT 1

NOT TO BE PUBLISHED IN THE OFFICIAL REPORTS

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA
SECOND APPELLATE DISTRICT
DIVISION TWO

RECEIVED
JUN 17 1997
GIRARDI & KEESE

JOSEPH STADISH et al.,

Plaintiffs and Appellants,

v.

SOUTHERN CALIFORNIA GAS
COMPANY,

Defendant and Respondent.

B100536

(Super. Ct. No. BC126952)

COURT OF APPEAL - SECOND DIST.

FILED

JUN 16 1997

JOSEPH A. WHITE Clerk
Deputy Clerk

APPEAL from a judgment of the Superior Court of Los Angeles County.
Alexander H. Williams III, Judge. Reversed with directions.

Girardi and Keese and James G. O'Callahan for Plaintiffs and Appellants.

Woodrow D. Smith, David Keitel and Carol Kennedy-Ramirez for Defendant and
Respondent.

Residents near a natural gas storage facility belonging to a public utility brought suit alleging injuries from toxic chemicals released by the facility into the air and groundwater. The trial court gave judgment to the public utility following a motion for summary judgment. The court ruled that it lacked jurisdiction to proceed and that there were no triable issues of material fact presented. We conclude that the public utility failed to carry its burden of proving (1) that there is exclusive jurisdiction in the Public Utilities Commission, and (2) that the complainants have no viable cause of action. Accordingly, we reverse.

FACTS

On May 1, 1995, appellants Joseph and Lyn Stadish filed their complaint against respondent Southern California Gas Company. Appellants allege that they reside within one mile of respondent's natural gas storage facility in Playa Del Rey. The gas and additives leaking from respondent's "poorly designed, corroded and inadequately maintained and supervised" facility are toxic to humans, and are poisoning the air and an aquifer used by appellants, the complaint alleges. "Due to the Facility's constant handling of hazardous substances and acutely hazardous materials, and its failure to avoid unreasonable, accidental, and excessive releases of particulates and toxic substances into the atmosphere and environment," the complaint continues, respondent is obligated to compensate appellants for damage to their persons and property. The complaint asserts causes of action for private and public nuisance, trespass, assault and battery, negligence, strict liability for an ultra-hazardous activity, and negligent and intentional infliction of emotional distress.

Respondent brought a motion for summary judgment in December of 1995. The evidence before the trial court showed that the Playa Del Rey gas storage facility was approved by the state in 1942 to meet the community's additional gas needs during the winter season resulting from "the increased and vital demands of the war industries in

Southern California” The administrative entity approving construction of the facility was the predecessor of the Public Utilities Commission (PUC), which found that the geological structure of the field and its location were suitable for the storage of the gas.¹ Respondent asserted that the PUC and the Department of Natural Resources’s Division of Oil and Gas (DOG) have exclusive jurisdiction over the operations of the Playa Del Rey facility. Respondent did not attempt to prove that appellants suffered no ill effects from living near the facility.

Appellants testified in their depositions that it is the normal, day-to-day operation of respondent’s facility that is causing their damage. Their physical symptoms include dizziness, great fatigue, frequent headaches, nausea, mood changes, depression, severe joint and muscle pain, insomnia, and constant ringing in the ears. Appellants opine that this type of hazardous operation should not be conducted in a residential neighborhood. Nevertheless, they admit that the operation of the facility is permitted by law, though they believe they have a right to compensation for all injuries they have suffered as a result of respondent’s excess gas emissions.

Appellants do not dispute that the use of the gas storage facility is regulated by the PUC. Nor do they dispute the PUC’s determination that public convenience and necessity required the construction, operation, and maintenance of the facility. However, their position is that toxic emissions from the facility are a nuisance over which the court has jurisdiction. Respondent has conceded that the PUC is not empowered to award damages to persons injured by the operations of facilities such as the one respondent owns in Playa Del Rey. Still, the initial liability question (i.e., whether or not the facility is operating appropriately) is one for the PUC, respondent argued. If the PUC were to

¹ The predecessor of the PUC was the California Railroad Commission. All references to the PUC in this opinion refer equally to the Railroad Commission.

determine that the facility is not operating properly, then appellants could come to court to obtain damages.

The trial court granted the motion for summary judgment. The court found that there was no triable issue of material fact and, further, that it lacked jurisdiction to resolve the merits of the case because exclusive jurisdiction rests in the PUC and the DOG to decide issues relating to the operation of underground gas storage facilities. The court concluded that there was no prejudice to appellants in requiring them to bring administrative claims. Judgment was entered for respondent on February 2, 1996. This appeal was filed on February 29, 1996.

DISCUSSION

Jurisdiction of the Trial Court/Exhaustion of Remedies

Private corporations such as respondent that own, operate, control or manage a line, plant or system for the production, generation, transmission or furnishing of heat, light, water, or power to the public are public utilities subject to control by the Legislature. (Cal Const., art. 12, § 3.) The Legislature exerts control over public utilities through the PUC. As a regulatory body of constitutional origin, the PUC has only such powers as it derives from the Constitution and the Legislature. (Cal. Const., art. 12, § 5; *People ex rel. Pub. Util. Com. v. City of Fresno* (1967) 254 Cal.App.2d 76, 81.) Its primary function "is to regulate private companies or individuals engaged in public service, in order to prevent monopolies which would jeopardize the public interest." (*Id.* at p. 83; *Cal. etc. Transport Co. v. Railroad Com.* (1947) 30 Cal.2d 184, 188.) "It is an active instrument of government charged with the duty of supervising and regulating public utility services and rates." (*Sale v. Railroad Commission* (1940) 15 Cal.2d 612, 617.)

The state Constitution lists the PUC's duties as fixing rates, establishing rules, examining records, issuing subpoenas, administering oaths, taking testimony, punishing for contempt, and prescribing a uniform system of accounts for all public utilities. (Cal.

Const., art. 12, § 6.) The Legislature has conferred far broader powers on the PUC in the Public Utilities Act: “The commission may supervise and regulate every public utility in the State and may do all things, whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction.” (Pub. Util. Code, § 701.) This broad mandate has been liberally construed. (*Consumers Lobby Against Monopolies v. Public Utilities Com.* (1979) 25 Cal.3d 891, 905.)

There are two statutes relating to the jurisdiction of the courts in disputes involving public utilities. One statute reads, “No court of this State, except the Supreme Court to the extent specified in this article, shall have jurisdiction to review, reverse, correct, or annul any order or decision of the commission or to suspend or delay the execution or operation thereof, or to enjoin, restrain, or interfere with the commission in the performance of its official duties, . . .” (Pub. Util. Code, § 1759.)²

The second statute states, “Any public utility which does, causes to be done, or permits any act, matter or thing prohibited or declared unlawful, or which omits to do any act, matter, or thing required to be done, either by the Constitution, any law of this State, or any order or decision of the commission, shall be liable to the persons or corporations affected thereby for all loss, damages, or injury caused thereby or resulting therefrom. If the court finds that the act or omission was wilful, it may, in addition to the actual damages, award exemplary damages. An action to recover for such loss, damage, or injury may be brought in any court of competent jurisdiction by any corporation or person.” (Pub. Util. Code, § 2106.)

The courts have struggled to reconcile Public Utilities Code section 1759 with section 2106. (See *Waters v. Pacific Telephone Co.* (1974) 12 Cal.3d 1 (*Waters*) and

² A 1996 amendment applicable to PUC orders or decisions on or after January 1, 1998, confers jurisdiction on the courts of appeal as well as the Supreme Court.

San Diego Gas & Electric Co. v. Superior Court (1996) 13 Cal.4th 893, 902 (*San Diego*.) In the *Waters* case, the Supreme Court declared that “in order to resolve the potential conflict between sections 1759 and 2106, the latter section must be construed as limited to those situations in which an award of damages would not hinder or frustrate the commission’s declared supervisory and regulatory policies.” (12 Cal.3d at p. 4.) More recently, the Supreme Court offered other synonyms beyond “hinder” or “frustrate,” such as “interfere with,” “obstruct,” “impair,” “impede,” “inhibit,” or “encumber.” (*San Diego*, 13 Cal.4th at p. 918, fn. 20.)

The *San Diego* case outlines a three-step process for determining whether a court has jurisdiction to entertain a claim for damages against a public utility, or whether such a claim would hinder or frustrate a policy of the PUC. We shall discuss each step in turn.

1. Does the PUC Have Authority to Regulate Gas Storage Facilities?

The first question which must be resolved is whether the PUC has *authority* to adopt policies concerning gas storage facilities. (*San Diego*, 13 Cal.4th at p. 923.) As the Supreme Court has observed, the PUC possesses “broad authority to determine whether the service or equipment of any public utility poses any danger to the health or safety of the public, and if so, to prescribe corrective measures and order them into effect.” (*Id.* at pp. 923-924, citing Pub. Util. Code, § 451.)³

There is a series of statutes relating to the PUC’s power to ensure the safe operation of public utilities. With respect to public health and safety, the Legislature has provided: “The commission may, after a hearing, require every public utility to construct, maintain, and operate its line, plant, system, equipment, apparatus, tracks, and premises in

³ Section 451 reads, in pertinent part, “Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities . . . as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.”

a manner so as to promote and safeguard the health and safety of . . . the public. The commission may prescribe, among other things, the installation, use, maintenance, and operation of appropriate safety or other devices or appliances The commission may . . . require the performance of any other act which the health or safety of . . . the public may demand.” (Pub. Util. Code, § 768.) To this end, if the PUC finds, after a hearing, that the practices, equipment, appliances, facilities or service of any public utility, or the methods of storage employed by it are “unjust, unreasonable, unsafe, improper, inadequate, or insufficient,” the PUC shall make an order or rule to fix the deficient equipment, facility or practice. (Pub. Util. Code, § 761.) Further, the PUC, after a hearing, may find that additions, extensions, repairs, improvements, or changes to existing equipment or facilities are necessary “to promote the security or convenience of its employees or the public,” and to order that changes be made to the utility. (Pub. Util. Code, § 762.)

Thus, the PUC is expressly empowered to ensure the safety of the public by ordering that the facilities and operations of a public utility be built and maintained in such a way as to promote public health and safety.

2. Has the PUC Exercised Authority on the Safety of Natural Gas Storage?

The second issue which must be resolved is whether the PUC has *exercised its authority* to ensure the safe operation of natural gas storage facilities generally, or of the Playa Del Rey gas storage facility in particular. (*San Diego*, 13 Cal.4th at p. 926.)

Respondent’s evidence on this point falls short. Respondent argues that the PUC assumed exclusive jurisdiction over the Playa Del Rey gas storage facility in 1942 when it approved respondent’s application to construct the facility. Needless to say, the PUC’s 1942 resolution permitting the construction of respondent’s storage operation does not

address whether the operation remains safe for the public in 1997.⁴ As far as we can tell, neither the PUC nor the DOG has considered for the last 55 years whether respondent's operation is releasing toxic pollutants into the air or groundwater which are harmful to the health and safety of the residents in the surrounding neighborhood. Indeed, it is not even clear that there were any nearby residences at the time the facility was constructed.

A letter from the DOG in April of 1986 instructs respondent to operate its facility in a safe manner and to monitor its discharges. Also, respondent asks us to take judicial notice of 1979 PUC rules governing design, construction, testing, maintenance and operation of utility gas gathering systems. We found nothing in the PUC rules relating to respondent's potential liability for polluting the environment and injuring local residents. The rules do not state what a permissible level of emissions would be, nor does respondent argue that its emissions were within safe levels. In any event, a directive from the PUC stating that a utility must maintain its system in a safe condition and minimize hazards does not withdraw or limit liability if the utility fails to exercise due care and causes injury. (*Pierce v. Pacific Gas & Electric Co.* (1985) 166 Cal.App.3d 68, 77-78.) A tort claim based on such injuries does not contradict any order by the administrative body. (*Ibid.*)

The facts described in the *San Diego* case demonstrate how, in some cases, the PUC's exercise of authority may preempt possibly conflicting court action. In *San Diego*, residents sued an electric utility company claiming that electric and magnetic radiation caused by the utility's nearby powerlines reduced the value of their property and could cause cancer. The Supreme Court found that the PUC and the Department of Health

⁴ Respondent maintains, without citation to the record, that this court may not "contradict the CPUC's findings that Respondent is performing its obligations satisfactorily." We have searched the record in vain for a finding by the PUC that respondent is satisfactorily performing its obligation to operate a safe facility that poses no health risks to the public.

Services (DHS) had exercised their authority to adopt a policy on powerline electric and magnetic fields. (13 Cal.4th at p. 926.) In fact, in 1988 the Legislature *ordered* the PUC and the DHS to prepare and submit a joint report identifying any risks associated with powerlines: in their report to the Legislature in 1989, the two administrative bodies “recommended that California take no action at the present to regulate electric and magnetic fields around electric power facilities” because too little was known about possible health problems to suggest a course of action. (13 Cal.4th at pp. 927-928.) From 1990 to 1992, the PUC took steps to develop a formal regulatory policy on powerline electric and magnetic fields, appointing study groups and holding public hearings. (13 Cal.4th at pp. 928-930.) At the time the Supreme Court heard the appeal, the PUC was “still actively pursuing the broad policy inquiry into the potential health effects of powerline electric and magnetic fields that it initiated in 1991.” (13 Cal.4th at p. 934.)

Thus, the instant case is distinguishable from the *San Diego* case. Clearly, the PUC was exercising its authority with respect to the hazards posed by powerlines in the *San Diego* case: indeed, the PUC had an express legislative mandate to exercise that authority.⁵ Respondent Southern California Gas Company cannot point to any comparable exercise of authority by the PUC or the DOG with respect to the hazards posed by atmospheric and groundwater pollution stemming from respondent’s natural gas storage facility emissions, nor does respondent set forth any policy from the PUC limiting respondent’s liability for injuries stemming from its operations.

⁵ Similarly, the PUC exercised its authority to control railroad grade crossings by ordering the closure of a street in Union City where it crossed railroad tracks, an order which the Supreme Court declined to review. (*City of Union City v. Southern Pac. Co.* (1968) 261 Cal.App.2d 277, 278-279.) The city attempted to make an end run around the PUC’s order by suing for an injunction. The Court of Appeal rejected jurisdiction, stating that “jurisdiction does not exist whenever the Public Utilities Commission, acting within its powers, *has passed on the very matter asserted to be a nuisance.*” (*Id.* at p. 281, italics added.)

3. Does the Superior Court Action Hinder or Interfere With PUC Policy?

The final question presented is whether appellants' superior court action would hinder or interfere with the PUC's exercise of its authority. (*San Diego*, 13 Cal.4th at p. 935.) As we have discussed in the preceding section, there was no evidence presented that the PUC or the DOG are exercising their authority to regulate respondent's natural gas storage facility emissions, nor is there evidence of a statewide policy relating to such emissions.

Respondent posits, incorrectly, that all of its conceivable activities in operating a natural gas storage facility are subject to the exclusive jurisdiction of the PUC or the DOG, thereby preventing any court action relating to its operations. This is not the law in California: "It has never been the rule in California that the commission has exclusive jurisdiction over any and all matters having any reference to the regulation and supervision of public utilities." (*San Diego*, 13 Cal.4th at p. 944.) "California courts have frequently proclaimed concurrent jurisdiction in the superior court over controversies between utilities and others *not inimical to the purposes of the Public Utilit[ies] Act.*" (*Ibid.*)

The Public Utilities Act supports the safe operation of utilities. (See Pub. Util. Code, §§ 761, 762, 768, *supra.*) The question raised by appellants' complaint concerns the safe and healthful operation of respondent's facility. Thus, the courts have concurrent jurisdiction to further the policies and purposes of the Public Utilities Code statutes relating to public health and the safety of storage facilities. Exercising this jurisdiction would not hinder or impede the PUC or DOG, which have not asserted themselves in this area. Respondent has failed to demonstrate that either agency has ever declared that respondent's facility poses no health risk to local residents.⁶ Even respondent has not

⁶ If the PUC eventually decides to assume the duty of enforcing the relevant public safety statutes with respect to respondent's facility, it may set aside any prior order or determination of the courts. (*Miller v. Railroad Commission* (1937) 9 Cal.2d 190, 195.)

contended (yet) that its facility poses no health risk to residents. Under the circumstances, the proper forum for determining any loss, damage or injury from the facility's operations is the trial court. (*Goodspeed v. Great Western Power Co.* (1939) 33 Cal.App.2d 245, 273.)

To the extent appellants' complaint seeks to force the closure of respondent's facility, it cannot be entertained. The trial court is not permitted to direct that the facility be shut down or moved because the PUC has determined --albeit in 1942-- that the facility is in an appropriate location. The location of the facility and the social benefit it confers are the sole areas exclusively occupied by the PUC, at this point. By the same token, respondent is not immunized from liability if it has poisoned appellants merely because its storage facility benefits the larger community.

Finally, respondent asserts that appellants failed to exhaust their administrative remedies by failing to file a complaint with the PUC or the DOG before filing a complaint in the superior court. The Public Utilities Code states that a person *may* file a complaint against a public utility alleging a violation of any provision of law, or order or rule of the PUC. (Pub. Util. Code, § 1702.) The Public Resources Code states that the DOG shall conduct an investigation upon receiving a written complaint from a person living within one mile of an operating oil well. (Pub. Res. Code, § 3235.) Neither Code says that that affected persons *must* exhaust administrative remedies before initiating a civil action. Further, as respondent concedes, neither the PUC nor the DOG have any authority to award damages for tortious wrongdoing. There is, by contrast, legislative authority allowing injured parties to sue a public utility directly for loss or damage. (Pub. Util. Code, § 2106.) Because there is no legal authority requiring injured parties to pursue administrative remedies, there is no merit to the claim that appellants failed to exhaust their administrative remedies.

Absence of Triable Issues of Fact

As an alternate grounds for its judgment in favor of respondent, the trial court stated that there were no triable issues of material fact. This ruling is incorrect. Respondent made no effort to disprove the allegations in the complaint. In other words, respondent never argued that (1) there are no emissions from its gas storage facility, or (2) appellants suffered no personal injuries on account of the emissions from the facility. The sole basis for respondent's motion for summary judgment was that the trial court had no jurisdiction to entertain appellants' claims.

As discussed in the preceding section, the trial court does have jurisdiction to proceed. Respondent did not carry its burden of proving that none of appellants' causes of action are viable. It did not even attempt to carry that burden. Because respondent did not attack the elements of appellants' claims, the burden did not shift to appellants to show that a triable issue of material fact exists. (Code Civ. Proc., § 437c, subd. (o)(2).)

DISPOSITION

The judgment is reversed and the cause is remanded to the trial court for further proceedings. Appellants are entitled to recover their costs on appeal from respondent.

NOT TO BE PUBLISHED IN OFFICIAL REPORTS.


BOREN, P.J.

We concur:


NOTT, J.


ZEBROWSKI, C

EXHIBIT 2

THE PLAYA DEL REY
MONITORING PROGRAM

Rick Lorio
Associate Petroleum Engineer
Underground Storage
Southern California Gas Co.
April 25, 1985

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APPENDICES

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Attachment 3 -	Playa del Rey Injection/Withdrawal Schedule
Attachment 4 -	Helium Samples on Playa del Rey Pumping Wells
Attachment 5 -	Examples of Temperature, Noise, and R/A Tracer Survey Reports.
Attachment 6 -	Playa del Rey Well Survey Status Report
Attachment 7 -	Examples of Abandoned Well Survey Reports, Leakage Survey Report, and Leak Investigation Report
Attachment 8 -	Playa del Rey Annulus Pressure Report

I. Storage Zone Problems

A. Possible source of gas migration to surface

There are at least five different possible sources of gas to the surface at Playa del Rey:

1. Casing leaks due to tubing/drill pipe wear, corrosion, stage collars, squeeze holes or metal failure.
2. Casing shoe leaks in active and abandoned wells.
3. Leaks from lower to upper zones outside the casing through uncemented or poorly cemented well bore in either active or abandoned wells.
4. Abandonment plug leaks inside the casings of abandoned wells.
5. Wellhead seal leaks.

B. Three incidents of shallow casing leaks at Playa del Rey

Since Playa del Rey was converted to gas storage in 1942 for the war effort, there have been three incidents of shallow casing leaks. Two of these leaks had surface shows of gas and oil: 12-1 and 24-2, respectively.

1. In 1964, a casing leak was reported in Big Ben at about 150'. Repaired leak in 6-5/8" casing with Baash Ross casing bowl to 269'. The leak was determined to be at a depth of 269'.
2. On August 9, 1974, a gas leak was reported in the 13-1 block. The well 12-1 was determined to have a casing leak at between 700 and 800 feet. Bar hole surveys around the well and over the pipelines in the area indicated gas was appearing at the surface. The well was killed on August 15, 1974. From this time on, no gas was injected into the 13-1 block.
3. On April 30, 1975 at about 11:00 a.m., oil and gas surfaced on the east side of cellar wall. The well was producing through a leak in 7" casing at an unknown depth. They found corrosion in the

casing from 108' - 157'. Six weeks later well was returned to service. Currently, this well has an Otis subsurface safety valve located at 92'.

II. Overview of Field

A. Introduction

Playa del Rey oil field is about eleven miles west of Los Angeles, between Venice and Playa del Rey. Wildcatting was carried on in the vicinity of Playa del Rey for over eight years before the field was finally discovered. Drilling activities in the vicinity of Playa del Rey date back to May 14, 1921, at which time Del Rey 1 was spudded. This well was drilled to depth of 2785' without encountering any oil or gas showings, and was abandoned because of mechanical problems.

The first well drilled into the storage zone was on August 2, 1929. The Ohio Oil Company spudded the "Recreation Gun Club" 1. This well was drilled to a depth deeper than 6200'. A poorly sorted conglomerate, showing gas and oil, from 6114 to 6199 was discovered. While preparing to run a "water witch" to determine the nature and point of entry of the fluid, the well suddenly came in December 18, 1929, and flowed through the casing at an estimated rate of 2500 barrels of oil and 1,500,000 cubic feet of gas per day with the oil having an API of 21.6°.

On August 4, 1942, the Commission decided that Playa del Rey appeared feasible for Underground Storage from an engineering and economic standpoint. The government decided that Union Oil Company of California was to act as the operating contractor for Defense Plants Corporation, and the Southern California Gas Company as the gas utility to store and withdraw gas. From that time, the storage zone has increased from a field deliverability of approximately 10 MMcf/hr to about 25 MMcf/hr. Currently, Southern California Gas Company has 72 active wells in Playa del Rey.

B. Well Lists

There are 72 active wells in this field. These wells are divided into four groups:

1.	Injection/withdrawal wells	
	Storage wells	28
2.	Flowing wells migration	
	Return	2
3.	Pumping wells:	10
	a. Fluid removal	
	b. Pressure relief	
4.	Observation wells	32

These wells comprise the Playa del Rey storage operation.

C. Storage Areas

There are five distinct areas in the Playa del Rey storage field. Each of these areas has distinct operating functions.

1. 13-1 Fault Block
2. 24-1 Fault Block
3. Del Rey Main Area
4. Del Rey Gas Cap
5. Venice Townlot area

13-1 Fault Block

The 13-1 fault block has not been used for injection/withdrawal operations since 1974 when a shallow leak at well 12-1 brought gas to the surface at nearby houses. This block includes wells 12-1, 13-1, Colly 2, Colly 10, Harper, Hisey, Kelly and Merrill. Should this block be determined feasible to return to operations, other factors need to be considered. All of the wells in this block are in a residential area and will require subsurface safety valves with which they are already equipped. These wells have not been operated for some time; and thus the question is whether or not the neighbors will tolerate the increased noise level required to operate these wells.

The 13-1 fault block is geologically connected but not pressure connected. This block is an upthrown fault block, gas can migrate in, but the block holds pressure indicating that gas accumulates.

24-1 Fault Block

This fault block is used in tandem with the main storage area. It has no other purpose other than to remove fluid from this east flank.

Del Rey Main Area

This is the storage zone area. The operating guidelines are to withdraw from low structure wells first and work towards the higher structures. There are twenty-eight injection/withdrawal wells located in this area.

Del Rey Gas Cap

The wells located in this area of the field are primarily used for observation. Two of these wells are also used for gas migration return Del Rey 15 and Del Rey 18.

Venice Townlot Area

The wells in this area have a dual purpose: pressure relief (fluid removal) and gas migration (observation).

Early in the usage of Playa del Rey as a gas storage reservoir, it was discovered that certain oil productive areas, previously considered to be structurally separate deposits were really pressure connected. The areas in question were the Del Rey Gas Cap, Del Rey Hills Area, Del Rey Main Area and the Venice Townlot area. Parts of this reservoir are apparently geologically connected but not pressure connected.

Block 10R, Block 11, Townsite 2, Townsite 3, Townsite 11 and Troxel are located in this part of the field. Troxel, however, is on the other side of a fault block. Helium tests have indicated storage gas production from this area of the field.

III. Monitoring Program

A. Temperature, Noise and Tracer Surveys

All of the wells at Playa del Rey with the exception of tire pumping wells have temperature surveys are run on a quarterly basis. These surveys provide the information needed to determine well leaks. When a well leaks, the expanding gas from the leak cools both the pipe and surrounding formation. On a temperature survey, the leak appears as a cooling anomaly on a temperature survey.

Gas storage technicians run temperature surveys quarterly using company-owned wireline units. If a cooling anomaly appears on the temperature survey, a noise survey is run to verify the leak. If indicated, a radioactive tracer survey (R/A) is run which pinpoints the exact location of the leak and provides data necessary to estimate the rate of gas loss. During the 1st five years, only two R/A tracer surveys were run. They were on Big Ben and 12-1. Big Ben had a casing leak at 1065', and well 12-1 had a leak between 168' and 230'.

B. Surface Observation

All active well cellar areas are inspected each month for indications of near surface gas migration by station personnel. Any bubbles are analyzed for hydrocarbon and helium content. The resident reservoir engineer requests the analysis, and reviews and maintains records of the results. If storage gas is forced, the senior petroleum engineer is notified.

Once a month at Playa del Rey, the station personnel survey the four permanent bar holes that are near all active wells with a gas scope or flame ionization unit.

Twice a year, the station surveys the bar holes in the vicinity of abandoned wells with the flame ionization unit to detect any near surface gas migration under the direction of the South Basin Pipeline Superintendent.

Once a year, all storage field pipelines are surveyed using the flame ionization unit to detect any near surface gas migration.

C. Storage Zone

1. Surface pressures in each well are measured and recorded weekly using a calibrated test gauge. The data recorded for each well are:

Tubing pressure
Casing pressure
Annuli pressure
Safety valve control line pressure
Mode of operation

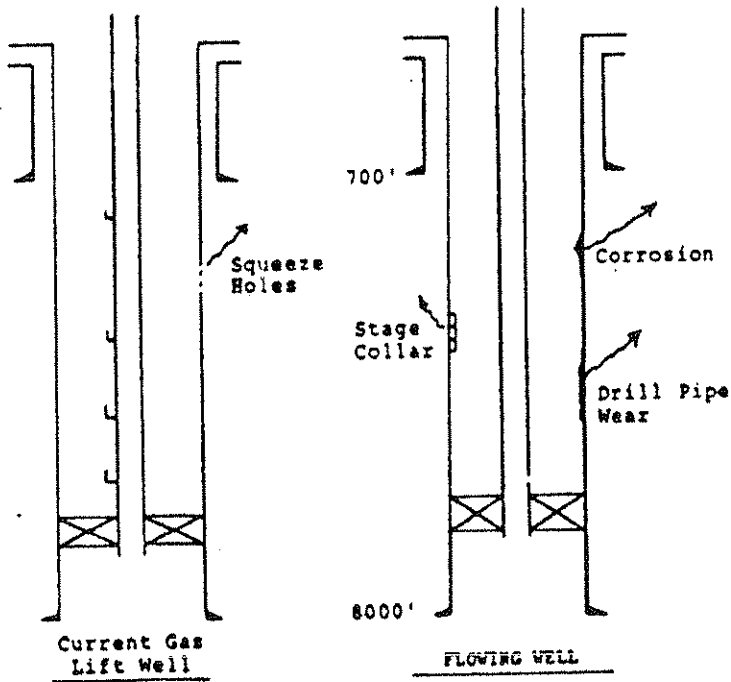
2. A plot of weekly surface casing and innerstring annuli pressures versus time is maintained for each well.
3. Wellhead inspections are performed once a month.
4. Subsurface temperature survey are performed on a quarterly basis.

D. Gas Cap Observation Well

Vidor 6 is Playa del Rey's GCOW used to observe gas bubble pressures. This well is not used for injection and is used for withdrawal only for peak load conditions. The surface pressure measurements on the tubing and casing of Vidor 6 is recorded and plotted daily.

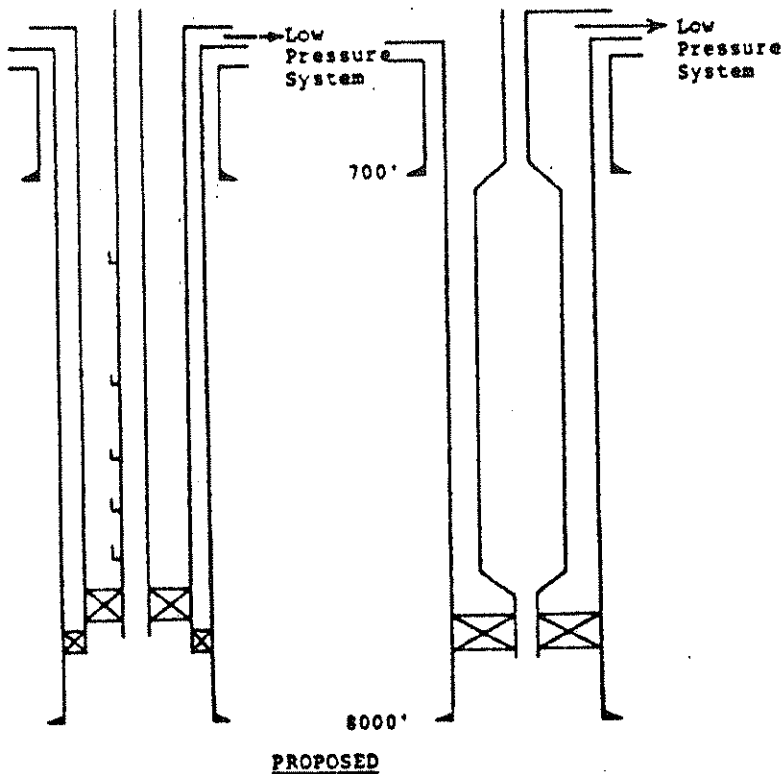
RMM:mm
April 25, 1985

EXHIBIT I
CASING LEAKS: TYPE I



PROBLEM:

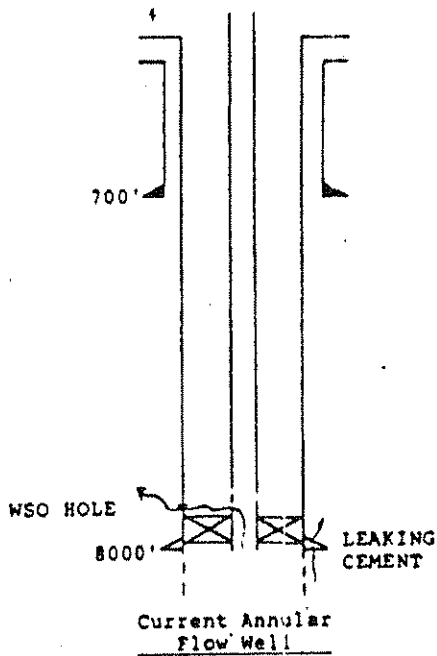
Casing leaks that allow high pressure gas into low pressure, shallow zones.



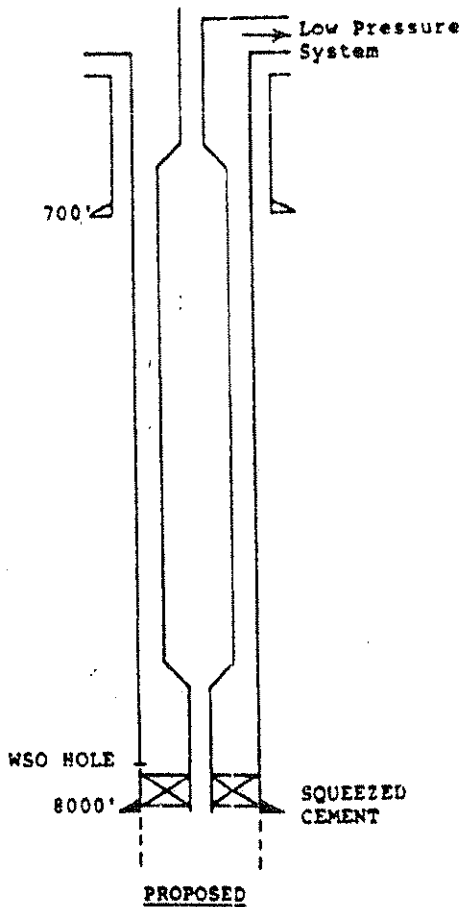
SOLUTION:

Use innerstrings and/or tubing to confine all high gas pressure. Keep innerstring or tubing annulus pressure lower than that required to force gas into aquifer sand at shoe of surface casing by venting gas to atmosphere or to low pressure system. Withdrawal wells' deliverability can be kept high by using large tubing.

EXHIBIT I
CASING SHOE LEAKS: TYPE 2



PROBLEM:
Casing shoe leaks due to poor, deteriorated cement or to leakage through WSO holes in active or abandoned wells.

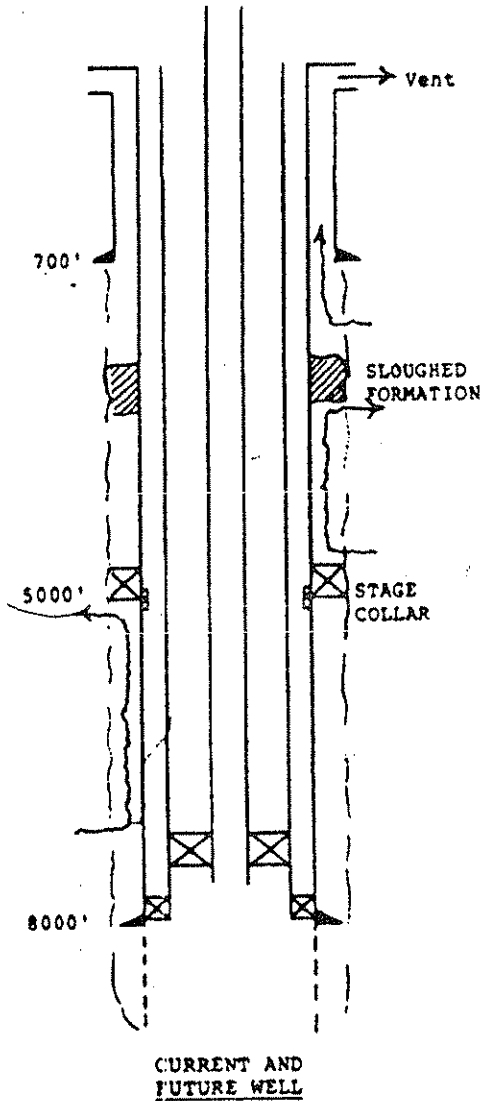


SOLUTION, ACTIVE WELLS:
Squeeze cement into shoe area. Place tubing packer below WSO holes where possible.

ALTERNATE SOLUTION, ACTIVE WELLS:
Do not repair if leak is into 7th zone but no higher. Collect all free gas from the 7th zone by activating more collection wells.

SOLUTION, ABANDONED WELLS:
Collect all free gas from overlying zones. Repair work not possible.

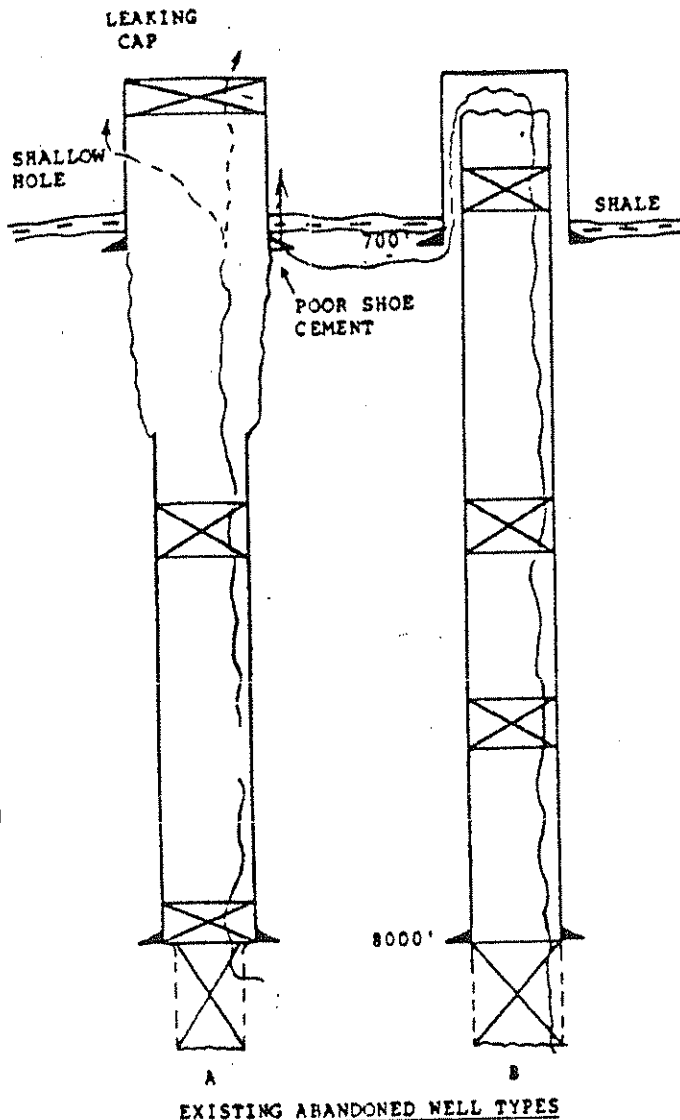
EXHIBIT I
UNCEMENTED WELLBORE LEAKS: TYPE 3



PROBLEM:
All wells have some uncemented segments. Few wells have any cement above 2000'. Formation sloughing may have filled in some of these wellbores but most remain the most permeable upward path for gas migration.

SOLUTION:
Noise and TDT monitor active wells to find areas of increasing activity. Continually produce shallow zones. Vent to atmosphere all gas coming from surface casing shoe aquifer.

EXHIBIT I
ABANDONMENT PLUG LEAKS: TYPE 4



EXISTING ABANDONED WELL TYPES

PROBLEM, TYPE A ABANDONMENT:

Cement plugs inside casing allow some gas to migrate upwards. Because its casing was cut off below the surface string, water will continue to fill casing as gas leaks out. Leak will therefore be sporadic and low rate.

PROBLEM, TYPE B ABANDONMENT:

Cement plugs inside casing allow some gas to migrate upwards. Because the casing stub is cut off within 100' of surface, the entire surface casing fills with gas. No liquid enters the well. The gas leak unloads fluid from the well and the rate increases with time. Eventually all of the fluid unloads and the leak rate stabilizes at a near constant daily rate.

PROBLEMS, BOTH TYPE ABANDONMENTS:

1. Casing cap, surface casing and casing shoe cement competent. Gas will build up inside surface casing and force its way into shallow aquifer sand. Gas will surface at a non-leaking well that has the following problems.
2. Casing cap not competent. Gas will surface near well.
3. Surface casing or shoe cement not competent. Gas will spread over large area as it rises to surface lethargically.

SOLUTION, PROBLEM 1:

Direct repair of leaking well not possible because source well is unknown. Other wells where gas appears are continually vented to surface.

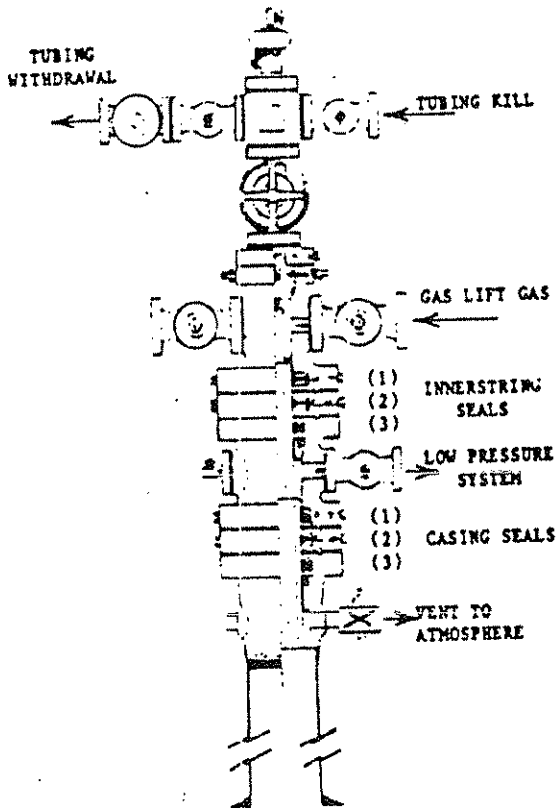
SOLUTION, PROBLEM 2:

Unearth well and recap or place collection funnel over it. Rig work not required. Vent all gas to atmosphere.

SOLUTION, PROBLEM 3:

Unearth well, move in rig, attempt to enter and repair old casing. Produce gas through casing into low pressure system. Vent surface annulus to atmosphere.

EXHIBIT I
WELLHEAD LEAKS: TYPE 5



**CURRENT AND PROPOSED
WELLHEAD FOR WELLS
WITH INNERSTRINGS**

PROBLEM:
Wellhead seal leaks allow high pressure gas to leak into the innerstring, tubing or surface casing annulus. Gas then enters shallow zones at the surface casing shoe or through casing holes.

SOLUTION:
Keep all annular pressures below that required to force gas into shallow zones either by connecting them to low pressure system or venting them to atmosphere. Install new wellheads with triple seals (as illustrated) on wells with obsolete equipment when other well work is performing or when wellhead is leaking badly.

- (1) Inject sealant to energize seal in head
- (2) Inject sealant to energize seal in sealing flange
- (3) Set down weight on slips to energize seal

EXHIBIT 3

Cement Bonding Characteristics in Gas Wells

Roy S. Marlow, SPE, Southwest Research Inst.

Tests show that even when the most up-to-date cement types and techniques are used leakage can and will occur in a significant number of cases.

Cement Bonding Characteristics in Gas Wells

Roy S. Marlow, SPE, Southwest Research Inst.

Summary. A program was performed to study the effects of cyclic pressure/temperature fluctuations of gas storage wells on annular leakage. A review of pertinent literature was conducted, and operators of gas storage wells were surveyed to determine their experience in the area. Results indicated that for most of the gas storage wells currently in operation, surface leakage is not a problem. Where leakage is reported, cyclic fluctuations do not appear to be a significant cause. In the majority of cases, leakage occurs within the first few cycles, indicating that it is caused more by static than by dynamic loads. The only variables found to correlate with leakage at a high level of significance were depth and bottomhole pressure (BHP). Wells that leaked tended to be deeper and had higher pressures than those that did not. The only way to stop leakage effectively at these higher pressures is the use of mechanical sealing mechanisms.

Introduction and Background

Gas intrusion into cemented wellbores and the resultant leakage to either the surface or porous formations below the wellhead have been persistent problems in the gas industry for many years. These problems have resulted in significant safety hazards and economic loss to operators.

Through the efforts of a number of researchers in the past 2 decades, cementing techniques in general have been vastly improved and have helped reduce the magnitude of the problem. Little work has been done, however, to determine the effects of pressure/temperature cycling on the bonding characteristics of annular cement to casing. Data of this type are of particular importance to operators of gas storage wells because these wells operate on periodic injection/withdrawal cycles with associated pressure/temperature fluctuations.

The current project was initiated in an effort to begin study of this problem. It was conducted in two phases. First, available literature was reviewed to identify previous work in cementing technology in general and in the area of annular leakage of oil and gas wells in particular. Then, operators of gas storage wells were surveyed to determine the magnitude of the annular leakage problem, to identify similarities or differences in wells with known annular leakage, and to establish typical environmental/operating parameters of gas storage wells.

Literature Review

A computerized search of the open literature was conducted by use of the COMPENDEX data base (Dialog Information Services Inc.). From this search, 24 references were selected for more detailed review. These works were thought to describe fairly well the general evolution of thought from the early 1960's until the present on the causes and means of prevention of gas leakage (also called gas migration and annular gas flow) in cemented wellbores.¹⁻²⁴ A more detailed review of the papers than given here can be found in Ref. 25.

Past research efforts can be divided into two broad categories: methods and materials designed to minimize the leakage of formation pressures through the cement itself

(i.e., the percolation of gas into the cement during setting and curing and the resultant creation of leakage paths) and methods designed to prevent gas migration at the cement/casing and cement/formation interfaces. Some researchers categorized these as two separate failure mechanisms, while others categorized them as separate cases of a single mechanism. In either case, it is evident that means taken to prevent the formation of leakage paths through the cement itself will also help prevent the formation of leakage paths at the interfaces. Additional preventive measures may be necessary, however, to minimize or to prevent leakage at the interfaces.

Most research has concentrated on the prevention of leakage through the cement column itself, and one fairly well developed theory explains the need for prevention of these types of failures. This theory states that annular gas flow is caused by a hydrostatic pressure loss sometime between placement of the slurry in the wellbore and the development of sufficient static gel strength to resist the percolation of gas into it.²⁴ Static gel strength is that internally developed rigidity in the slurry that resists a force placed on it. The gelling process will begin immediately after pumping has stopped and will continue until the cement develops a set.

As gel strength increases, the cement column begins partially to support itself and its volume decreases owing to loss of filtrate to the formations and/or to hydration. Hydrostatic pressure caused by the slurry column lessens as the column begins increasingly to support itself and as volume changes occur. If volume changes are large enough and if the gel strength is not yet sufficient to resist gas intrusion, leakage to other producing zones or to the surface (directly or through a "leap-frog" approach from zone to zone) may occur.

Research carried out in the 1960's and early 1970's dealt with the more specific case of leakage at the cement/casing and cement/formation interfaces. Carter and Evans,² working on the effects of different surface coatings on pipe, showed that static bond strengths (leakage pressures) using gas ranged from 15 to 400 psig [0.1 to 2.76 MPa] for different pipe surfaces. They used test models that were cemented and cured

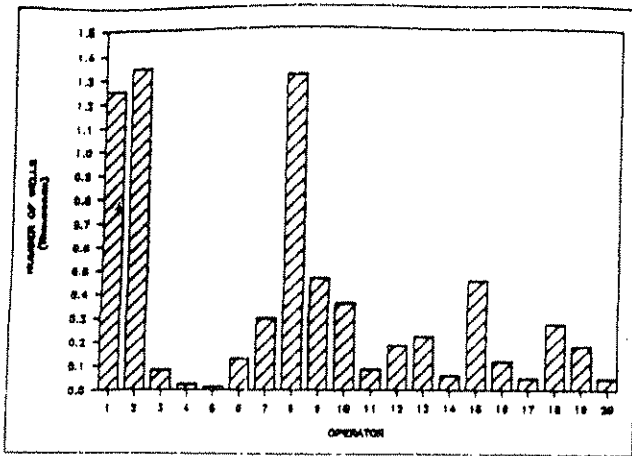


Fig. 1—Operator-reported wells (6,953 total).

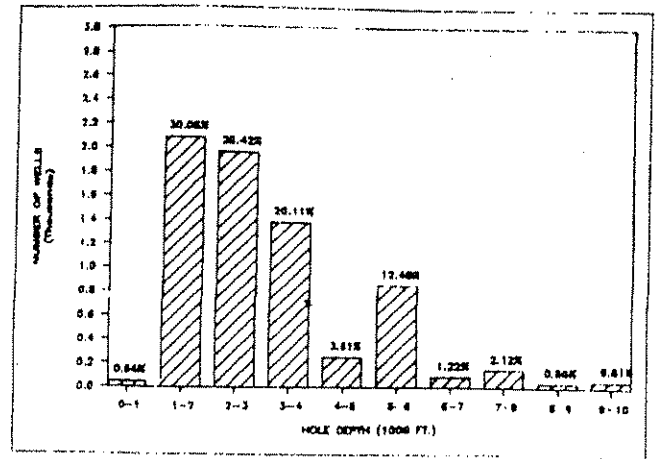


Fig. 4—Reported hole depths (6,901 wells).

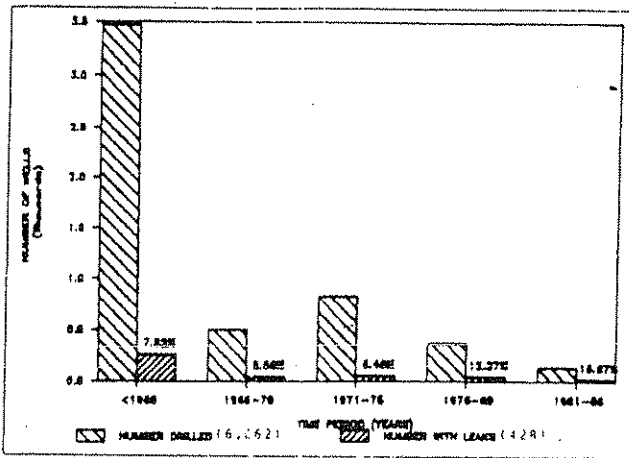


Fig. 2—Performance by period (6,062 wells).

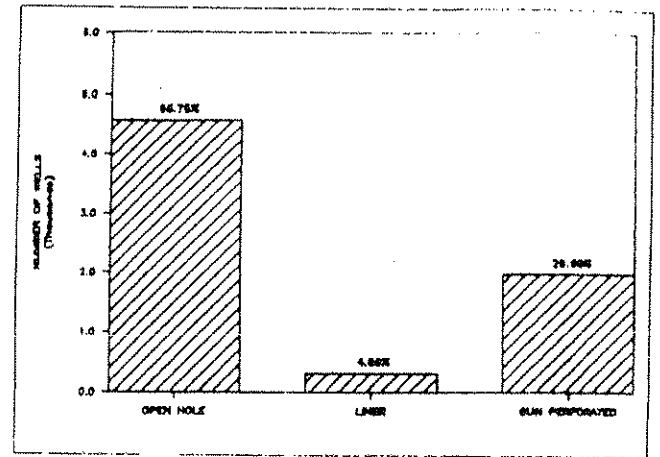


Fig. 5—Completion types (6,860 wells).

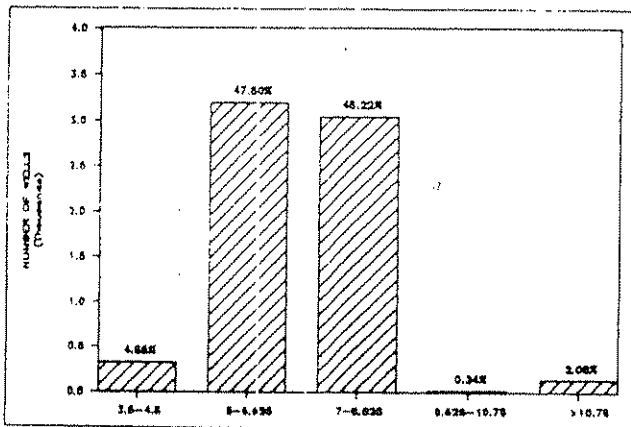


Fig. 3—Casing sizes (6,722 wells).

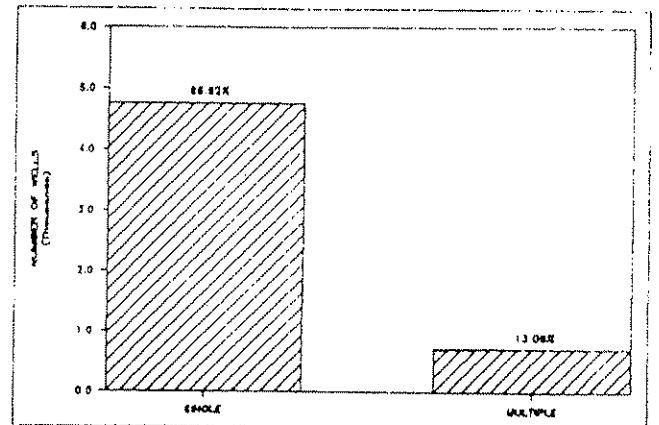


Fig. 6—Zone types (5,480 wells).

at ambient conditions. Bearden *et al.*,³ in work shortly following this, used models that were cured under various combinations of internal casing and annular pressures. They reported bond strengths of 200 to 3,100 psig [1.4 to 21.4 MPa], with the best case being one of high annular pressure and ambient internal pressure (maximum pressure differential across the casing wall). They also reported a general leveling off of bond strength with increasing annular pressure and were able to seal higher annular pressures both in the laboratory and in the

field only by using mechanical sealing elements.

In 1967, Pittsburgh Testing Laboratories²⁶ (PTL) conducted a similar series of tests using models prepared with very closely simulated field conditions. They reported bond strengths of < 500 psig [< 3.45 MPa] on models without mechanical sealing elements and a 5,000-psig [34.5-MPa] limit pressure (without leakage) with mechanical sealing elements. PTL pressurized both the inside and outside of the casing during curing, which resulted in bond strengths that

largely agree with Bearden *et al.*'s for the zero-pressure-differential case.

Later laboratory and field investigations concentrated mainly on improvement of general cementing technology and looked at the effects of mud density, setting time, temperature, gelation, dehydration, bridging, borehole mud removal, pipe movement and centralization, and the prevention of channeling the cement column. Relatively little research concentrated specifically on leakage at the annular interfaces.

Tests show that even when the most up-to-date cement types and techniques

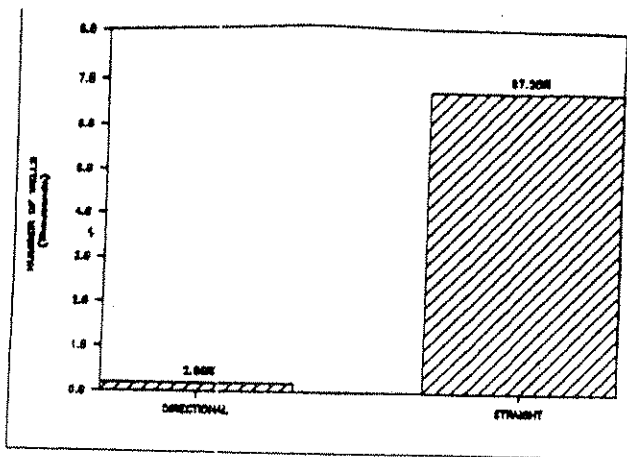


Fig. 7—Hole type (6,905 wells).

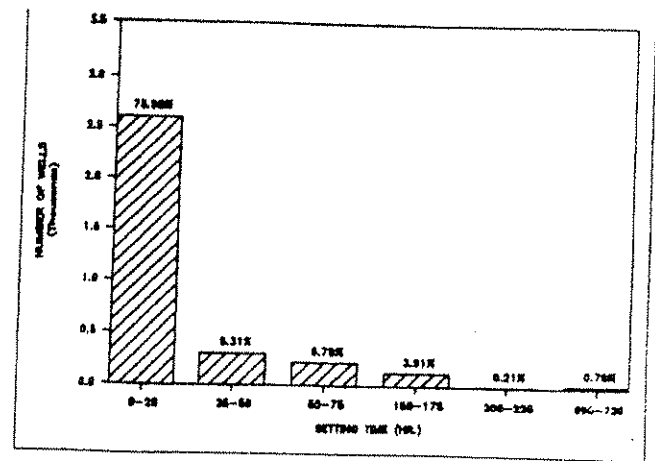


Fig. 10—Cement setting time (3,297 wells).

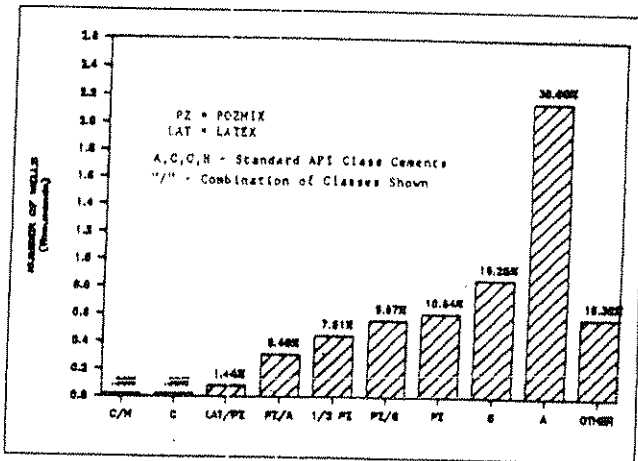


Fig. 8—Cement types (5,689 wells).

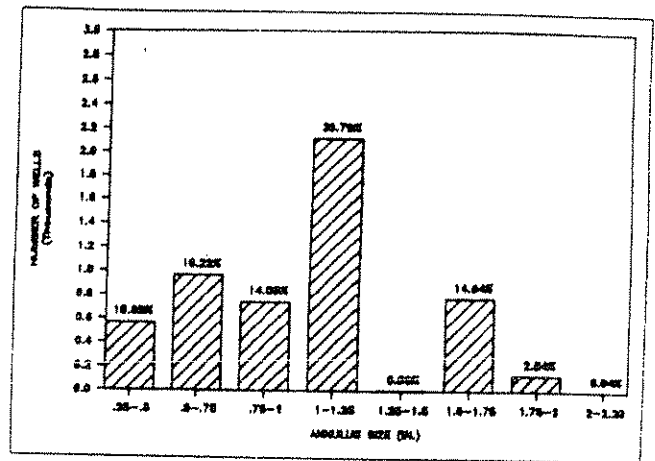


Fig. 11—Annulus size (5,308 wells).

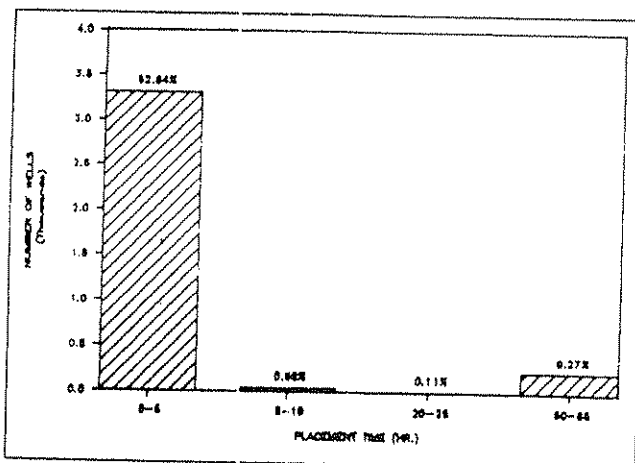


Fig. 9—Cement placement times (3,573 wells).

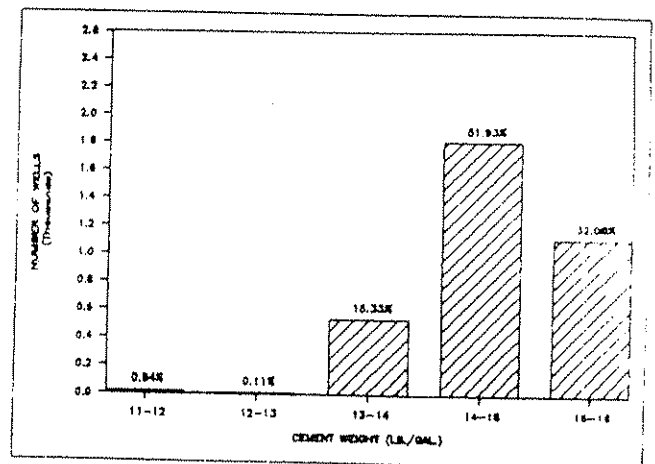


Fig. 12—Cement weight (3,941 wells).

are used, leakage can and will occur in a significant number of cases. Waters and Sabins,¹⁵ for example, reported that, in a study of 250 casing jobs over a 15-month period with new compressible cements, 15% of the wells leaked.

As the causes of the annular leakage problem have slowly become known, so have the methods for its prevention. These generally fall into four categories.

Cementing Program Design and Quality Control. The job should be designed with

complete knowledge of all parameters affecting it. These include temperature, pressure, and caliper profiles of the hole, rheological information on the cement, equipment limitations, design analyses of the casing string, and information on the technical and economic aspects of similar jobs in the past. After the job, acoustic or similar types of logs should be run to help ensure that no leakage occurs.

Minimizing Leakage Paths at Cement/Casing and Cement/Formation Inter-

faces. These paths generally are minimized by increasing the bond strength to the surfaces. For the cement/casing interface, this means coating or otherwise altering the original casing surface. For the cement/formation interface, this means adequate removal of mud filter cake through the use of chemical washes, scratchers, and casing rotation/reciprocation. Mud removal also will eliminate the creation of channel leakage paths in the slurry by contamination.

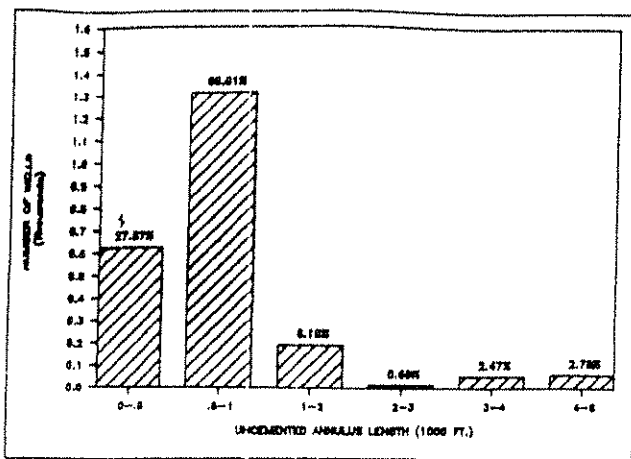


Fig. 13—Uncemented annulus (2,267 wells).

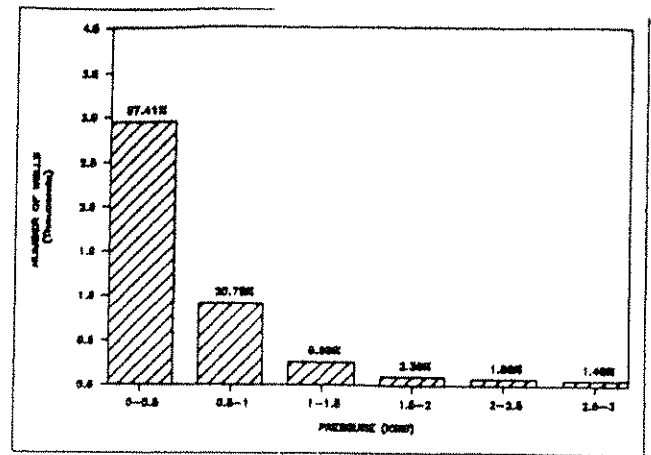


Fig. 16—Minimum well pressure (4,389 wells).

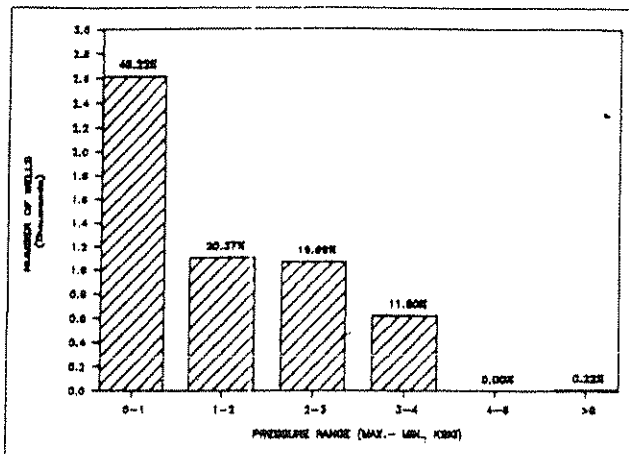


Fig. 14—Pressure range (5,425 wells).

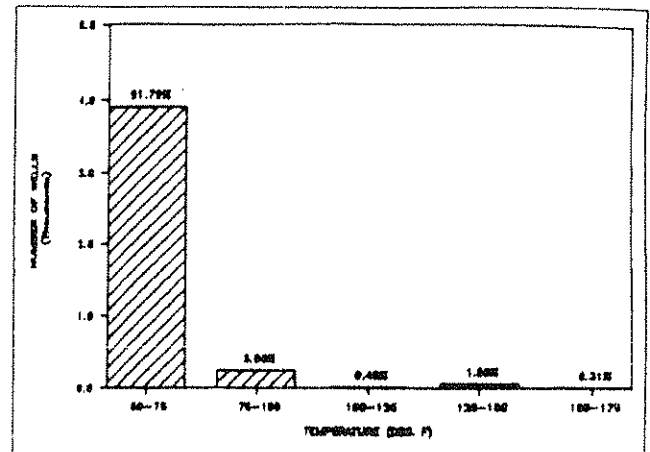


Fig. 17—Number of cycles to detect leaks (421 wells).

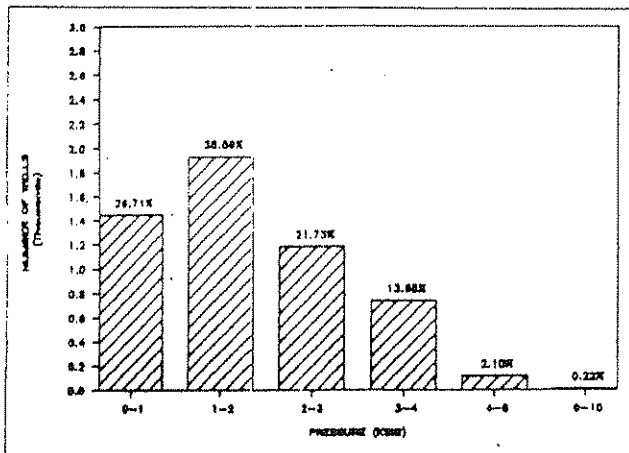


Fig. 15—Maximum well pressure (5,425 wells).

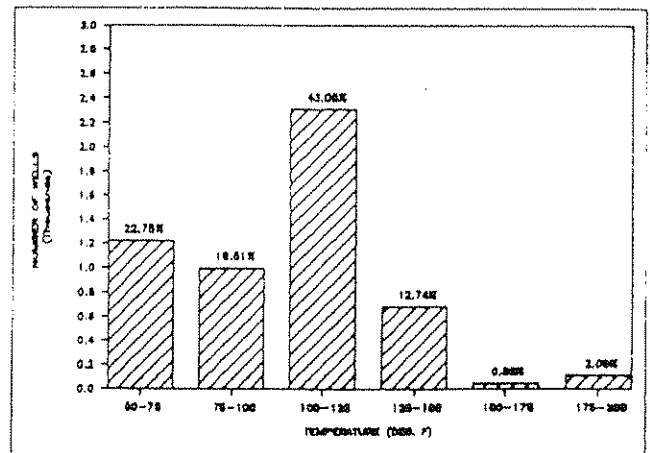


Fig. 18—Maximum temperature (5,371 wells).

Cement Density, Placement, and Curing. It is imperative that the slurry density be sufficient to contain the formation pressure and that it be placed efficiently to eliminate voids. The use of the highest possible pressure differential across the casing is desirable, as is the fastest displacement of the cement and the longest possible curing time.

Use of Proper Cement Type. Cements are available for a wide range of field situations. Inhibiting/retarding additives can be used to

overcome temperature problems in a hole that might cause undesired setting characteristics and/or to help ensure the shortest possible setting time. Special tail-out cements to ensure that setting occurs from the bottom of the hole up are commonplace. Cements with fluid-loss-control additives are available and are highly desirable. Expanding and impermeable cements may have advantages in certain cases. Finally, the new generation of compressible cements, designed to help maintain the hydrostatic head

of the column during setting, are highly effective.

For all cement types, the cementing program design should be based on the static-gel-strength properties of the cement.

Industry Survey

To help quantify the annular leakage problem in gas storage wells, a survey was prepared and sent to the members of the American Gas Assn.'s Pipeline Research and Storage Reservoir Supervisory commit-

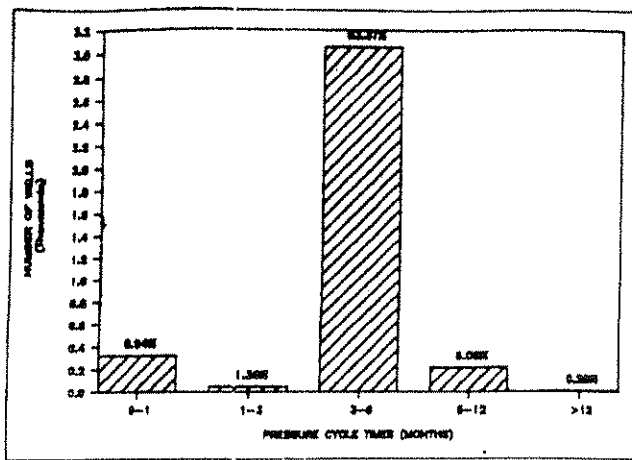


Fig. 19—Pressure-cycle times (3,669 wells).

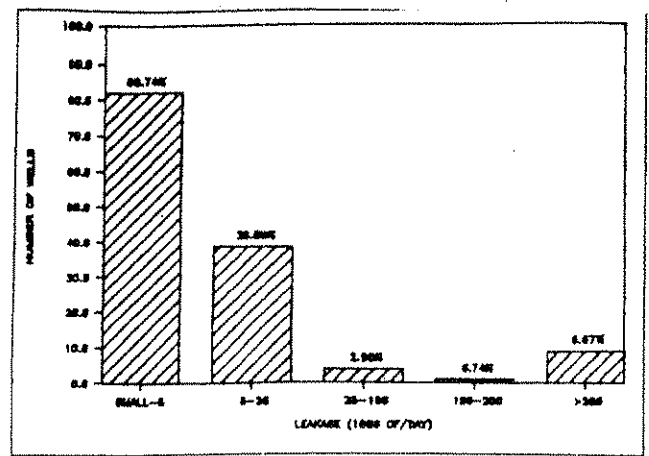


Fig. 22—Estimated leakage (135 wells with leakage).

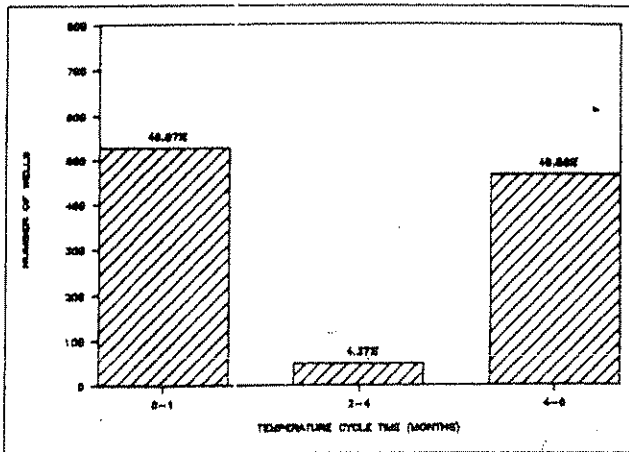


Fig. 20—Temperature-cycle times (1,144 wells).

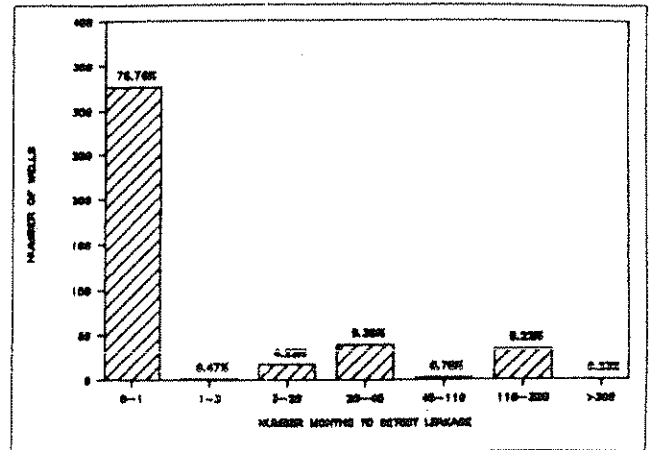


Fig. 23—Number of months to detect leaks (426 wells).

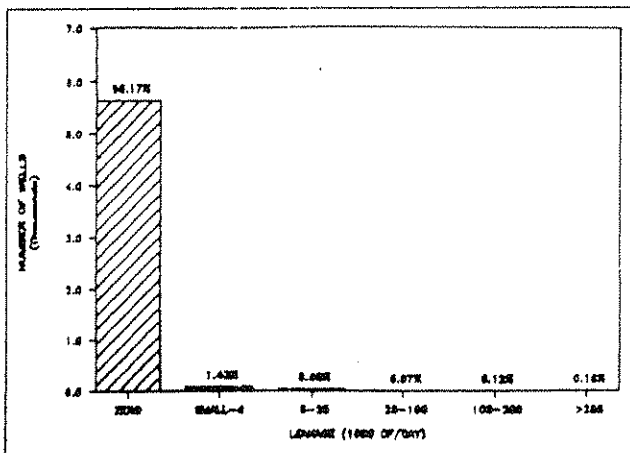


Fig. 21—Estimated leakage (5,032 wells reported).

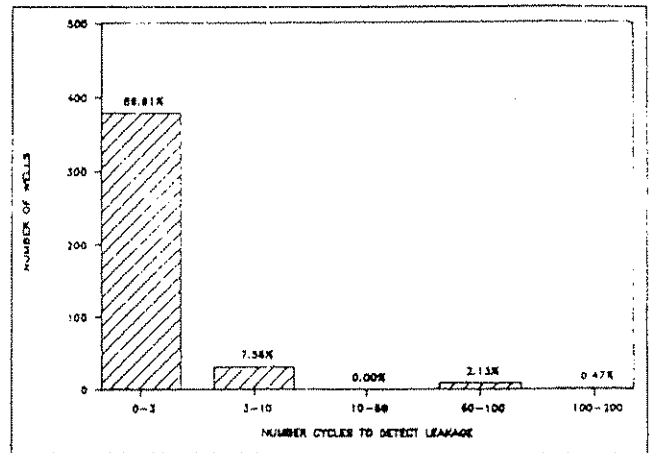


Fig. 24—Number of cycles to detect leaks (421 wells).

tees. The survey attempted to determine the magnitude of the annular leakage problem, to establish representative physical and environmental conditions, and to help determine similarities and differences in wells with and without annular leakage.

Questions were limited to subjects identified from both primary and secondary data sources as highly significant to the problem. Respondents were asked to break their answers into five time periods to see whether the general improvements in cementing tech-

nology in the past 2 decades have resulted in improved leakage performance.

Respondents were encouraged to respond with "average" or "representative" figures covering groups of wells or fields and to use their judgment in determining which groupings represented significant differences in history and observed performance. They were also asked to identify items not covered in the survey that they felt were important.

Twenty companies responded to the survey with 30 individual survey forms. These covered a total of 6,953 wells. Frequency histograms showing the reduced data are shown in Figs. 1 through 24. The significant number of "gaps and voids" in the data result from differences in the completeness of data bases for individual responding companies. Histograms were plotted for wells where all information was available for that histogram only. The number of wells included in the histograms is given in the

figure captions. In Fig. 22, for example, leakage rates were reported for only 135 of the 428 wells with leakage, so only these could be included in the graph. Similarly, in Figs. 23 and 24, operators reported the number of months to detect leakage for 426 of the 428 wells that leaked and the number of cycles to detect leakage in 421 of the 428 cases.

This approach allows the maximum amount of survey information to be presented. It may be misleading, however, to try to compare some seemingly complementary graphs. Such comparisons, and certain calculations, can be made from the graphs, but these should be done with caution and an understanding of how the graphs were constructed.

Several of the survey questions asked for a "yes" response if certain procedures were typically used in the field but did not ask for an estimate of the number of times used. Nor was the respondent asked to differentiate between wells that did not use these procedures and wells where the information was not known. For these items, positive responses

were simply added. These data are shown in Table 1.

Table 2 gives the most frequently given responses to the categories shown. This table does not represent a "typical" well; the wide variance in well parameters and cementing/completion practices makes it very difficult to determine typical conditions.

Some of the more important variables were also analyzed for statistical significance: time period that the well was drilled; casing size; annulus size; depth; cement type; cement setting time; uncemented length; completion type; hole type (straight or directional); zone type (single or multiple); maximum and minimum pressures; and maximum and minimum temperatures. Data were analyzed with nonparametric sign-and-run tests. Although easier to apply, these methods may have a lower power efficiency (ability to differentiate between statistically significant data) than the more rigorous parametric methods. A comprehensive analysis with the parametric methods was outside the scope of this project. Note, however, that the more rigorous approach

TESTS SHOW THAT EVEN WHEN THE MOST UP-TO-DATE CEMENT TYPES AND TECHNIQUES ARE USED leakage can and will occur in a significant number of cases."

SEE P. 1177, 1178

TABLE 1—RESPONDENT CEMENTING DATA

Technique	Number of Wells
Chemical wash after cementing	1,700
Casing reciprocated and/or rotated	1,376
Stage collars used	315
Noise log run after cementing	974
Permeable zones encountered in cemented annulus	5,988
Compressible cement used	655
Expandable cement used	639
Separate tail-out cements used	1,836
Fluid-loss-control additives in cement	2,314
Accelerators/retarders used in cement	4,330
Centralizers/scratchers used	4,552

TABLE 2—REPRESENTATIVE GAS STORAGE WELL CONDITIONS

When drilled	Before 1965
Depth, ft [m]	1,000 to 2,000 [305 to 610]
Casing size, in. [mm]	5½ or 6½ [139.7 or 168.3]
Annulus size, in. [mm]	1½ [38.1]
Hole type	Straight
Completion type	Openhole
Number of producing zones	one
Cement type	"A"
Cement weight, lbm/gal [kg/m ³]	14 to 15 [0.168 to 0.180]
Special additives	No
Uncemented annulus, ft [m]	500 to 1,000 [152 to 305]
Cement placement time, hours	4
Cement setting time, hours	24
Chemical wash used	No
Centralizers and/or scratchers used	Yes
Casing reciprocated or rotated during cementing	No
Noise log run after cementing	No
Maximum hole temperature, °F [°C]	100 to 125 [38 to 52]
Minimum hole temperature, °F [°C]	50 to 75 [10 to 24]
Temperature cycle time, months	3 to 6
Maximum BHP, psig [MPa]	1,000 to 2,000 [6.9 to 13.8]
Minimum BHP, psig [MPa]	< 500 [< 3.4]
Pressure cycling time, months	3 to 6
Well leakage	0
Probability of leakage, %	7
Leakage rate if observed, ft ³ /D [m ³ /d]	< 5,000 [< 141.6]
Time before leakage observed, weeks	0 to 2
Cycles before leakage observed	0 to 3

TABLE 3—RESPONDENT-ASSESSED REASONS FOR LEAKAGE AND REMEDIAL ACTIONS

<u>Major causes of leakage*</u>
Microchanneling in cement (5)
Poor cementing job (4)
Failed wellhead seals (3)
Casing-thread/collar leakage (2)
Charged shallow zones (2)
Poor casing/cement bond (2)
Collar leaks above cement top (2)
External casing packers (2)
Casing shoe leaks (2)
Permeable thief zones (1)
Miscellaneous completion problems (1)
Sloughing shale zone (1)
Differential coefficients of expansion between steel and cement (1)
Loose connections (1)
Corrosion (1)
Injection/withdrawal pressure changes (1)
Swamp gas (1)
Coal gas (1)
Improper mud removal before cementing (1)
<u>How annular leakage was controlled</u>
Perforate and squeeze cementing (8)
Run liner (4)
Repack wellheads (3)
Monitor pressures (2)
Vent and/or blowdown (2)
Well logging (1)
Not controlled (1)
Collars/packers (1)
Remove and replace bad connections (1)
Plug well (1)
Limit pressure differential across caprock (1)
Eliminate external casing packers (1)
Torque-turn monitoring of connection makeup (1)
Recondition well (1)
Annulus rupture disks to relieve pressure (1)
Casing patches over collar leaks (1)
*Numbers in parentheses represent the number of times this response was given

TABLE 4—EFFECT OF CURING PRESSURES ON BOND FAILURE (from Bearden *et al.*³)

Test	Curing Pressure				Bond Failure Pressure	
	Annulus		Internal			
	psi	MPa	psi	MPa	psi	MPa
1	0	0	0	0	800	5.5
2	0	0	4,500	31.0	200	1.4
3	1,500	10.3	0	0	1,500	10.3
4	4,500	31.0	0	0	3,100	21.4

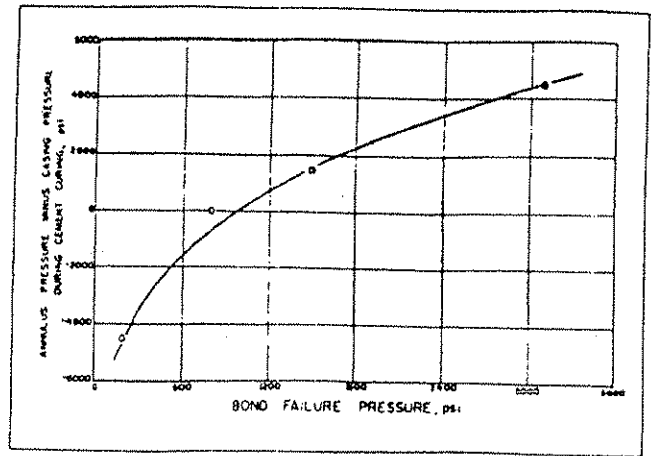


Fig. 25—Effect of curing pressure on bond failure (from Bearden *et al.*³).

may provide greater statistical differentiation of the data.

The time period in which the wells were drilled was studied first by comparing the percentage of wells reported as having leaked during the five different time periods. No statistical difference (defined at the 95% confidence level) could be found between time periods.

Given a lack of evidence that time period is a highly significant factor, additional analyses were conducted with data from all time periods combined. For this reason also, Figs. 1 through 24 are presented without differentiation by period.

Of the variables considered, only depth and maximum pressure showed statistical significance. Wells that leaked tended to be deeper (in excess of 4,500 ft [1372 m]) and have higher pressures (> 3,000 psig [20.7 MPa]) than those that did not.

Finally, subjective responses were cataloged according to what were thought to be the most important factors causing leakage and how to prevent or stop it. These are shown in Table 3. The causes mentioned most often for annular leakage were microchanneling of the cement, generally poor cementing jobs (most often on wells drilled before 1965), and failed wellhead seals. The most frequently used remedial methods for controlling leakage were to perforate the casing and squeeze cement at the location of annular leakage, to run additional liners, and to repack faulty wellhead seals.

Discussion of Results

Frequency of Failure. The data show that for most of the gas storage wells currently in operation, surface leakage for whatever reason is not a significant problem. Of the wells reported in operator surveys, 95% have no known surface leakage; of those that do, most report relatively minor leakage rates.

Mode of Failure. The basic assumption underlying the project was that periodic temperature/pressure fluctuations of gas storage wells subject annular components to a fatigue situation, causing leakage later in the life of the well that is not evident early in its life.

The survey results do not confirm this assumption (Figs. 23 and 24). In 421 wells with known leakage and a known number of cycles until leakage was detected, 90% leaked in zero to three injection/withdrawal cycles. In addition, for 426 wells having known leakage and a known period of time until leakage was noted, 77% leaked in less than 30 days (most typically in less than 2 weeks). Leakages were reported at greater than 10 cycles in only 2.6% of the cases.

In low-cycle fatigue of most engineering materials, failure is the result of operating at a stress level that is too near the material's ultimate limit. These may be thought of as quasistatic.

In our case, failure may be the result of operating too near the static bond strength of the system. Bearden *et al.*³ showed that static bond strengths are generally equal to or less than the pressure applied during curing (Table 4 and Fig. 25). Because mud weights typically are chosen to apply an annular pressure that is just greater than the BHP to be contained, static-bond-strength values may very often be close to BHP's. Early failures by either static or low-cycle fatigue loadings would then be expected.

Bearden *et al.*'s work also shows that there is a general leveling off of bond strength with increasing annulus pressure, so it becomes harder to generate adequate static bond strengths as BHP increases. The frequency of leakage failures would be expected to increase in these cases.

Both hypotheses are supported by our survey data, which show that the only statistically significant variables correlating with leakage are depth and BHP. Wells with BHP's of 3,000 psig [20.7 MPa] and greater are near the level where bond strengths rapidly start to level off.

It is also significant that cyclic fluctuations were mentioned by only one respondent as a cause for leakage, even though all respondents were told that this was the subject of the research program. It was listed among the minor causes for leakage.

This has several major implications. First, increasing the annular pressure differential during curing, through either higher mud weights or supplementary annular pressure,

will help increase bond strengths. Second, some leakage can be expected at the higher pressures, and well completion planning, including the possible use of mechanical sealing elements in the annulus area, is critical for successful sealing.

Cementing Techniques. The data show that the cementing methods, techniques, and materials used in the wells surveyed vary widely and that many of the recommendations from the past 20 years of cementing research were not used (most of the wells surveyed were drilled before 1965). Many of the leakage problems reported can probably be attributed to this. This statistic also implies that the leakage integrity of new wells can be improved immediately by use of up-to-date techniques and additional quality-control measures.

Fig. 10 shows that in 79% of the cases reported (3,297 wells), cement setting times were 25 hours or less. Because the structural properties of cements are known to increase significantly over time, longer curing times would be beneficial. This is especially true for the poz-mix cements used in 36% of the cases reported.

Bearden *et al.*'s work showed that the cement should be cured with the highest possible hydrostatic pressure applied across the cement annulus only (highest possible pressure differential across casing wall). Our survey did not ask for this information, but one major cementing contractor and several operators of both production and gas storage wells were contacted and reported that this is not a common practice.

As mud is displaced through the casing into the outer annulus, the displacing pressure is typically held for some period of time (zero differential) before being released. After release, there is a differential across the casing, but it varies widely because of the cement weight and column height. A hydrostatic head is occasionally, but not commonly, applied across the annulus (in addition to that provided by the mud itself).

And finally, the data cast doubt over the original assumption of a fatigue action that causes significant leakage problems. While the presence of such a mechanism remains

reasonable from a common-sense approach, it is being masked, if present, by more fundamental considerations. It is these fundamental considerations that should be given first attention.

Cement-Column Height. Although the data are not conclusive, the results from two programs^{2,26} suggest that leakage may occur more readily in shorter cement columns. In these tests, leakage occurred at significantly lower pressures than in other tests performed on longer models when the models were similarly prepared. This implies that increasing the length of the cement column may increase the statistical chances of obtaining a good gas-blocking bond at some point. This theory contradicts one theory that says cement columns should be kept as short as possible to minimize the amount of slurry that can revert to mix-water gradient (and the resultant loss of hydrostatic head).²⁷ Although Sutton *et al.*¹ pointed out that this has not been proved, the use of shorter columns (such as for stage cementing) remains popular throughout the industry. The answer may lie in a trade-off between these two requirements. It may be true that shorter intervals are better up to a certain point that is not approached in actual field completions.

Researchers have also shown difficulty in obtaining adequate bond strengths in laboratory tests. While this difficulty probably results largely from differences in laboratory procedures, the procedures are representative of those used in the field and agree with field experience.

If bonding is not as good as suggested by our survey, a significant amount of leakage may occur between formations that is not being accounted for at the surface.

Acknowledgments

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Marlow

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SI Metric Conversion Factors

ft × 3.048*	E-01 = m
ft ³ × 2.831 685	E-02 = m ³
°F = (°C - 32)/1.8	= °C
gal × 3.785 412	E-03 = m ³
in × 2.54*	E-02 = cm
lbm × 4.535 924	E-01 = kg
psi × 6.894 757	E+00 = kPa

*Conversion factor is exact.

Provenance

Original SPE manuscript, Effects of Temperature/Pressure Cycling on Cement Bonding Characteristics in Gas-Injection/Withdrawal Wells, received for review July 15, 1987. Paper (SPE 17121) accepted for publication Dec. 21, 1987. Revised manuscript received June 15, 1988.

JPT

EXHIBIT 4

Gas Migration: Causes, Cost, and Remedial Correction

A Special Technical Report From Halliburton Services



Gas migration following a primary cement job can occur through microchannels that form in the cement or between the cement and the formation. Ultrafine cement, a unique cementing material with an extremely small particle size, successfully penetrates and squeezes off gas flow channels.

Causes of Gas Migration

The most widely accepted cause given for gas migration through an unset cement column is the cement's inability to maintain overbalance pressure on the gas-bearing formation. Hydrostatic pressure exerted by a column of drilling fluid or cement slurry in the wellbore is usually sufficient to maintain an overbalance pressure on the formation and prevent gas from migrating through the fluid column. However, as the cement begins to set, the cement column's capacity to transmit hydrostatic pressure decreases. Gas migration through the cement column occurs when the hydrostatic pressure falls below the formation pressure. Gas leakage can also occur as a result

of cement shrinkage during hydration. This allows the cement to pull away from the mud filter cake or casing and form a channel through which gas can escape.

Gas Migration Cost

Gas migration is costly for operators. Following are some of the problems that can result from gas migration:

1. *Excessive well pressure* caused by gas migration could result in collapsed pipe, damaged wellhead, and possible blowout.
2. *Safety of personnel* is endangered in the presence of uncontrolled gas.
3. *Production losses* result in lost gas revenue.
4. *Regulatory problems* can result from the introduction of gas into other zones.
5. *Insurance problems* can result on offshore platforms.

Remedial Correction with Ultrafine Cement

As indicated in Fig. 1, gas can percolate

up through microchannels formed while cement sets. Squeeze cementing is used to fill the microchannels through which gas migrates. In order to ensure the best possible penetration into microchannels, ultrafine cement should be used. Ultrafine cement is a finely ground cement designed for penetration of high permeability sands and narrow openings, and it is a technological advance for squeeze cementing applications.

Particle size

The average particle size of ultrafine cement is 20 times smaller than premium cement (5 microns vs. 100 microns). As seen in Table 1, ultrafine cement can penetrate openings as narrow as 0.05 mm or sands as fine as 100 mesh.

Placement Techniques

Ultrafine cement placement techniques include placement by coiled and conventional tubing. A modified back pressure valve (full opening) can be used to reduce hydrostatic head for spotting in low pressure formations. Proper cleaning and correct placement are very important when using ultrafine cement because the small cement volumes necessary to perform the squeeze job are particularly prone to contamination, necessitating accurate control of slurry placement.

Summary

Gas migration is often caused by a lack of overbalance pressure on the formation. Costs are increased when gas migration is not controlled. Ultrafine cement is the smallest particle size cement available (5 microns average particle size). Because of its small size, ultrafine cement is an excellent choice for squeeze cementing microchannels to help stop gas migration. Several types of placement techniques can be used with ultrafine cement.

Availability

Ultrafine cement and associated products are marketed exclusively under the trade name Micro Matrix™ cement by Halliburton Services and are available worldwide. Please respond on the Reader Service Card or contact your local Halliburton Services representative for more information about Micro Matrix™ cement.

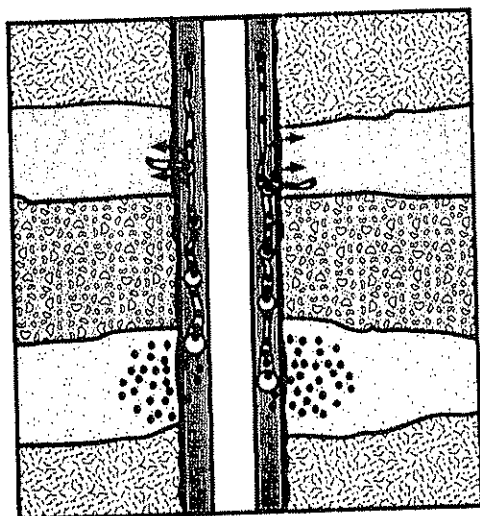


Figure 1: When hydrostatic pressure decreases, gas can migrate through the unset cement column. Ultrafine cement penetrates and seals microchannels during a squeeze operation.

Table 1
Ultrafine Cement vs. Premium Cement
Physical Properties

Property	Ultrafine	Premium
Bulk Density	45 lb/ft ³	94 lb/ft ³
Specific Gravity	= 3.0	= 3.14
Permeability	100 mesh pack 0.05 mm slot	10/20 mesh pack 0.4 mm slot
Water Requirement	100% (bwoc)	40% (bwoc)
Slurry Density	12 lb/gal	16 lb/gal

EXHIBIT 5

Hazards of Gas Storage Fields

INTRODUCTION

The practice of using depleted oil fields for the purpose of storing large volumes of natural gas underground has become more common. The economics are such that it is more profitable to store gas in the underground reservoirs than construct an equivalent surface tankage. Over 300 underground natural gas storage projects are currently being operated in the United States. Underground storage facilities have demonstrated a long history of gas migration problems. Experience has shown that using depleted oil fields for gas storage facilities can create a serious risk of explosions and fires, especially when located in urban settings. One must consider the following in designing underground gas storage facilities: (1) the presence of faults and fractured zones, (2) lithology and structure of the overlying formations, and (3) breakdown of cement and the seals that block the vertical migration of fluids and gases in the wellbores and their annular space. In fact, it is impossible to assume that the vertical migration of natural gas to the surface from the gas storage reservoir will never occur.

In California, for example, gas is transported from out-of-state through pipelines. The gas is then stored in several underground reservoirs until needed by consumers. These storage fields operate under large pressure fluctuations, dictated by seasonal variations in the demand for (and usage of) natural gas. Sometimes these cyclic storage pressures exceed the original oil field reservoir pressure. This overpressuring of the reservoir can create vertical fractures, substantially increasing the risk of gas leakage to the surface. In many cases, the original rural settings for these gas storage areas have been changed to high-density housing developments. Today, the risks of injury from

fire and/or explosions have increased because a greater percentage of the land is now covered, not permitting the gas to escape into the atmosphere.

All of the previous discussion relating to gas migration from oil fields to the surface is applicable to the concerns associated with underground gas storage facilities. The problems can be grouped into three areas: (1) problems related to the natural pathways for lateral and vertical gas migration (e.g., faults and fractured zones); (2) problems related to man-made pathways for vertical gas migration (e.g., improperly abandoned wells, fracturing of the reservoir by drilling and/or production operations, fracturing due to overpressuring and secondary waterflooding, and enhanced oil recovery operations); and (3) problems related to carcinogenic chemicals present in the natural gas (e.g., benzene and toluene, and added odorization agents).

It should be remembered that an explosion hazard exists with an air-natural gas mixture if the content of natural gas is 5% to 15%.

CASE HISTORIES OF GAS MIGRATION PROBLEMS

El Segundo Oil Field—California

The El Segundo Oil Field has a depth of about 3,000 feet. Gas that was stored here in the early 1970s, migrated into the adjoining geologic formations. Gases were detected in a nearby Manhattan Village, California, housing development that was under construction. As a result, the construction was stopped. To protect the housing development, a \$750,000 passive venting system was installed to prevent the buildup of gases, which may cause an explosion, and the injection project was shut down.

Honor Rancho and Tapia Oil Fields—California

Castaic gas storage is located in the depleted Castaic Hills Oil Field (Figure 20-1) near the producing Honor Rancho (Figure 20-2) and Tapia (Figure 20-3) oil fields. Figure 20-4 shows the relationship of the three oil fields. The arrows show the direction of gas migration. The Tapia oil field producing zone has an average depth of 1,050 feet. The Honor Rancho has several producing levels ranging from an

(text continued on page 295)

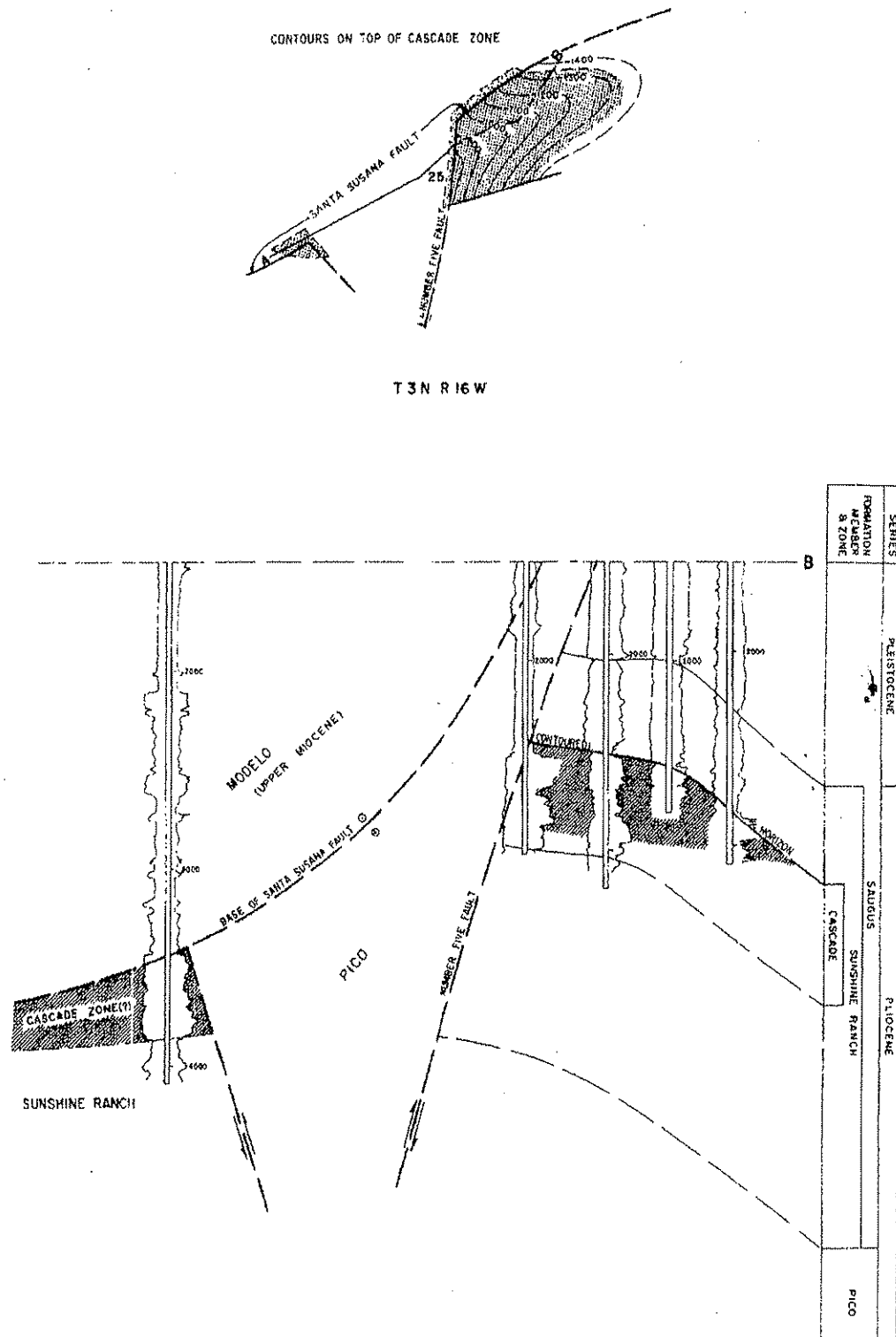


Figure 20-1. Horizontal contours and structure for the Castaic Hills Oil Field, California. (Modified after California Division Oil and Gas, California Oil and Gas Fields, 1974.)

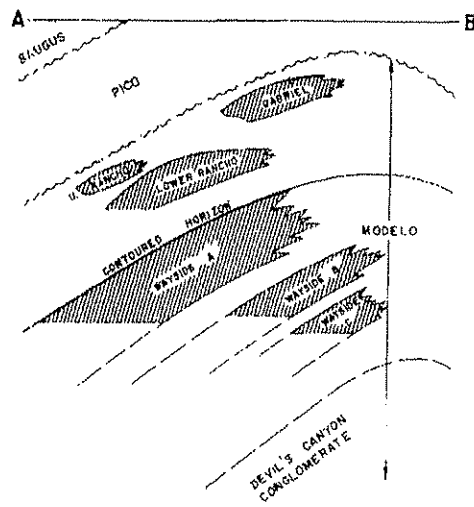
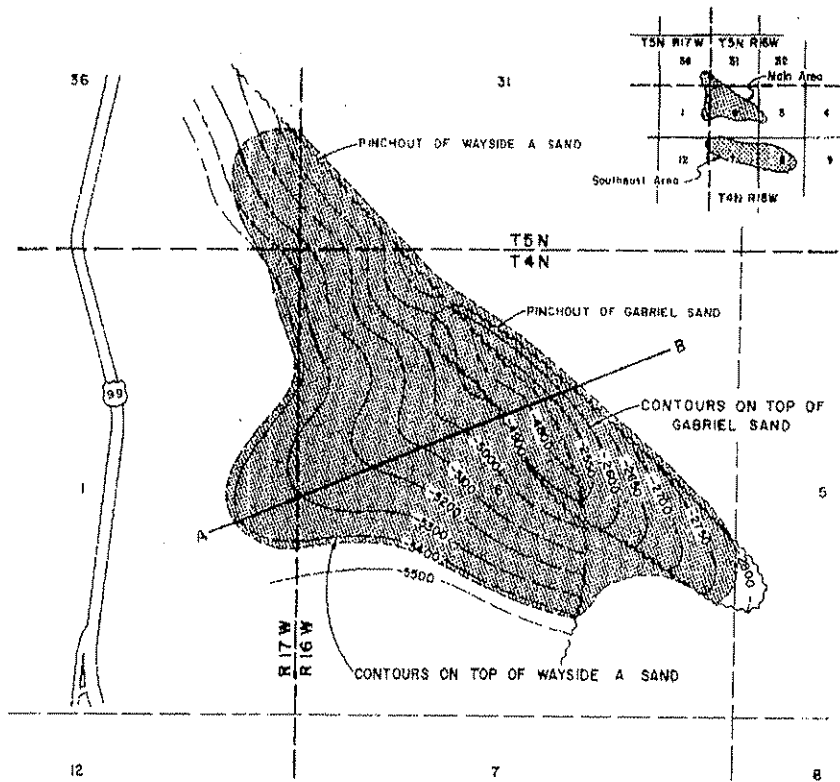


Figure 20-2. Horizontal contours and structure for the Honor Rancho Oil Field, California. (Modified after California Division Oil and Gas, California Oil and Gas Fields, 1974.)

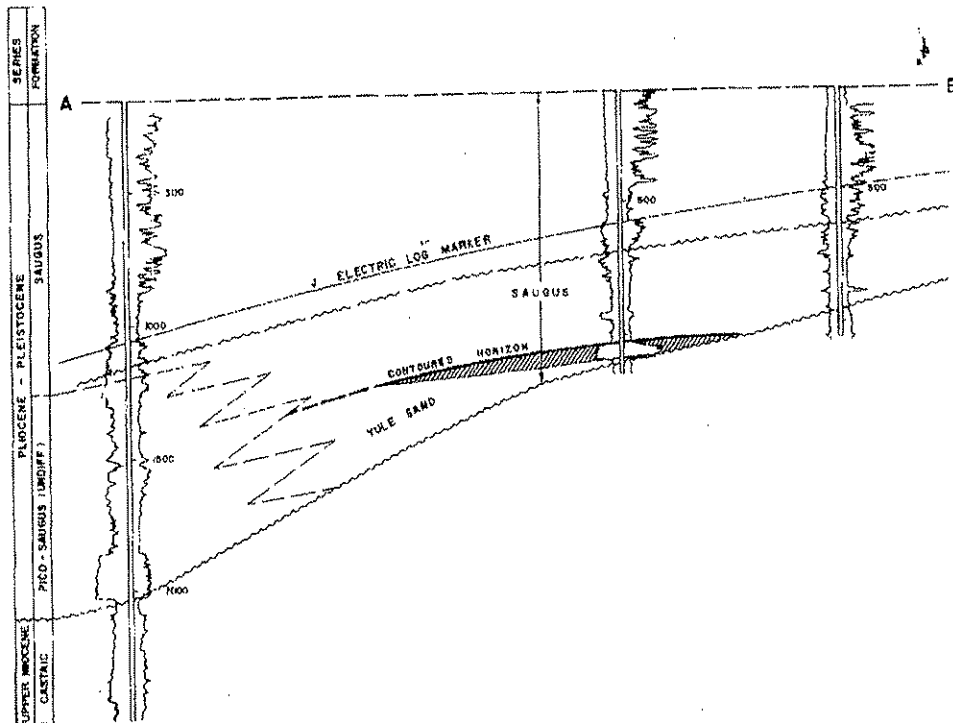
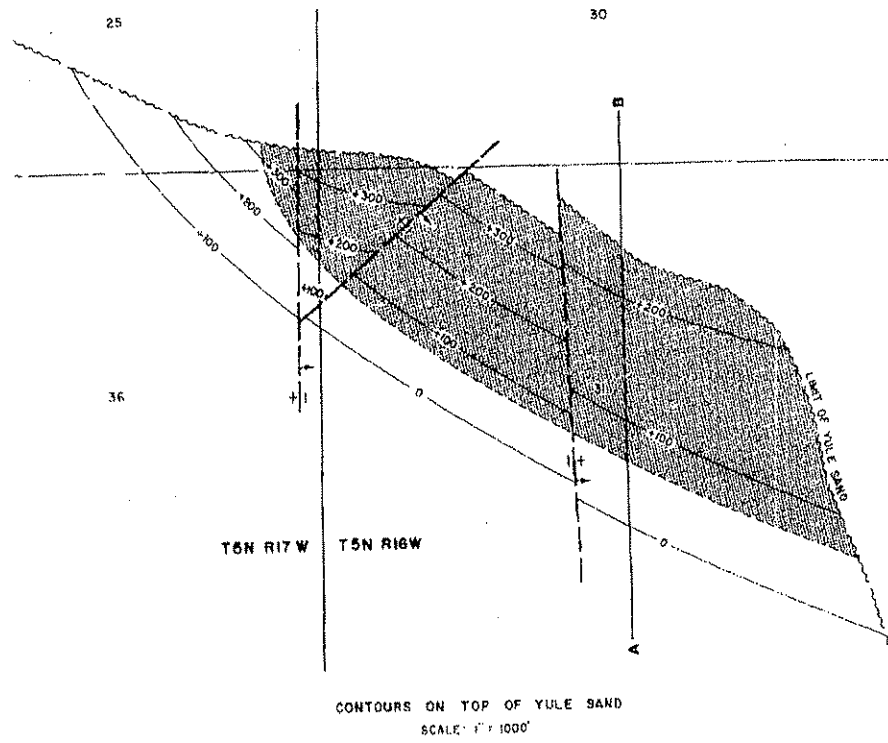


Figure 20-3. Horizontal contours and structure for the Tapia Oil Field, California. (Modified after California Division Oil and Gas, California Oil and Gas Fields, 1974.)

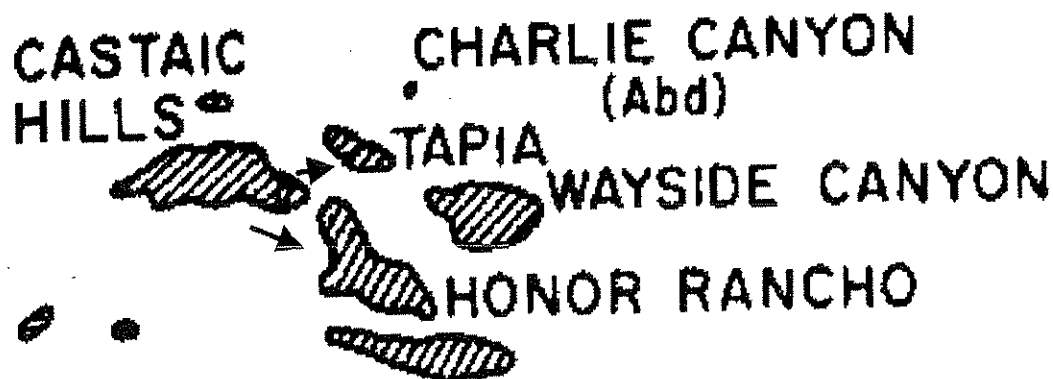


Figure 20-4. Physical relationship of Castaic Hills, Honor Rancho, and Tapia oil fields, California. Arrows show the prevailing direction of gas migration. (Modified after California Division Oil and Gas, *California Oil and Gas Fields*, 1974.)

(text continued from page 291)

average depth of 3,800–6,400 feet. Gas from the gas storage project broke into producing wells of the Honor Rancho and Tapia oil fields. Indications of gas migration along faults at the surface included the killing of oak trees along the surface trace of faults in the area. Gas bubbles were also noted in a nearby water reservoir. The helium content identified the migrating gas as originating from the gas storage project at the Castaic Field as the native natural gas has a very low helium content, whereas the imported gas from Texas does contain helium.

Montebello Gas Storage Field—California

The gas company stores large volumes of natural gas, which is transported into the Los Angeles basin, California, from out-of-state sources, using the Montebello Oil Field in California. The depth of this oil field ranges from 5,000–7,000 feet (Figure 20-5). The large storage facility is used to reduce the quantities of gas that would otherwise have to be shipped into the Los Angeles area by pipeline during periods of high demand, namely, by pumping in more gas than required during the periods of low demand. The gas storage facility also helps to even out the demands for importing gas during a typical year of operation. The gas is pumped into the reservoir under high pressure, which often exceeds prior oil field pressures, causing fracturing.

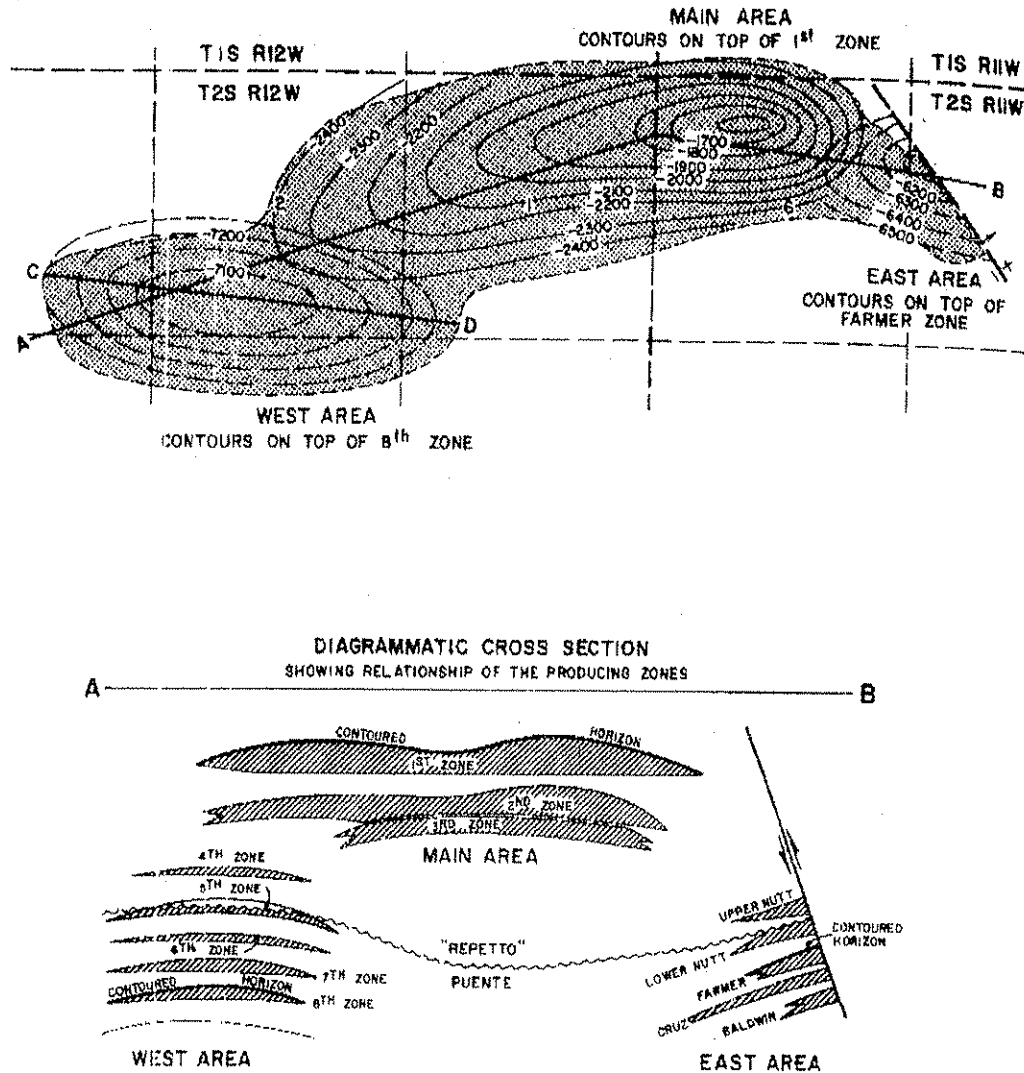


Figure 20-5. Horizontal contours and structure of the Montebello Oil Field, California. (Modified after California Division Oil and Gas, *California Oil and Gas Fields*, 1974.)

Prior to converting the Montebello Oil Field to a gas storage facility, many of the wells in this field had been abandoned using standards that were less stringent than those required at present. The oil field also contains several fault planes, which are potential paths for gas migration.

The gas company began storing gas in a portion of the Montebello Oil Field in the early 1960s. In the early 1980s, significant gas seepages were discovered at the surface within a large housing development above the gas storage facility. Many of these gas seepages appeared to be associated with poorly abandoned wells. The gas seepages

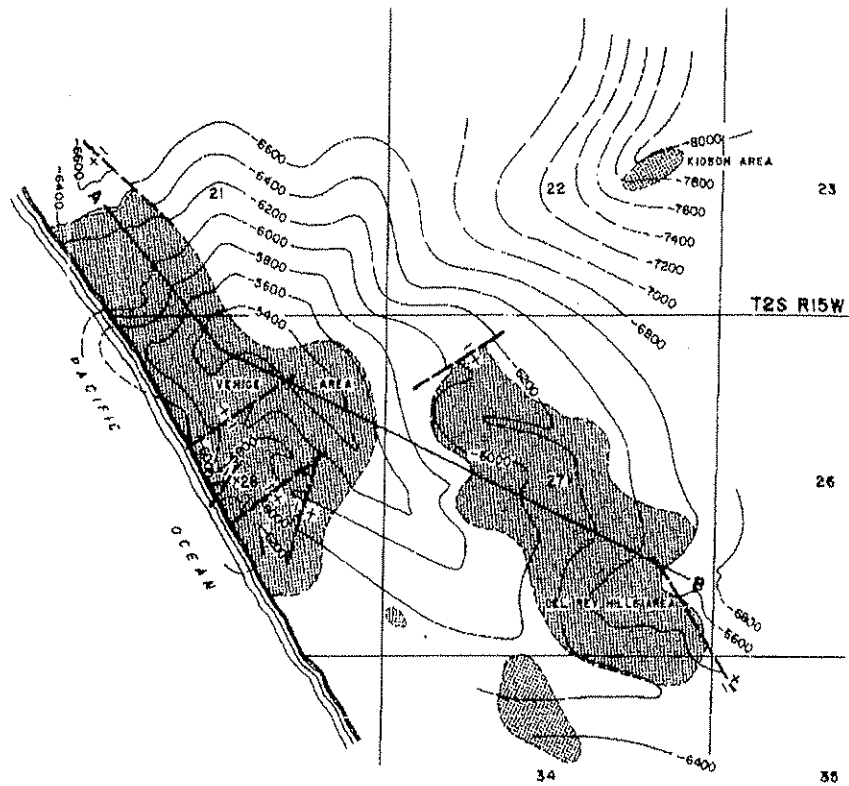
endangered homes located on the surface and required evacuation of families on numerous occasions. To reabandon these wells and stop the dangerous vertical gas migration, the gas company purchased and tore down several houses in order to obtain access to the previously abandoned oil wells. These areas were then landscaped and left undeveloped. This gas storage project continues to operate today.

Playa Del Rey Gas Storage Field—California

The Playa Vista proposed surface development and gas storage project is located over a portion of the depleted Playa Del Rey Oil Field in California (Figure 20-6). This field was discovered in 1929 and was in production until the pilot storage project was initiated in 1942. The project was expanded to full-scale operations in 1943. The reservoir has a capacity of about 2.6 billion cubic feet. In the late 1950s, the gas company reabandoned many of the older wells in the wetlands area.

The State of California Division of Oil and Gas (D.O.G.) has reported lateral migration away from the produced area of several million cubic feet of gas to the north and west. There are vertical faults in the region and some investigators incorrectly believe that they act as seals. In Southern California oil fields, a differential pressure of about 300 psig across the fault can result in liquids and gas crossing the fault plane. It was estimated in 1953 by the D.O.G. that 25% of the injected gas migrated to an adjoining oil field. In this case, the oil company returned the gas to the gas company to keep the gas loss to a minimum. The D.O.G. estimated that the overall losses including the "cushion," fluid replacement, and entrapped gas was about 13% for the reservoir.

There have been numerous complaints by local landowners concerning noxious gas odors. In 1990, the gas company vented approximately 300,000 cubic feet of natural gas into the air each month. In 1991, this amount was reduced to about 50,000 cubic feet per month. There also appear to be additional fumes coming from abandoned wells and along faults in the area. It appears that gas is not only escaping from the surface production facilities, but also migrating up along faults and abandoned wells from the storage reservoir. Gas can be seen bubbling through water in the Ballona Channel, in the local marina, and offshore in the ocean. Analysis of this escaping gas showed that it is a dry gas of thermogenic origin.



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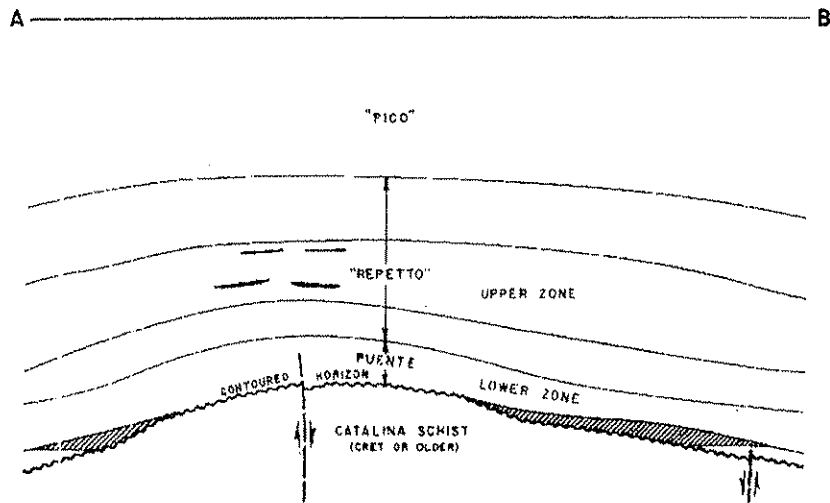


Figure 20-6. Horizontal contours and structure for the Playa Del Rey Oil Field, California. (Modified after California Division Oil and Gas, California Oil and Gas Fields, 1974.)

Huntsman Gas Storage—Nebraska

Located in southwestern Nebraska, the Huntsman Gas Storage Field was a depleted 4,800-foot deep gas field prior to its conversion to gas storage. Gas leakage occurred from this field into the adjoining oil- and gas-producing field several miles away. A different company handled production. In this case, a large lateral gas migration occurred through the barrier (fault), which several experts had thought to be impermeable. The gas company purchased gas from the oil company. In fact, they purchased the migrating gas several times over, as the gas was recycled between the two fields. Isotopic analysis proved that the gas company was purchasing its own gas.

Mont Belvieu Gas Storage Field—Texas

In October 1980, a serious gas leak developed in a salt dome gas storage field beneath Mont Belvieu, Texas, located 33 miles east of Houston. The gas seepage was detected when an explosion ripped through the kitchen in a house. This explosion occurred when the homeowner turned on the dishwasher and the spark of electricity ignited the gas mixture. More than 50 families were evacuated from their homes as a result of the explosion caused by the gas leak. A flash fire caused by the gas that had seeped into the home burned the housewife. The gas consisted of a mixture of ethane and propane with traces of butane. The concentration of these gases ranged from 2% to 14% by volume. The gas storage company had noted an "unexplained" drop in the reservoir pressures in September of 1980 after the explosion. The event caused severe financial difficulties for the city, which paid for housing and lodging of the displaced families.

Isotopic gas identification results showed that the source of gas was the gas storage facility.

Leroy Gas Storage Facility—Wyoming

The Leroy Gas Storage project lies about 100 miles northeast of Salt Lake City. Shell Oil Co. drilled the first well in the summer of 1951. After testing, it was decided that the Thaynes would be a good storage formation (Figures 20-7 and 20-8). Additional wells were drilled and completed in 1970 through 1972. The Federal Power Commission approved this storage project on November 17, 1972.

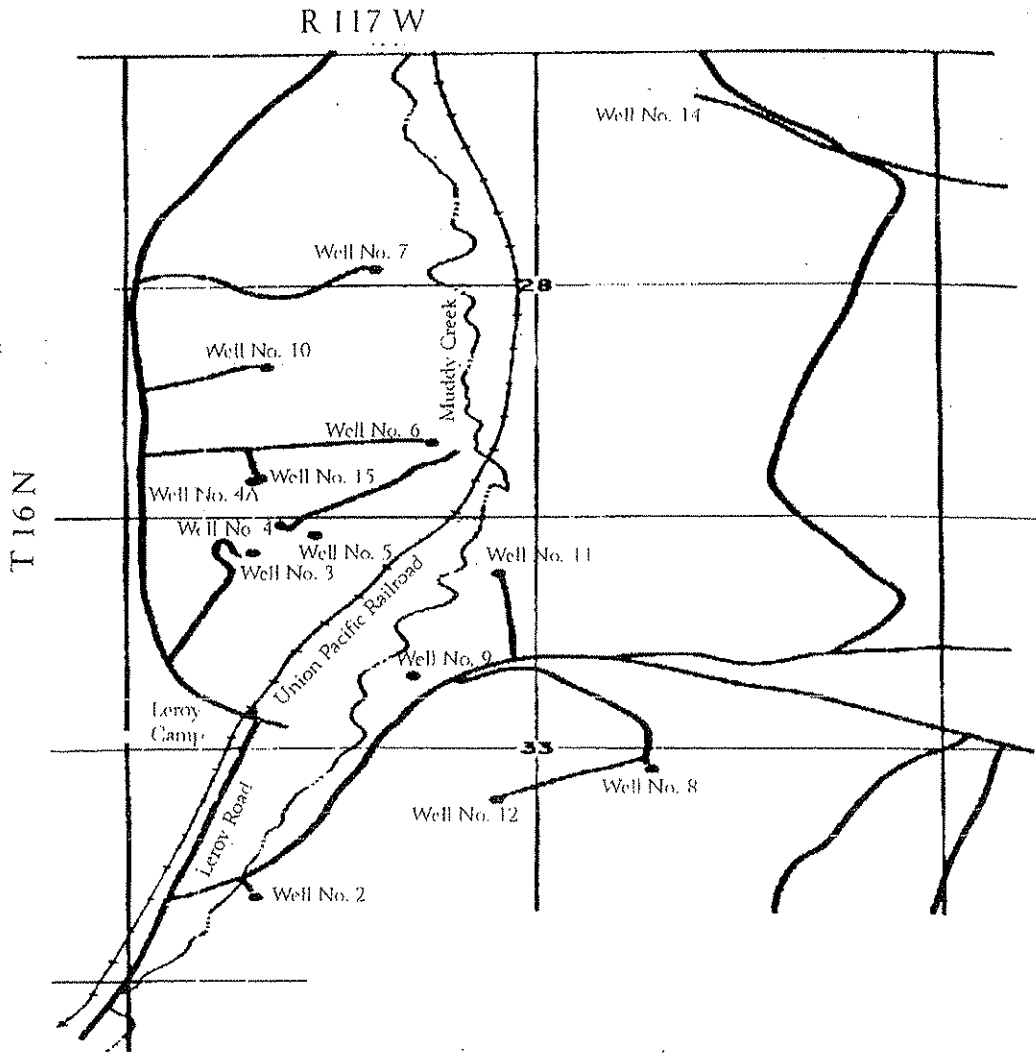


Figure 20-7. Surface map illustrating road (solid lines) and well locations for the Leroy Gas Storage Project, Wyoming. (Modified after Tek, 1987, fig. 11-7, p. 316.)

Gas migration to the surface was first confirmed during the later part of November 1978 through bubbling of gas in a nearby creek and pond. The gas migrated from the reservoir and was trapped in a secondary collector formation (Figure 20-9). The gas leaked from this storage to the surface and was, overall, a result of corrosion problems in wellbores and migration of gas along the fault plane. The gas leakage was confirmed by identification of the formation gas bubbles in the adjacent creek and pond. The rate of gas loss to the project was estimated to be (Tek, 1987, p. 323):

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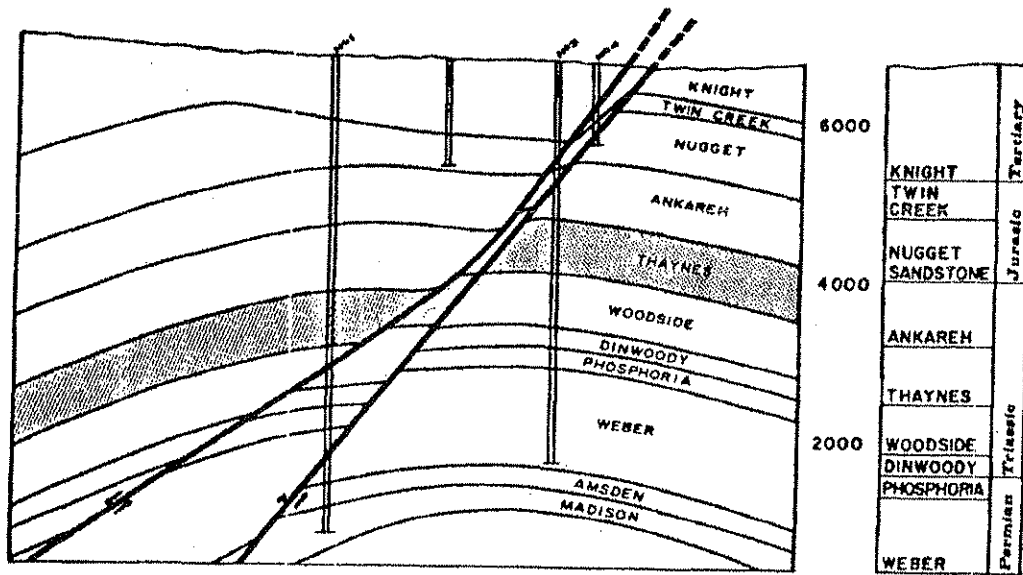


Figure 20-8. Lithologic cross-section and stratigraphic sequence of the Leroy Gas Storage Project, Wyoming. (Modified after Tek, 1987, fig. 11-8, p. 317.)

$$q_1 = 3.74 \times 10^{-7} (p_g^n - 1.600^2)^n \quad (20-1)$$

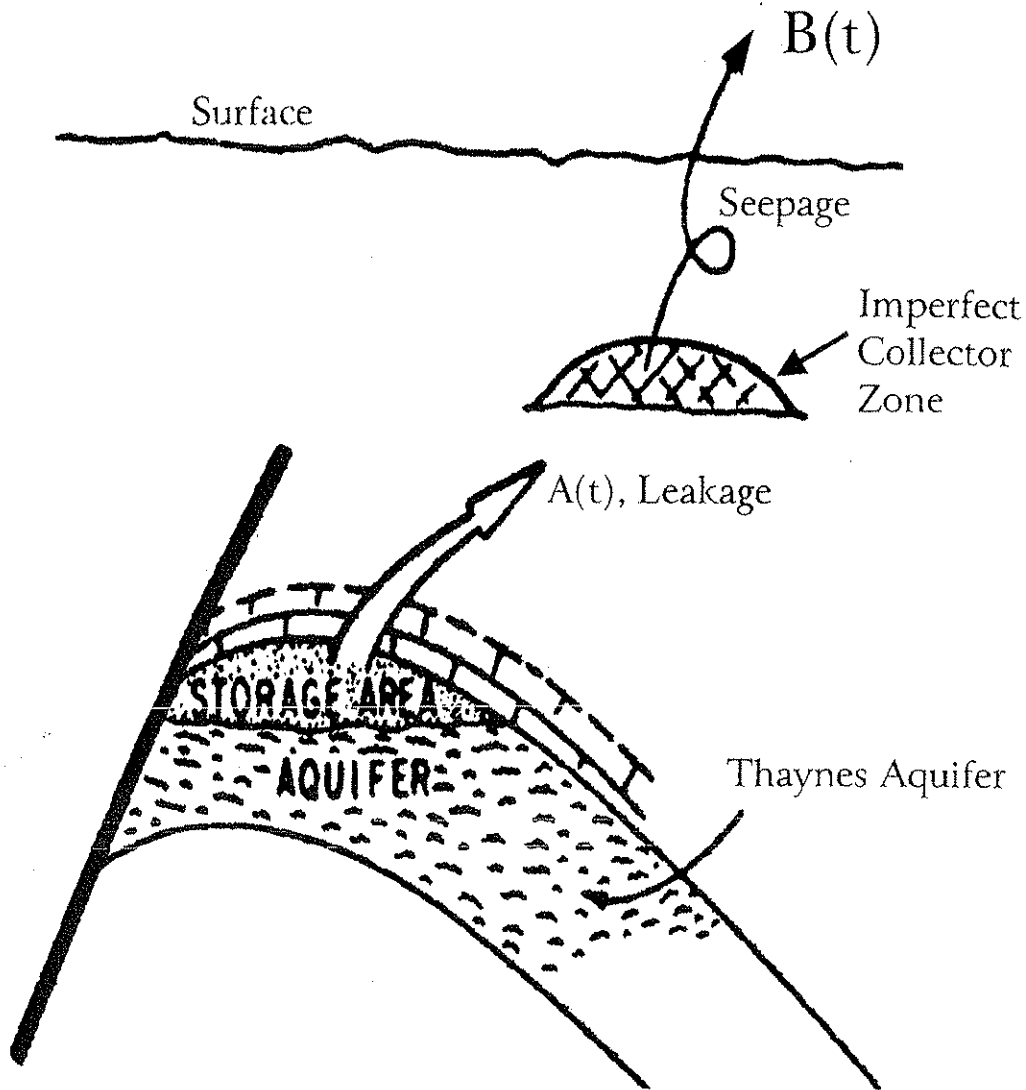
where q_1 is the daily leak rate in MMCF/D and p_g is the maximum gas bubble pressure in psia. The exponent n was assumed to be equal to 1.0. The variation of leak-rate versus formation pressure is shown in Figure 20-10.

RECOMMENDATIONS FOR GAS STORAGE

Underground reservoirs provide the most economic method of gas storage. The problem is that such storage areas can become a health and safety hazard if located in an urban area. It has been determined that gas will start leaking to the surface from an underground storage project within 50 years after initiating the project.

The following recommendations are suggested for selection of a gas-storage reservoir site:

1. No structures should be built over gas storage sites. The soil gas should be continuously monitored for the presence of natural gas.
2. No structures should be built over abandoned oil or gas wells.



$$A(t) = c_p (p_s^2 - p_o^2)^n$$

Figure 20-9. Schematic representation of gas leakage from the Leroy Gas Storage Project. c_p = performance coefficient for leak, MMCF/D/psi²ⁿ; p_g = maximum storage pressure, psia. (Modified after Tek, 1987, fig. 11-12, p. 323.)

3. Continuous gas monitoring should be conducted for the presence of natural gas around all wells penetrating the gas storage reservoir. This is particularly important if structures are within two times the radius of the storage area.

LEAK RATE, MMCF/YR

Figure
Leroy
p. 320

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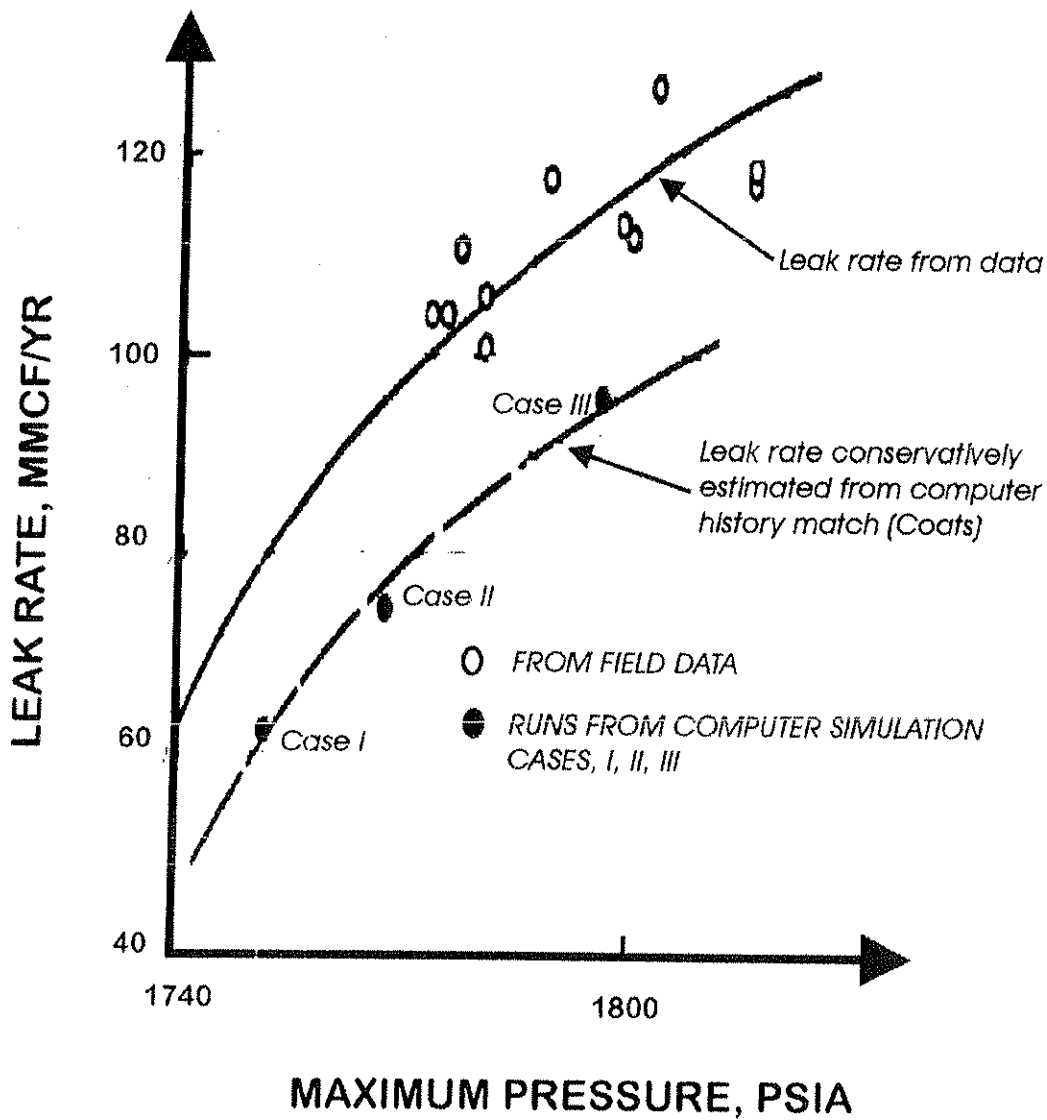


Figure 20-10. Gas leak rate for various maximum reservoir pressures for Leroy Gas Storage project, Wyoming. (Modified after Tek, 1987, fig. 11-16, p. 326.)

4. Health hazards upon exposure to natural gas must be evaluated annually, particularly if the gas contains benzene, toluene, and mercaptans.

Underground gas storage facilities, especially those using depleted oil fields, are subject to the same gas migration hazards as producing oil fields. From an environmental viewpoint, there are three areas of concern: (1) the existence of faults and fractures; (2) the presence of

abandoned, idle, and producing wells; and (3) fractures formed as a result of gas injection pressures exceeding formation fracturing pressures and those previously existing in the producing reservoir. Gas storage projects require a thorough evaluation to establish whether or not the gas storage facility can be safely operated. This is particularly important in an urban setting where there are human activities. It should also be recognized that even if the reservoir can trap and hold fluids, it might not safely hold "pressurized" gas.

Generally, it is not advisable to locate an underground gas storage facility near an urban setting because of the potential danger of gas migration to the surface, which can create an explosion hazard. Continuous soil-gas monitoring is essential to maintain the safe operation of these facilities, especially in areas close to fault planes and abandoned wells. The anticipated life of a gas storage facility is approximately 50 years. However, even if the facility does not leak initially, it will with time. The important question is not "if" the storage facility will leak, but rather "when."

CONCLUSIONS

The following conclusions can be reached on the migration of gas:

1. The primary force controlling the migration of gas from an oil and/or gas reservoir to the upper layers and traps (secondary gas accumulations) and, eventually, to the earth's surface is the difference between the specific weight of water and that of gas.
2. Gas, oil, and water do migrate along faults. They are also known to migrate along fracture systems and behind wellbore casings to the surface. The volumetric rate of gas migration toward the surface is a function of the type and width of the path along which it migrates.
3. Gas migrating along existing faults, fracture zones, and man-made paths can create surface hazards if the gas is allowed to concentrate in localized collector zones (secondary traps), especially if they are near the surface. It is not advisable to build over abandoned or idle wellbores. In some cases, geophysical methods must be used to establish their presence. Over time, the cement and well casing deteriorate, resulting in the creation of paths for gas migration to the surface. Also, structures should not

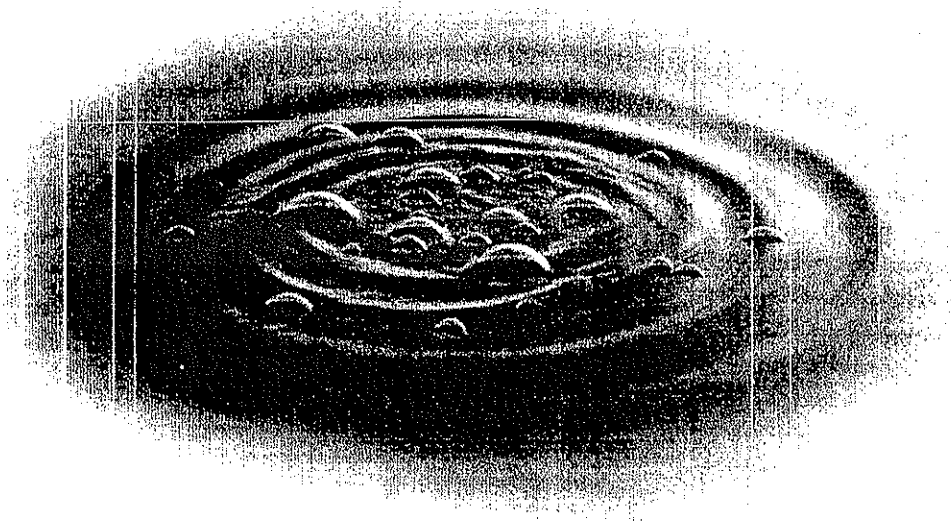
be built over fault planes, especially those that intersect oil field reservoirs, which often contain free natural gas. In urban areas, the migrating gas can cause fires and/or explosions when it accumulates in the confined areas of the structure.

4. Underground gas storage facilities have demonstrated a long history of gas migration problems. Gas migration hazards are aggravated in those facilities where pressures are increased to levels beyond the original oil field pressures. Experience has shown that underground gas storage facilities can create a serious risk of explosion and fire and should not be placed under urban settings. It is virtually impossible to ensure that the gas will not migrate to the surface. Especially in the case of earthquakes, the faults may become more permeable and there could be an upsurge of gas to the surface. The potential fires, especially in the presence of winds, could be disastrous and uncontrollable by local fire departments. In addition, the soil saturated with gas may lose its cohesive properties and convert to "quicksands."

To avoid the possible catastrophic events described in this chapter, a fundamental awareness and understanding of gas migration, paths of migration, and associated hazards is required. It is necessary to monitor and evaluate: (1) soil gas content, (2) the rate of gas migration to the surface, (3) oil and gas production from the underlying oil fields, (4) older improperly abandoned oil wells, and (5) all oil field operations that produce fractures and free gas, and predict possible environmental complications associated with these operations.

GAS MIGRATION

Events Preceding Earthquakes



Leonid F. Khilyuk
George V. Chilingar
John O. Robertson Jr.
Bernard Endres



Gulf Publishing Company
Houston, Texas

Gas Migration—Events Preceding Earthquakes

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EXHIBIT 6

Interoffice Memo

To: J. P. Greene
From: T. D. O'Connor: *T.D.*
Date: June 14, 1993
Subject: Health and Safety Correspondence

Jim, I wanted to make you aware of the attached correspondence which has been provided by Claus Langer, the Storage Superintendent for the Southern Region - Transmission. According to Claus, a grassroots group has asked Senator Art Torres for a congressional hearing pertaining to the health and safety issues surrounding underground storage of natural gas and migrated gas losses. The reasons why they asked a state senator for a congressional hearing are unclear, but their request may reflect a lack of political sophistication.

Claus has asked for guidance in terms of both finding out whether Senator Torres has indeed received the request (see attached) and, if he has, determining what should be the proper company response. In response to his request, I informed him that you should be the appropriate company contact. With that in mind, he has provided copies of previous Gas Company correspondence detailing the company's safety record involving the Playa del Rey facility (also attached). In addition, please find a draft letter prepared by Transmission which will be sent only if you think it will be necessary. Along those lines, as I suggested to Claus, it might best to delete the last sentence of the second to last paragraph on page 2. Please let me know if you need any additional information.

Attachments

cc: C. Langer (w/o attachment)
G. P. Williams (w/o attachment)

The Gas Company has safely operated a natural gas storage field in Montebello for 37 years. The West Montebello Field was put into operation in 1956 after seven years of preliminary work. The Montebello Field was originally developed as an oil field and was converted to a gas storage field as the oil production declined.

One of the main reasons the Montebello Field was chosen to store gas is the fact that when the Eighth Zone was first discovered, it had a gas cap. The presence of a gas cap indicates that the geology and subsurface structure have successfully stored gas for several million years. The Eighth Zone is the same sand stone formation that The Gas Company uses to store gas. The Gas Company's storage zone is one of 12 oil and gas zones that are known as the West Montebello Oil Field. All of the zones are isolated, separated, and distinct. The gas that the Gas Company stores in the eighth zone does not have a natural path way to the surface.

There are over 250 abandoned wells in these oil and gas zones. Most of the wells were owned, operated, and abandoned by companies that are no longer in business. Standards for abandoning wells did not exist at the time many of the wells were abandoned. Each of the abandoned wells could provide a conduit for the surface migration of gas.

To greatly reduce the risk of surface gas migration The Gas Company started operation of a gas collection/monitoring well system in 1978. Although small quantities of gas have surfaced in several areas, diligent monitoring has resulted in early detection of this gas. The existing gas collection system has been successful in its goal of reducing risk to the residents of Montebello. The monitoring and collection of native gas by The Gas Company greatly reduces the possibility of a gas explosion caused by the decomposition of organic matter like the one that occurred on March 24, 1985 near Third and Fairfax in the City of Los Angeles.

The gas collection and monitoring system was greatly expanded in 1984 and since that time only once has a gas leak been detected. The one incident turned out to be caused by operations of a nearby oil company and not the operations of The Gas Company. The leaking gas would not have been discovered when it was without our existing monitoring system. In addition to the expansion of our collection/monitoring system, the 32 storage wells and 19 collection wells have been equipped with a removable inner pipeline that serves as an additional barrier to any possible gas leakage.

Safety has always been a top priority with The Gas Company. The technology to monitor and operate an underground storage field has improved steadily through the years and the Montebello Storage Facility is in the forefront of such safety developments.

Montebello Storage Facility employees perform the following work to ensure the safe operation of the facility:

1. Gas readings are collected at all abandoned wells once a month.
2. Gas readings are collected at all abandoned wells that are under structures every two weeks.
3. Gas scope readings are collected in all areas where gas has surfaced in the past on a monthly basis.
4. Water wells in the area are monitored monthly for changing concentrations of methane gas.
5. As part of the field safety and maintenance, a temperature survey is run every three months on each well to check for any anomalies. Additional investigation by noise logs, radioactive tracer surveys, and other methods are run as needed.
6. The subsurface pipeline system is routinely surveyed to detect any possible leaks.
7. All wells are inspected for problems by a trained crew at least once each 8 hours every day of the year.
8. Well pressures of all wells are collected twice a week.
9. Barholes located around the wells are monitored for possible leaks.
10. Several full-time qualified technicians are stationed at the storage field to maintain, calibrate, and repair the sensors, charts, and monitoring system.

The following operational, equipment, and safety systems are used to insure the safety of the residents and storage field:

1. All wells are equipped with:
 - A.) High pressure wellhead assemblies with automatic fail-close valves.
 - B.) High-low pressure sensors in all flow lines, set to shut-in or shut down the well in the event of abnormal pressures in the flow lines.
 - C.) Fire detection devices, such as fusible plugs, at strategic points in pneumatic, hydraulic and other shut in control lines in potential fire hazard areas.

- D.) Sacrificial sand erosion probes designed to monitor internal flow stream erosion and prompt automatic valve closure.
 - E.) Remote, manually operated, quick operating shut-in controls at strategic points.
 - F.) Removable flow strings which can be removed for repair or inspection.
 - G.) Subsurface safety devices are installed in all critical wells which will prevent the well from flowing under just about any conceivable scenario.
2. The Montebello Storage Field has an extensive subsurface gas collection system consisting of over nineteen observation/collection wells, processing and gas compression equipment.
 3. All shallow zones are equipped with downhole pressure monitoring equipment. The equipment constantly collects real-time data on any and all changes in the pressures of each of the shallow zones.
 4. The field is operated at a pressure that is several hundred pounds below the discovery pressure.
 5. All wells located in the residential areas are protected by gazebos constructed with a steel frame and wood.
 6. Numerous charts and sensors have been installed at all critical points in the system.

EXHIBIT 7

INTEROFFICE



CORRESPONDENCE

TO Mr. P. S. Magruder, Jr.

FROM

B. F. Jones ✓

DATE

August 7, 1975

SUBJECT

Playa del Rey - Gas Migration

Action Plan:

Try and pinpoint the source of migrated Playa del Rey stored gas by running sound logs on 14 wells which have temperature anomalies of 3° or more from the normal gradient. Radioactive tracer surveys will be run on wells which show high frequency sound anomalies. The estimated cost of this program is \$40,000. In accordance with our discussion, we will accumulate these costs under a miscellaneous work order. We will try and start sound survey work during the week of August 18, 1975. I told Mr. John Brady of our plans this afternoon, and he said we should proceed with the work.

Discussion:

The following summarizes discussions that Jack Hampton, Jeevan Anand and I had July 31, 1975 relating to the Playa del Rey gas migration problem. This discussion resulted in the above plan of action. As you know, we have some very small volumes of stored gas coming to the surface around the cellar of Del Rey 17. We have also had reports this year of gas containing helium present in the surface casing annulus of 26 wells. This information was summarized by John Melton in his letter to me dated February 26, 1975 (attached). A re-survey of surface casing annular gas in May 1975 found gas with traces of helium present in 16 wells. Within the last year, temperature surveys have been made on 53 of the 69 wells. Forty-one of these surveys were made in 1975. Twelve surveys are scheduled to complete this program. Sixteen wells had temperature anomaly varying 3° or more from the normal gradient. A total of six sound logs have been run within the last two years. Three of them were run this year. The only sound log that show a definite hole in the casing was that made on the well Playa del Rey 12-1. Sound logs run in Del Rey 17 and 18 indicated shallow (above 1000') low-cut noises. This is interpreted to represent gas movement outside of the casing. A temperature survey made on Del Rey 18 in June of this year is significantly different than the survey ran in September 1974, suggesting that the well may now be leaking.

The Del Rey wells can generally be grouped as either wells in the flat area or wells in the bluff area. Wells in the flat area are very close to sea level and all except the top 8-10 feet of the casing should be covered by ground water. Wells in the bluff area are those wells where the wellhead is at least 8-10 feet up to 150 feet above sea level. All wells are subject to tidal fluctuation which would

August 7, 1975

possibly cause a wetting and drying of the casing near sea level. Four wells in the bluff area have developed shallow casing leaks, three of the leaks were near sea level, and probably due to casing corrosion. The first of these three was Big Ben #1 which was repaired in 1964. The second was 12-1 which occurred in August 14, 1974 and the third was 24-2 which occurred April 30, 1975.

The area where storage gas is currently surfacing is in the flat area. Sound logs suggest gas movement from a depth of about 1000' below sea level. The temperature anomaly in Del Rey 18 is approximately 1100' below sea level. It seems reasonable to re-survey this well using a sound log as soon as possible. Next, it would seem prudent to survey with a sound log all wells with a temperature deviation of 3° or more from gradient. Any well which shows a high frequency sound anomaly should have the potential leak evaluated using a radioactive tracer survey.

Cost of running at least 14 sound logs is estimated to be \$2,000 per well or \$28,000 for the sound log program. If sound anomalies were found on five wells, an additional \$10,000 should be allowed for radioactive tracer surveys. \$2,000 contingency allowance would bring the estimated total cost of this migration study up to \$40,000. It is our opinion that this study should be undertaken this year in order to evaluate the Playa del Rey gas migration problem.

BFJ:eo
Attachment

cc: Messrs. J. P. Anand
H. C. Carson
J. D. Hampton
A. S. Olson
D. Wood

also filed in Playa del Rey Misc. Correspondence

EXHIBIT 8

The Gas Company

April 28, 1998



RECEIVED
APR 30 1998
DIVISION OF OIL
& GEOTHERMAL RESOURCES
CYPRESS

Department of Conservation
Division of Oil, Gas, & Geothermal Resources
5816 Corporate Avenue, Suite 200
Cypress, CA 90630-4731

Re: Townsite 2 Well, A.P.I. No. 037-14048, Section 28, T.2S, R. 15W, S.B.B.
& M., Playa del Rey Field, Los Angeles County.

Southern California
Gas Company

555 W. Fifth Street
Los Angeles, CA
90013-1011

Gentlemen:

Southern California Gas Company ("SoCalGas") was the Operator of Record of the referenced well, Townsite 2. Plugging and abandonment operations were completed on this well on March 26, 1993. Attached is a copy of the Report of Well Plugging and Abandonment, dated November 8, 1993 and issued by the Division of Oil, Gas and Geothermal Resources ("DOGGR"), attesting to the fact that SoCalGas had fulfilled all of the DOGGR requirements.

Mailing Address:
Box 3249
Los Angeles, CA
90051-1249
ML 23 D 1

tel 213 244-7066
fax 213 244-8231

In 1996 SoCalGas sold the property on which the Townsite 2 well is located to The Lee Group, Inc. Subsequent to the sale, gas was noted in the vicinity of the former wellsite. The DOGGR contacted SoCalGas and directed it to reabandon the Townsite 2 well. During the course of the reabandonment efforts, SoCalGas with the aid of an outside laboratory, identified the gas in question as biogenic, confirming the fact that the integrity of the storage reservoir, which SoCalGas is currently operating, had not been compromised.

In accordance with Section 3208.1 of the California Laws for Conservation of Petroleum & Gas, once a well is abandoned in accordance with the requirements of the DOGGR, any further work on such well in connection with future construction of any structure over or in the proximity of the well is the responsibility of the property owner. The property owner is The Lee Group, Inc. and may be contacted at (310)827-0171, attention Mr. Jeff Lee.

107

Very truly yours,

T.W. Schroeder
Agent

attachment

cc: The Lee Group, Inc.

EXHIBIT 9

RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF CONSERVATION
DIVISION OF OIL, GAS, AND GEOTHERMAL RESOURCES

REPORT OF WELL PLUGGING AND ABANDONMENT

Cypress, California

May 7, 1998

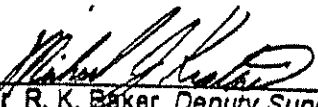
Thomas W. Schroeder, Agent
SOUTHERN CALIFORNIA GAS CO.
Box 3249 Terminal Annex/M.L.23D1
LOS ANGELES CA 90051-1249

Your report of the plugging and reabandonment of well "Townsite" 2, A.P.I. No. 037-14048, Section 28, T. 2S, R. 16W, S.B. B & M., Playa del Rey Field, Los Angeles County, dated 4-27-98, received 4-29-98, has been examined in conjunction with operations witnessed and records filed in this office.

We have determined that the requirements of this Division were not fulfilled.

- NOTE:
1. Gas is leaking to the surface from the well.
 2. Surface plugging completed on 3-31-98.
 3. Surface inspection waived due to pending development of site.
 4. This well is NOT to be built over without further consideration.

William F. Guerard, Jr.
State Oil and Gas Supervisor

By 
For R. K. Baker, Deputy Supervisor

BLANKET BOND

DS:df

cc: Update
L.A. County Assessor
L. A. County Fire Prevention Bureau
L.A. County Dept. Public Works/Waste Mgmt

DTSC

2

Certified Mail

December 22, 2003

Sue Chang, City Planner
LAX/Playa Vista Section
Los Angeles Planning Department
200 North Spring Street, Room 720
Los Angeles, California 90012

Dear Ms. Chang:

Thank you for providing the Department of Toxic Substances Control (the Department) with an opportunity to review the Draft Environmental Impact Report (EIR) for the Village and Playa Vista Project (ENV-2002-6129-EIR, SCH NO. 20022111065). The Department has had an ongoing interest in the Playa Vista Project and has submitted comments on several critical Health Risk Assessment documents to the Los Angeles Regional Water Quality Control Board (LARWQCB). The LARWQCB is the lead agency for the Playa Vista Project.

1. **The Department's comments on the Chief Legislative Analyst's Report (CLA).**

The comments we are submitting on the EIR are consistent with our earlier comments. It is important to note that the Department did comment on the City's Chief Legislative Analyst's report on May 29, 2001. Since our comments were not included in the comments provided in the EIR in Technical Appendix J we are providing them with this letter. We recognize that our comments on the CLA report were submitted late.

2. **Methane Site Assessment**

The Department's primary concern is whether the development at this site would be safe for occupancy in view of the evidence of significant methane concentrations in the subsurface and the location of a subsurface natural gas storage area in the vicinity of the site. There are sub-surface concentrations of methane greater than 150,000 ppv (5%) and, indeed, these concentrations exceed the Upper Explosive Limit for methane. The draft EIR states that the Los Angeles City Department of Building and Safety (LADBS)

is requiring prospective developers at the first phase project to complete a methane site assessment (page 670). The Department recommends that an advisory developed jointly by the Los Angeles Regional Water Quality Control Board and the Department be utilized in performing the assessment. The advisory provides consistent methodologies for soil gas investigations. The methodologies have been reviewed by government organizations and by the soil gas consulting community. This document is available on the Department's Web page.

The discussion on page 707 is misleading. The section states, *"The vast majority of the adjacent Playa Vista First Phase Project site has methane concentrations that are less than 1.25 percent"*. The data, which would support this statement, is not provided. In fact the map on the next page shows several significant areas of Phase I with over 150,000 ppmv concentrations of methane. An even larger percentage of land addressed in the map is within the lower and upper explosive limits (50,000-150,000 ppm). The map does not cover all of Area D. The CLA report included in the appendix does have a less clear map with similar data for the entire site. In reviewing this map it would appear that areas with high concentrations of methane are found through out the site. Information on page 711 appears to reflect incorporation of the Department's recommendation that the methane threshold of 12,500 ppmv be adopted. Can this be confirmed?

The text on page 709 states that the Fountain Park Apartments on the Playa Vista phase I project is completely built. The EIR does not provide specific information on the methane controls actually installed in the Fountain Park Apartments. If monitoring has been installed it would be useful to provide data on the monitoring results.

The text on page 728 correctly states that underground utility corridors on gravel beds could act as lateral conduits for gas migration and/or for buildup of methane concentrations within underground vaults. However, mitigation measures to prevent these potential circumstances are not, but should be identified.

It is exceedingly important that the proposed mitigation measures for Area D and the mitigation measures currently installed in the Phase I portion of the project be rigorously maintained and monitored. Since hydrogen sulfide has also been detected in the sub-surface gases, it is also important to inspect the systems periodically for signs of corrosion over time. Therefore, it is critical

that trained personnel be responsible for maintaining the complex system of methane gas controls.

It is our understanding that the responsibility for maintaining these systems will ultimately fall with the Project's homeowners association. It will be critical for this association to have adequate expertise and training in order to properly carry out this important task.

On May 1, 2002, the United States Environmental Protection Agency (USEPA) submitted comments to the LARWQCB on several issues regarding Playa Vista. The comments were in response to requests for EPA review and feedback on several documents. The USEPA recommended that the appropriate agency or agencies 1) develop effectiveness criteria for the methane system 2) identify a lead agency for maintenance/management and response to issues regarding the system and develop an action plan to be implemented if the system fails to meet effectiveness criteria or if the methane alarm is triggered or if there is an accidental release. We support their recommendations.

The USEPA understood that the LARWQCB would be requiring Playa Capitol to conduct a full risk assessment for all of Area D after thorough site characterization is complete and prior to initiating final remediation and construction activities. The USEPA recognized that the use of individually derived, compound-specific, risk-based cleanup levels could be an approach that would sufficiently address potential health risks due to exposure to a single or a few contaminants. In and of itself however, it may not completely address the potential for aggregated health risks due to the combined effects of simultaneous exposures to multiple contaminants, especially in a situation where many contaminants are present on a site, as is the case at Playa Vista. For this reason the USEPA recommended a cumulative risk assessment be performed at Playa Vista to ensure that these combined effects do not create an unacceptable level of risks.

The Department recommends that a cumulative (multi-chemical, multi-pathway) risk assessment be performed for the site when a thorough site characterization is completed. This is particularly important for any areas of residential development.

3. Testing for Dioxin and Furan Contamination

On page 686 mention is made of the former fire training burn pit and former test sites. If any data exists re: dioxin and furan contamination in these areas, it should be mentioned here. If testing has not been done for these chemicals, it should be stated here. Dioxin and furan contamination could extend beyond the immediate locations of the burn pit and the former test site. We were not able to identify any data in the EIR that would address this concern.

LETTER NO. 12

Department of Toxic Substances Control
Edwin F. Lowry, Director
1011 North Grandview Avenue
Glendale, CA 91201

December 22, 2003

Comment 12-1

Thank you for providing the Department of Toxic Substances Control (the Department) with an opportunity to review the Draft Environmental Impact Report (EIR) for the Village and Playa Vista Project (ENV-2002-6129-EIR, SCH NO. 20022111065). The Department has had an ongoing interest in the Playa Vista Project and has submitted comments on several critical Health Risk Assessment documents to the Los Angeles Regional Water Quality Control Board (LARWQCB). The LARWQCB is the lead agency for the Playa Vista Project.

Response 12-1

This comment establishes the commentor's interest in the Proposed Project. Comments on the Draft EIR are presented and responded to in the remainder of the letter. Please note that pursuant to Section 15051 of the State CEQA Guidelines, the City of Los Angeles is the CEQA Lead Agency. The Regional Water Quality Control Board (RWQCB) is a responsible agency pursuant to CEQA. The RWQCB, however, is the lead agency for remediation of contamination at the Proposed Project site.

Comment 12-2

1. The Department's comments on the Chief Legislative Analyst's Report (CLA).

The comments we are submitting on the EIR are consistent with our earlier comments. It is important to note that the Department did comment on the City's Chief Legislative Analyst's report on May 29, 2001. Since our comments were not included in the comments provided in the EIR in Technical Appendix J we are providing them with this letter. We recognize that our comments on the CLA report were submitted late.

Response 12-2

The responses of the City's Chief Legislative Analyst and the RWQCB to the DTSC's comments to the May 2001 CLA Report are in the Appendix for the Final EIR. The responses of the

e 12-4

Draft EIR discussion of methane concentrations in the adjacent Playa Vista First Phase Project site on page 707 is supported by Subsection 2.2.4.1.2.1 of Section IV.I, Safety/Risk of Upset, of the Draft EIR on page 703-707, Appendices J-6 and J-10 of the Draft EIR and documents in the reference library of the Draft EIR. Figure 58 on page 708 of the Draft EIR illustrates that over 90 percent of the western portion of the First Phase Project contains concentrations of methane that are less than 1.25 percent (12,500 ppmv). The balance of Area D is illustrated in Figure 58, on page 716 of the Draft EIR, and Figure 2.1 of Appendix J-2, contained in Volume XVI of the Draft EIR. As shown in Figure 2.1, only a very small area within the eastern portion of the First Phase Project contains concentrations of methane above 1.25 percent.

Methane mitigation has been required at the adjacent Playa Vista First Phase Project site for all buildings, even if no methane is detected at the building site. There are three levels of mitigation: Level I for sites with less than 100 ppmv of methane; Level II for sites with 100 ppmv to 12,500 ppmv of methane; and Level III for sites above 12,500 ppmv of methane. As stated in Subsection 2.2.4.1.2.2 of Section IV.I, Safety/Risk of Upset, of the Draft EIR on page 711, all sites in the Proposed Project would require a building mitigation system that includes at least a gravel blanket, with pipes to ventilate methane gas from underneath the building, an impermeable methane membrane underneath the building, and a methane detection alarm system within the building.

Comment 12-5

The text on page 709 states that the Fountain Park Apartments on the Playa Vista phase I project is completely built. The EIR does not provide specific information on the methane controls actually installed in the Fountain Park Apartments. If monitoring has been installed it would be useful to provide data on the monitoring results.

Response 12-5

The Fountain Park Apartments are part of the adjacent First Phase Project approved in a separate EIR (EIR No. 90-0200-SUB(C)(CUZ)(CUB), State Clearinghouse No. 90010510), certified by the City of Los Angeles in September, 1993, and Mitigated Negative Declaration/Addendum to the EIR, certified by the City of Los Angeles in December, 1995.

The methane mitigation system for the Fountain Park Apartments is consistent with the methane mitigation guidelines for the adjacent Playa Vista First Phase Project site described in Subsection 2.2.4.1.2.2 of Section IV.I, Safety/Risk of Upset, of the Draft EIR on page 711, and Appendix J-6 of the Draft EIR.

The design of the methane mitigation system and methane monitoring for the Proposed Project is addressed in Topical Response TR-12, Soil Gas, on page 477. As discussed in Appendix J-14 of

APPENDIX T

**DTSC Comments Dated October 22, 2007 and
November 22, 2007: Regarding CDM Playa Vista
Preliminary Environmental Assessment**



Department of Toxic Substances Control

Maureen F. Gorsen, Director
1011 North Grandview Avenue
Glendale, California 91201

Linda S. Adams
Secretary for
Environmental
Protection

Arnold Schwarzenegger
Governor

October 22, 2007

Mr. Pat Schanen
Deputy Director
Office of Environmental Health and Safety
Los Angeles Unified School District
1055 West 7th Street, 9th Floor
Los Angeles, California 90017

REVIEW OF DRAFT PRELIMINARY ENVIRONMENTAL ASSESSMENT REPORT,
CENTRAL REGION ELEMENTARY SCHOOL #22 (PLAYA VISTA), SOUTH OF BLUFF
CREEK DRIVE AND ADJACENT TO THE RIPARIAN CORRIDOR, PLAYA VISTA
(SITE CODE 304564)

Dear Mr. Schanen:

The Department of Toxic Substances Control (DTSC) reviewed the "Preliminary Endangerment Assessment, Tract Map No. 49104 Lot 6" (Draft PEA Report) (CDM, July 18, 2007) received on August 6, 2007. Originally, the Los Angeles Unified School District (LAUSD) provided the Draft PEA Report as background information to DTSC; however, on August 23, 2007, LAUSD officially requested DTSC review the Draft PEA Report. The PEA Report presents investigation results and conclusions based on a health risk screening evaluation for the site. The document was prepared for the Playa Capital Company, LLC, developer of the Playa Vista development project.

According to the PEA Report, the approximately 4-acre project has historically been vacant undeveloped land and may have periodically been used for ranching and/or farming, with more recent temporary use for soil stockpiling and construction staging activities. The site was also part of the former Hughes Aircraft facility. To evaluate the impact from residual agricultural chemicals and other potential impacts, the site was investigated for metals, organochlorine pesticides, petroleum hydrocarbons, semi-volatile organic compounds, and volatile organic compounds.

DTSC has identified discrepancies in the Draft PEA Report that require clarification or modification. DTSC comments on the Draft PEA Report are enclosed; additional DTSC

Mr. Schanen
October 22, 2007
Page 3

comments from the project toxicologist will follow under separate cover. Please submit a table with responses to the enclosed comments and a PEA Addendum by November 26, 2007 for DTSC review and approval. The table should restate each comment and provide the associated response. In addition, please provide the PEA Addendum and subsequent documents, as well as the Draft PEA Report, in electronic format as described below.

Per LAUSD's request, DTSC participated in a conference call with Mr. Christer Loftenius on October 17, 2007 to discuss how to proceed with the PEA Report. During the call, Mr. Loftenius informed DTSC that additional information is being collected via a Phase I Environmental Site Assessment (Phase I) investigation and that the site would most likely move into a Remedial Investigation. Thus, instead of revising the PEA Report, DTSC proposed that, upon receipt of DTSC's comments on the PEA Report, LAUSD provide the following:

- 1) a response to DTSC's comments,
- 2) a PEA Addendum which identifies data gaps requiring further investigation, and
- 3) the in-progress Phase I report as background information.

DTSC has prepared the enclosed comments on the PEA Report to be addressed in a PEA Addendum. Upon DTSC's review of the aforementioned documents, these documents can be made available as a PEA Equivalent for public comment while the Remedial Investigation scoping activities proceed.

In addition, DTSC understands that LAUSD will make the PEA Equivalent available for public review and comment concurrent with DTSC review pursuant to Option A (Ed. Code § 17213.1, subsec. (a)(6)(A)). As such, this letter, the enclosed comments, responses to the comments, Draft PEA Report, PEA Addendum, and Phase I report should be made available to the public in the information repository.

Immediately after the public comment period and hearing, LAUSD should provide written notification to DTSC of the start and end dates of the public comment period, date of the public hearing, and all public comments received on the PEA Equivalent.

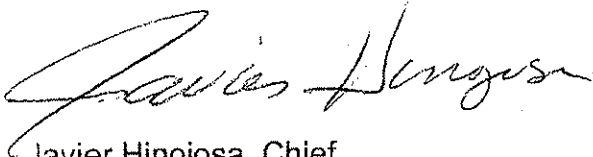
DTSC is in the process of uploading certain documents for all sites for availability to the public for viewing through our web site (i.e., EnviroStor database). Therefore, in addition to submitting all workplans and reports via hard-copy, please submit these documents to DTSC electronically using the enclosed guidelines. Although the guidelines specify that pdf files be a maximum size of 8 megabytes (MB), it is currently acceptable to provide the files as a maximum size of 10 MB. If a document is greater than 10 MB, please break down the document to multiple pdf files with a maximum size

Mr Schanen
October 22, 2007
Page 4

of 10 MB each. A suggestion is that the electronic document be provided on a compact disc, included in the hard copy document.

If you have any questions regarding the project, please contact Ms. Christine Chiu, Project Manager, at (714) 484-5470 or me at (818) 551-2172.

Sincerely,



Javier Hinojosa, Chief
Schools Unit – Glendale Office
Schools Program and Engineering/Geology Support Division

Enclosures

cc: (via e-mail)

Mr. Christer Loftenius
Environmental Assessment Coordinator
Los Angeles Unified School District
Office of Environmental Health and Safety
christer.loftenius@lausd.net

DTSC COMMENTS
DRAFT PRELIMINARY ENVIRONMENTAL ASSESSMENT REPORT
CENTRAL REGION ELEMENTARY SCHOOL #22 (PLAYA VISTA)
PLAYA VISTA

The following DTSC staff reviewed and provided comments herein to the Draft Preliminary Environmental Assessment (PEA) Report. Please contact the Project Manager if you have any questions on the comments. Original comments from the DTSC Geological Services Unit (GSU) are available for review in DTSC project files. Comments from DTSC Human and Ecological Risk Division (HERD) may be forthcoming.

Christine Chiu

Project Manager
School Property Evaluation and Cleanup Division
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GENERAL COMMENTS

1. The following comments identify discrepancies in the Draft PEA Report. Considering the extent and nature of the comments, DTSC recommends LAUSD prepare a PEA Addendum to address the comments and clearly identify the data gaps that must be addressed in future investigations.
2. Since the Draft PEA Report is to be reviewed for comments by the public, it should be written in such a way that is easy to follow and be understood by the general public. It is recommended that Lot 6 (i.e., the proposed school area) be more clearly presented as the primary focus of future documents regarding this project. DTSC suggests a PEA Addendum be provided which incorporates DTSC's comments on the Draft PEA Report and clearly identify environmental areas of concern (AOCs), recognized environmental concerns (RECs), and data gaps requiring further investigation.
3. The text references a "draft PEA Work Plan, dated December 2, 2002," of which the Draft PEA Report presents the results. DTSC was not involved in the development of, nor reviewed and approved, any draft PEA Work Plan and had no prior involvement regarding this proposed school project in Playa Vista (i.e., Lot 6). DTSC did not receive background information, participate in scoping meetings, perform site visits, review and approve any sampling workplan(s), oversee sampling fieldwork activities, etc. The Draft PEA Report is the first document DTSC received

regarding the proposed school project. Document what regulatory oversight was provided for the Draft PEA Report in the PEA Addendum.

4. Provide a more comprehensive summary of historical operations on Lot 6 and immediately adjacent areas that may have impacted the site, including the former Hughes Aircraft area, former Fire Safety Training Area (FSTA), etc. Include a conceptual site model (CSM) that reflects the AOCs, chemicals of potential concern (COPCs), etc. In addition, include a geological CSM.
5. The Draft PEA Report presented information (e.g., historic land uses, summaries of environmental investigations, other data, etc.) regarding Lot 6 together with other surrounding areas, which encompasses approximately 4 acres of the Playa Vista development project. This combined presentation of information made the review of the document difficult to separate out and focus on issues pertinent to Lot 6, the location of the proposed school. The PEA Addendum should attempt to summarize conditions warranting further action and discuss potential impacts from adjacent land uses.
6. The Draft PEA Report does not address adequately the validity of the data presented. Based on lack of data validation, DTSC can only consider the data as qualitative and recommends additional sampling and analysis to support a quantitative risk assessment and, possibly, a fate and transport analysis.
7. Provide updated information and data regarding the active groundwater remediation system at the former FSTA area, which is immediately adjacent to and east of Lot 6. Also, verify the location of the FSTA (aka burn pit) with respect to whether it was located on or adjacent to Lot 6, and determine whether it poses a current or potential threat. Appropriate maps/figures (to scale) reflecting the on-going groundwater remediation impacts and historic operational locations of the FSTA area should be provided.
8. The Draft PEA Report does not indicate that a PEA site reconnaissance was recently performed nor provide an account of observations made from such. Perform a site reconnaissance and provide documentation of the associated observations.
9. The Draft PEA Report does not clearly identify AOCs, RECs, and data gaps. DTSC recommends a conceptual site model for both risk and geological characterization be prepared as part of this evaluation/identification process. Clearly identify all

AOCs, discuss RECs with respect to these areas, and specify outstanding data gaps. Based on the information presented in the Draft PEA Report, the following concerns should be addressed and appear to warrant further investigation:

- Adjacent land uses: provide more information to clarify the historic land uses of surrounding areas (e.g., the area south of Lot 6, FSTA, etc.) and potential impacts to Lot 6;
 - Fill material across Lot 6 has unknown potential contamination: sample and analyze the material above and below the fill/soil interface for constituents, including volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, and metals, to determine whether the fill material is acceptable;
 - Organochlorine pesticides and metals (due to previous potential farming uses and inadequate number of samples): collect and analyze soil samples pursuant to DTSC's "Interim Guidance for Sampling Agricultural Fields for School Sites (Second Revision), dated August 26, 2002" and its Addendum, dated September 26, 2003, to determine whether any residual concentrations from any historic pesticide applications are at acceptable levels;
 - VOCs in soil gas: collect and analyze soil gas samples to determine the extent of contamination of VOCs (note: PCE and 1,1,2-TCA in soil gas are risk drivers per the 2003 data);
 - Naturally occurring methane (and hydrogen sulfide): collect additional soil gas data to determine whether the current extent of existence is adequately characterized;
 - Groundwater: determine groundwater gradient; current groundwater concentrations (note: cis-1,2-DCE and trans-1,2-DCE were above MCLs per the 2003 data), and contaminant source and extent of contamination, accordingly;
 - Remedial design: additional data collection may be necessary to support future remedial design.
10. Ensure the proposed Phase I Environmental Site Assessment (ESA) report is prepared in accordance with the DTSC guidance for school sites and ASTM E1527-05 standard.

SPECIFIC COMMENTS

1. Pages 2-8 to 2-16, Section 2.5, Other Environmental Investigations and Remedial Activities. As noted in the General Comments, Section 2.5 includes discussions of many historic sampling events covering multiple areas, including Lot 6 and surrounding areas. Although tables summarizing the data were provided, the text did not clearly summarize results and relevancy with respect to Lot 6; such a discussion could have served as a basis to the identification of areas of environmental concerns pertaining to Lot 6. In addition, since the report does not include the data from these investigations and the text does not discuss the validity of the data, the data from these investigations may only be considered qualitatively. Thus, because the historical investigations cannot be fully evaluated with respect to potential impacts to Lot 6, verification is needed to determine whether historical activities impacted Lot 6. Further investigation for potential impacts due to these and other off-site activities may be required.
2. Page 2-14, Section 2.5, Other Environmental Investigations and Remedial Activities. The text states "In September 2003, excavation of VOC, metal and dioxin / furan-impacted soils occurred in the adjacent lots (Lot 5 of Tract 49104 and Lot 6 of Tract 29104-06) associated with the former FSTA." Provide more detailed information regarding the excavation activities that occurred in Lot 6, including associated figures / cross section diagrams identifying the excavation area and depths. Information regarding the following should be included: management of contaminated material, origin of the backfill material and associated analytical laboratory results, confirmation samples and associated laboratory analytical results, residual contamination, fate & transport of contamination, and impacts to the site (e.g., if groundwater is impacted, potential impact to Lot 6 based on flow direction).
3. Pages 3-2 to 3-3, Section 3.1.2.3, Fill History at the Site. The text describes multiple events of stockpile movement, soil grading, and excavations over time without sufficient detailed information. Especially of concern is the excavation of approximately 15 feet of soils across the School site and adjacent parcels, due to an archeological investigation, and backfilling with clean soil. Without a comprehensive history of soil grading, location identification of areas of excavations, etc., more detailed information is necessary to possibly include soil/fill sampling and lithologic mapping. Provide figures identifying the locations of these activities; cross section diagrams identifying the areas and depths of the excavated areas, native soil, fill material, and elevation changes over time; figures identifying the sampling locations with respect to fill material; and a discussion of the origin of the fill material and its

characterization, confirmation sampling of excavated areas, the excavated soils with respect to the previous sampling data, etc.

4. Pages 3-3 to 3-6, Section 3.2, Factors Related to Water Pathways. This section does not adequately address factors related to water pathways (refer to DTSC's PEA Guidance Manual). Provide information to include the following elements: identify/address aquifers which have been or threatened to be contaminated, information regarding groundwater direction and velocity for Lot 6, possible migration routes, uses of surface waters, etc., past or existing measures for preventing mitigating surface water runoff, approximate population served by each surface water intake, etc. In addition, there is an inconsistency and/or lack of information regarding the groundwater flow beneath Lot 6. Page 3-5 indicates the shallow groundwater beneath the School site flowed historically to the west/northwest; yet, due to the groundwater remediation system east of Lot 6 (i.e., the FSTA area), the flow is now toward the east. However, page 4-14 indicates the groundwater flow at the School site is to the southwest. Also, it appears there is an inadequate number of groundwater monitoring wells on Lot 6 to determine groundwater gradient (i.e., there are only two groundwater monitoring wells on Lot 6); and, the report does not present any groundwater flow maps for Lot 6. Provide appropriate groundwater flow maps in the PEA Addendum. Additional groundwater monitoring wells may be necessary to characterize groundwater.
5. Page 3-6, Section 3.2.1.3, Beneficial Uses of Groundwater. The text indicates that the Conditions, Covenants and Restrictions (CCRs) for the Playa Vista development prohibit the use of groundwater from the School site. Provide a discussion on the applicability of the CCRs and the groundwater use restriction, identification of the agency imposing such restriction, and the relevancy to the school site if LAUSD purchases the property.
6. Page 4-6, Section 4.3.1.4, Soil Gas Sampling. Based on the information (or lack thereof) provided, it is unclear whether the soil gas data is representative of site conditions. The Draft PEA Report indicates that soil gas samples were collected in 2003 with a depth range from approximately 4 feet below ground surface (bgs) to 16 feet bgs. Based on the age of the data and lack of data validation, the results can only be used qualitatively. Also, based on our understanding of history of the site and CSM, DTSC recommends additional soil gas sampling from a minimum of two depths based on current soil vapor investigation guidance for methane and VOCs. Soil gas samples should be collected from the fill material and native material.

7. Page 4-15, Section 4.5.2.1, Soil. The text references that metal concentrations in the School site are consistent with background concentrations for the Playa Vista property; however, information regarding the locations and number of the background samples and associated laboratory analytical data were not provided. Provide such information including the rationale of why the samples are representative of background concentrations.
8. Page 4-22, Section 4.5.2.4, Soil Gas Samples. Although the text summarized the laboratory analytical results of VOCs in the soil gas samples, the report did not provide a summary table of this information. Provide a summary table for the COPCs on the proposed school site to facilitate review of the data; also include the maximum and minimum concentrations.
9. Section 7, Community Profile. This section indicates that community input was not solicited during the preparation of the Draft PEA Report. It is recommended that a Community Profile be initiated to include identification of community concerns (past and present), a description of anticipated public participation activities, identification of key interested parties/groups, and a schedule of activities. In addition, the Community Profile should document the activities related to the public noticing of the PEA Report.
10. Appendix B, New School Site Selection Criteria. Page B-4 indicates that record searches were conducted in 2001 and in 2002. Provide a more current environmental database records search with updated information, or include such in the proposed Phase I ESA report.

Ray Grutzmacher, P.G.
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Reviewed by: Craig Christmann, P.G.

GENERAL COMMENTS

1. The Draft PEA Report (Section 4) describes phases of investigation at the Playa Vista property which includes soil gas, soil matrix, groundwater, and ambient air sampling activities conducted from December 2002 through September 2003. The investigations, however, were done on a larger portion of the property than just the proposed school site, and discuss borings, soil vapor probes, monitoring wells, and ambient samplings both on and off the site. Future deliverables (e.g., Remedial Investigation report) should present all investigation data that clearly discuss on- and off-site information separately so the reviewer can distinguish between the two data sets and evaluate what is of potential concern.
2. The PEA Addendum should discuss methane occurrence in detail both on- and off-site, including discussion of known methane sources and whether or not it is naturally occurring, and how this determination was made. The requirement to address naturally occurring methane is specifically called out in the Education Code.
3. There is a discrepancy in Appendix A between the Playa Vista Development Methane Concentration 4-foot Survey Map, which indicates (by color coding) that from 30 – 100 parts per million by volume (ppmv) methane exists at the western and northern corners of the site, and Figure 2, Site Plan, from Appendix A which shows a distribution of methane concentrations in the eastern half of the site which indicate Level 3 Mitigation Areas (methane > 12,500 ppmv). This discrepancy needs to be explained. Additionally, there is limited data presented indicating soil vapor probe depths other than the four-foot survey map. Based on the elevated methane concentrations presented in Table 2, and the fact that there has been at least four years since the last soil gas survey on the site, GSU recommends additional sampling on site to evaluate constituents of potential concern (COPCs), including methane.

SPECIFIC COMMENTS

1. Section 1, Introduction. The report states that the PEA was conducted in accordance with the guidelines set forth in the DTSC's PEA Guidance Manual, and that the scope of work was presented in a draft PEA Work Plan dated December 2, 2002. GSU is not aware of this Work Plan and requests documentation of DTSC approval.

2. Section 1.2, Scope of Work. The scope of work section, as well as numerous other sections in the PEA, refers to the Fire Safety Training Area (FSTA) located on an adjacent property. GSU is not clear on the precise location of the FSTA and requires additional information confirming that the FSTA is not located on the site. Additionally it appears that this FSTA correlates to an area of Playa Vista that was formerly known as the "Former Fire Training Burn Pit". GSU could find no discussion in the PEA that referencing the presence of a burn pit. The PEA Addendum should include additional information on this potential area of concern, with detailed maps showing its exact location, and provide any dioxin and furan sampling in and around the burn pit.
3. Section 2.4, Surrounding Property Land Uses. This section discusses the future uses for land which has been designated, and not the current surrounding property use. Additional information is required that discusses current and historical surrounding property land use, specifically to the south, designated at the riparian habitat.
4. Section 2.5, Other Environmental Investigations and Remedial Activities. As noted in General Comment No. 1, discussions of each investigation in this section refer to sampling activities that cover both on- and off-site activities. Each investigation should specifically target the subject site and segregate off site sources of information to allow the reviewer to discern what is pertinent on site and/or off-site information. The CDM 1999 – 2006 Groundwater Monitoring investigation included in this section discusses an excavation at the former FSTA site, but does not present this information on a figure.
5. Section 4.5.1, Subsurface Conditions. This section discusses the presence of 9 to 13 feet of fill material on the site. The PEA Addendum should expand on this topic and discuss when the fill was placed and the origin of the material, as well as identify the boundary of the fill on a figure, and provide any documentation of sampling conducted on the fill.
6. Appendix E, Boring Logs. The boring logs have a column for Photoionization Detector (PID), however values presented vary from 0.0, to nothing noted, and also some have odd notations such as 4.9/0.7 (ppm). These results should be explained. In the future, the boring logs should be marked as either having been reviewed by a Professional Geologist, with their name and PG# being noted, or should be stamped by the PG that reviewed the boring logs.

GUIDELINES FOR SUBMITTING PDF DOCUMENTS TO THE DEPARTMENT OF TOXIC SUBSTANCES CONTROL

With the introduction of the Site Mitigation and Brownfields Reuse Program's (SMBRP's) database, EnviroStor, the public can now download and view project related documents online. To provide the public with this vital source of information, please provide a PDF copy of reports, even if a hard copy will be supplied.

Due to differences in internet downloading capabilities and resolutions of PDF files, many users have trouble downloading and viewing large PDF files. The following guidelines were created to provide consistency in PDF files and allow most users to access these files.

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- 2) **Saving and Naming PDF files:** If you make any changes to a PDF file, always use the **Save As** option instead of the **Save** option when saving. This will produce a smaller file size. It is recommended that the files be named by using an abbreviated site name, report title, date, and, if multiple files are being uploaded, the section of report (e.g., **Site_report_section_mmddyy, 968-81stAve_PEA_text_072706**, etc).
- 3) **Bookmarks:** For large reports, bookmarks should be created in the PDF for ease of navigation. For help on creating bookmarks, please refer to Adobe Acrobat Help.
- 4) **FTP server:** To submit large files or a group of files that cannot be sent via e-mail, they can be sent to a DTSC staff member via the FTP server. Below are the instructions to submit files via the FTP server:

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ii. Transfer the File:

Once your information is provided in the first step, you have 60 minutes to send your file to our server. You will be provided with an FTP location after providing the information.

You will be notified upon the successful receipt or failure to receive your file.

For further assistance about submitting PDF files, please contact the appropriate SMBRP Project Manager, or the EnviroStor Help Desk at (916) 323-3400, or by email to EnviroStor@dtsc.ca.gov.



Department of Toxic Substances Control



Linda S. Adams
Secretary for
Environmental
Protection

Maureen F. Gorsen, Director
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Arnold Schwarzenegger
Governor

November 22, 2007

Mr. Pat Schanen
Deputy Director
Office of Environmental Health and Safety
Los Angeles Unified School District
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Los Angeles, California 90017

ADDITIONAL COMMENTS ON DRAFT PRELIMINARY ENVIRONMENTAL ASSESSMENT REPORT, CENTRAL REGION ELEMENTARY SCHOOL #22 (PLAYA VISTA), SOUTH OF BLUFF CREEK DRIVE AND ADJACENT TO THE RIPARIAN CORRIDOR, PLAYA VISTA (SITE CODE 304564)

Dear Mr. Schanen:

As a follow up to our letter, dated October 22, 2007, the Department of Toxic Substances Control (DTSC) transmits the enclosed additional draft comments from the DTSC toxicologist on the "Preliminary Endangerment Assessment, Tract Map No. 49104 Lot 6" (Draft PEA Report) (CDM, July 18, 2007) received on August 6, 2007. Originally, the Los Angeles Unified School District (LAUSD) provided the Draft PEA Report as background information to DTSC; however, on August 23, 2007, LAUSD officially requested DTSC review the Draft PEA Report. The Draft PEA Report presents investigation results and conclusions based on a health risk screening evaluation for the site. The document was prepared for the Playa Capital Company, LLC, developer of the Playa Vista development project.

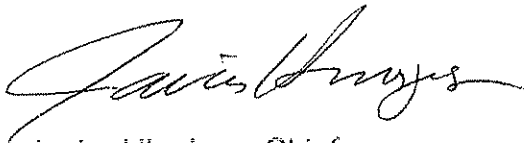
According to the PEA Report, the approximately 4-acre project has historically been vacant undeveloped land and may have periodically been used for ranching and/or farming, with more recent temporary use for soil stockpiling and construction staging activities. The site was also part of the former Hughes Aircraft facility. To evaluate the impact from residual agricultural chemicals and other potential impacts, the site was investigated for metals, organochlorine pesticides, petroleum hydrocarbons, semi-volatile organic compounds, and volatile organic compounds.

Mr. Schanen
November 22, 2007
Page 2

Please refer to our October 22, 2007 letter regarding the approach DTSC recommended for this project, and submit a table with responses to the enclosed comments and appropriately address the comments in a PEA Addendum by November 26, 2007 for DTSC review and approval. The table should restate each comment and provide the associated response. In addition, please provide the PEA Addendum and subsequent documents, as well as the Draft PEA Report, in electronic format.

If you have any questions regarding the project, please contact Ms. Martina Diaz, the new Project Manager, at (818) 551-2845 or me at (818) 551-2172.

Sincerely,



Javier Hinojosa, Chief
Schools Unit – Glendale Office
Schools Program and Engineering/Geology Support Division

Enclosure

cc: (via e-mail)

Mr. Christer Loftenius
Environmental Assessment Coordinator
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DTSC COMMENTS
DRAFT PRELIMINARY ENVIRONMENTAL ASSESSMENT
CENTRAL REGION ELEMENTARY SCHOOL #22 (PLAYA VISTA)
PLAYA VISTA, CALIFORNIA

The following DTSC staff reviewed and provided comments herein to the Draft Preliminary Environmental Assessment (PEA) Report. Please contact the Project Manager if you have any questions on the comments. Original comments from the DTSC's Geological Services Unit (GSU) and Human and Ecological Risk Division (HERD) are available for review in DTSC project files.

Thomas Booze, Ph.D.
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Comments

- 1) HERD recommends that the data and other information about the surrounding sites be separated from the Lot 6 information and be placed in a separate section. Although it is important much of the information about nearby lots is too intertwined with that for Lot 6 making it difficult to determine its relevance for Lot 6.
- 2) The information regarding ambient air is not required for the PEA and can be eliminated. For proposed school sites DTSC generally requires the evaluation of the indoor air pathway when evaluating volatile organic compounds (VOCs). Furthermore, there is not enough information provided about the methodology for DTSC to determine the source of VOCs in ambient air at this site.
- 3) An explanation should be provided to explain how the 2005 data were used in the PEA, if at all. It doesn't appear that it was used as part of the risk assessment, yet this sampling event produced total petroleum hydrocarbon (TPH) concentrations that were significantly higher than those found in the 2002-2003 investigations. Also, Figure 2-3 (Site Plan Showing Sampling Locations from Related Investigations, Tract 49104, Lot 6 and Adjacent Lots 5 and 7) should be revised to show the extent of TPH excavation. A comment in the last paragraph on page 2-16 says the extent of the TPH excavation is shown in Figure 2-3 but it doesn't appear to be shown, or the scale is too small.

- 4) Figures 2-3 (Site Plan Showing Sampling Locations from Related Investigations, Tract 49104, Lot 6 and Adjacent Lots 5 and 7) and 4-1 (Site Plan Showing Sampling Locations, Tract 49104, Lot 6 and Adjacent Lots 5 and 7) should be combined into one figure so that the reader can see where all the sample locations are on one figure. Neither appears to contain all sampling locations, although Figure 4-1 comes close.
- 5) A more detailed description of how the background metals comparison was performed should be provided in the PEA. Also, all of the background data should be provided, as well as the locations from where it was obtained. The DTSC schools group guidance for comparing site metals with background metals is attached and can be used for this site. The method described in Section 5.2.1 (Screening of Inorganic Chemicals in Soil), and citing the CDM (2003b) and RWQCB (2005) references do not provide enough information to determine how the comparison was performed.
- 6) There is no need to evaluate vapor intrusion to indoor air using on-site groundwater data because soil gas data is available and was used for the PEA. If the site were to be the source of contaminated groundwater then there would be a need to evaluate the potential for vapor intrusion into indoor air at an off-site receptor but that does not appear to be the case here.
- 7) Toxicity values for total petroleum hydrocarbons (TPH) are attached and can be used in the PEA risk assessment. The information in Section 5.4 (Toxicity Values) should be changed to reflect this.
- 8) The soil-to-skin adherence factor of 1 mg/cm^2 used in the risk algorithms in Sections 5.5.1 (Carcinogenic Risk Equations), and 5.5.2 (Non-carcinogenic Hazard Equation) can be changed to 0.07 mg/cm^2 for adults, and 0.2 mg/cm^2 for children. These are updated values and will result in slightly lower estimated cancer risks, and non-cancer hazard indices for the soil exposure pathway.
- 9) Discussions of depths should use measurements relative to below ground surface (bgs). In the current version of the PEA sometimes mean sea level (MSL) is used, sometimes bgs is used, or both are used. The school district can include MSL but bgs should be used each time.
- 10) The discussion of cadmium in Section 5.5.3.1 (Carcinogenic Risks) should be revised to provide further details as to why the risks associated with it are considered an artifact of the analysis method. This section states "Given the depth of soils where cadmium concentrations could exceed background, estimated risks for cadmium are actually an artifact of the analysis method..." It is not clear what the connection is between the depth of soils and there being an artifact of the analysis method.

- 11) The analysis of lead in soil only needs to be performed using DTSC's LeadSpread model, or by comparing the maximum concentration to a screening concentration of 255 mg/kg, which is determined using the LeadSpread model. The comparison to USEPA Region 9 PRGs is not necessary but appears to have been done because it was used for a non-school site. There are some differences in the methods used to evaluate school sites when compared to other sites. If there are any questions about how to evaluate this site we suggest consulting with the HERD toxicologist assigned to this project.
- 12) The arguments in Section 8.3 (Conclusions) are not sufficient to warrant a decision of no further site characterization, and some gloss over the issue of soil gas in comments by stating that the investigation "did not identify any significant environmental issues" and that "The concentrations of COPCs measured at the School Site do not present a significant health or environmental risk". Even if one were to assume that the use of data from 2002-2003 is satisfactory the issue of at least one location with soil gas having a cancer risk of 1E-05 needs to be looked at more carefully. Discussions in preceding sections should focus more on whether there is a need to perform step-out sampling, and why, and less on there not being an on-site source based on soil matrix sample results, or that this ought to be considered a conservative estimate of risk.
- 13) HERD recommends revising the first paragraph of Appendix A (Naturally Occurring Soil Gases at Playa Vista) so that it is clear that some naturally occurring substances, such as hydrogen sulfide, are considered contaminants of potential concern and should be evaluated in a PEA. This can be done by removing "While such naturally-occurring substances are not considered contaminants of potential concern that would be assessed within the Preliminary Endangerment Assessment (PEA)...", and associated language. Section 17210.1 (a.3) of the California Education Code states "All risk assessments conducted by school districts...shall include a focus on the risk to children's health posed by a hazardous materials release or threatened release, or the presence of naturally occurring hazardous materials on the school site."
- 14) A table of soil gas results for the site should be added to the PEA so that the reader does not need to turn to the lab reports in Appendix F (Laboratory Reports and Chain-of-Custody Documents) and try to determine which samples are for Lot 6, and to try and distinguish between soil gas and ambient air sample results. Also, Table 5-10 (Exposure Point Concentrations for COPCs in Soil Gas) should provide the locations of the samples used.
- 15) Photographs of the site and/or a description of current site conditions should be provided. The only information found in the PEA is that Lot 6 is vacant, undeveloped land sometimes used for ranching or farming, and that there has been stockpiling. There is also mention of fill and asphaltic material. These descriptions do not provide enough information to determine what the site conditions are

currently, and they do not provide information needed to determine what activity has occurred on the site since the 2002-2003 sampling.

16) Although it is possible that some of the data from the 2002-2003 sampling can be used there is a need for further sampling to meet the needs of site characterization. Examples include the need for surface soil sampling since it appears that all of the soil sampling performed for the PEA was in the subsurface (3'-22' bgs). Additional soil gas sampling for VOCs will also likely be needed due both to it being several years since the last sampling, and to obtain shallow soil gas samples.

EIR

SOCAL GAS EASEMENT

500' — 7000'

V. ENVIRONMENTAL IMPACT ANALYSIS I. SAFETY/RISK OF UPSET

I. ENVIRONMENTAL SETTING

The First Phase for Playa Vista is proposed adjacent to land that has historically contained industrial uses, although there have been no known industrial uses on the site itself. The adjacent uses have included: oil extraction and natural gas injection/withdrawal in Area B, as the Southern California Gas Company (SCGC) operates an underground natural gas reservoir located approximately one mile beneath Area B from a surface site adjacent to and southerly of Area B, accessed through easements over Area B from Culver Boulevard; and manufacturing of weapons and aircraft and operating of an airstrip in Area D. The safety and risk of upset issues discussed in this section are grouped into three categories: Natural Gas Storage and Transmission; Hazardous Materials Management; and Aviation Hazards. Technical reports prepared for this section are included in Technical Appendix M, Volume XII.

a. Natural Gas Storage and Transmission

(1) Regulatory Requirements

Storage and transmission of natural gas are regulated by Federal and State rules. The California Department of Conservation Division of Oil and Gas (DOG) regulates the underground storage of natural gas fields and wells. The State mandates that the field be closely monitored to establish that no damage to health, property, or natural resources is occurring (Title 14, California Administrative Code [CAC], Section 1724.10). In addition, storage wells located near homes, commercial buildings, and public roads must be equipped with surface and subsurface safety valves in accordance with Title 14, CAC, Section 1724.3. Title 14, Division 2, Chapter 4 regulates the extraction and injection of natural gas. The California Public Utilities Commission regulates the transmission of natural gas under the Federal guidelines set forth by 49 CFR Part 192 and State guidelines set forth by General Order 112D.

(2) Underground Storage and Facilities

All SCGC operations are closely monitored for compliance with the safety standards of the California Public Utilities Commission, the DOG, and the Occupational Safety and Health

Administration.¹ The Playa del Rey oil field, located along the Ballona Escarpment northward to Venice, was discovered in 1929. The oil field consists of three reservoirs: the Del Rey Hills area, the Venice area and the Kidson area. The Del Rey Hills area is the only reservoir under the Playa Vista site and underlies Areas A and B, although not beneath the project site and the Kidson area is adjacent to Area C. The oil field was in production until the mid 1940s at which time the United States government began natural gas storage operations to assure adequate gas supplies for the war effort. SCGC acquired the gas storage operation after the war and has operated the facility since then. Natural gas piped from Texas and other areas in California is compressed at the facility, cooled and compressed again prior to injection into the porous sandstone reservoir. The reservoir is located approximately one mile or more below the ground surface and has a capacity of approximately 2.6 billion cubic feet. When recovery of the stored gas is required, it is withdrawn from the storage reservoirs under natural pressure flow and any liquids accumulated during the storage process are removed.²

Natural gas is presently stored near the site in the Del Rey Hills area at depths of approximately 6,200 feet. However, SCGC has an easement that would allow them to store natural gas between the depths of 500 and 7,000 feet.³ In relationship to the proposed project, approximately one-third of Area B, to the west of the site, is underlain by the reservoir. The areal extent of the oil and gas field is shown in Figure V.I-1 on page V.I-3. A detailed description of the history and construction of the reservoir injection/extraction wells in Area B of the project site is available in reports prepared by LeRoy Crandall and Associates.^{4, 5} The SCGC is regulated by the DOG which requires monthly reports on injection and extraction, and quarterly surface and downhole monitoring of wells.

The SCGC facilities are located at the top of the Playa Del Rey Bluffs on land owned by SCGC and on and under portions of Area B west of the site, pursuant to easements. The SCGC has easements for roads, pipelines and wells located in Area B, the nearest of which are located within about one-quarter mile from the proposed Freshwater Marsh, as shown on

¹ Mr. J.F. Tierney, General Superintendent, Southern California Gas Company, Letter dated August 6, 1990

² *Ibid.*

³ LeRoy Crandall & Associates, "Effect of Natural Gas Storage Reservoir on Proposed Playa Vista Marine Construction, Lincoln Blvd. and Ballona Creek Channel, Marina del Rey, L.A. County, California," March 31, 1989, P.2.

⁴ LeRoy Crandall & Associates, "Assessment of Potential Environmental Contamination, Mid-Tidal Flushing Project, Ballona Wetlands, Playa del Rey District, Los Angeles, California," June 1990.

⁵ LeRoy Crandall and Associates, "Preliminary Environmental Audit, Playa Vista Project, Parcel A; Fiji Wetlands (Lincoln Blvd.) Ballona Creek, Marina del Rey, CA," December 1988.

standards.¹ There would therefore be no buildings over or in proximity of abandoned wells. Letters received from the State Division of Oil, Gas and Geothermal Resources dated February 3, 1993, and from the Southern California Gas Company dated May 5, 1993 are presented in Appendix X-2, Volume XXI. Please also see Section I of the Final EIR, Corrections and Additions to the Draft EIR, No. 6.j; and Section II, Corrections and Additions to the Draft Program EIR No. 6.1.

COMMENT W-24.7

A discussion regarding the possible inclusion of gas detection devices within all proposed structures such as those existing in the Fairfax District of Los Angeles, should be included.

RESPONSE W-24.7

According to information received from the State Division of Oil and Gas, following the explosion in the Fairfax area, the City of Los Angeles formed a task force to study the cause of the explosion and probable source of the methane gas. The task force's study included a review of available geologic information on the Fairfax area, discussions with experts in the field of geophysics, a chemical analysis of the methane gas found at the explosion site, and a review of other pertinent information on the Fairfax area. The task force found that oil and gas seepage has been a common occurrence in the Fairfax area for thousands of years. Methane gas and oil currently exist at or near the surface in parts of the area, most notably the Rancho La Brea Tar Pits. Also, the most probable source of the methane gas was not an oil well, but rather decomposing organic matter near the surface. In addition, gas samples were taken at 781 locations in the Los Angeles Basin over an area of fifty square miles. The vast majority of the gas samples taken during the study were biogenic in origin.² A major geologic difference between the Fairfax area and the Playa Vista site is that, unlike the Fairfax area, the project site has no shallow zones and pockets of oil and shallow pockets of methane that can seep to the surface. The provisions contained in City Ordinance 161,552, Division 15 Methane Seepage District Regulations, which require a gas detection system, ventilation, and shielding between buildings being constructed and the earth, apply only to a specific area on the west side but can be invoked anywhere if the Building and Safety Department determines that a hazard exists.

¹ Mr. R.E. Corbaley, Environmental Supervisor, Division of Oil, Gas, and Geothermal Resources, State Department of Conservation, letter dated February 3, 1993.

² Mr. Corbaley, State Division of Oil and Gas, Op Cit.

Bonds

COPY

CITY COUNCIL MEETING
FOR THE CITY OF LOS ANGELES

State Controller
CONCERNS RE:
- GAS mitigation
systems in research
& design phase

Tuesday, June 12, 2001

NEWLANDER & NEWLANDER

1138 WILSHIRE BOULEVARD, SUITE 200

LOS ANGELES, CALIFORNIA 90017

(310) 482-1522

1 that the CLA report is not a complete report and you
2 cannot put this through. It is incomplete.

3 I have just moved out of my apartment after
4 being there for six years. I'm tired of waking up with
5 headaches, having my head be full like I'm sleeping in a
6 damn gas tank. This problem is very, very serious.

7 I've spoken to more people on the peninsula
8 where you have allowed construction on top of old oil
9 wells. I have a friend of mine, his wife has immune
10 system problems. He bought a new home. He never knew it
11 was on top of a leaking gas well. It was nowhere in the
12 data from the developer or from the city that they put
13 him on top of an oil well. The city law says you cannot
14 put a new structure within 50 feet of a former oil field
15 casing. The liability that this city is opening up its
16 citizens for is unprecedented.

17 I would just like to put this into record from
18 the Department of Toxic Substance.

19 MR. SVORINICH: Thank you, sir. The first five I
20 will call, four who didn't speak: Cindy Aaronberg, Tom
21 Pointon, Kathy Knight and Patricia McPhearson.

22 MS. AARONBERG: ~~Cindy Aaronberg, deputy state~~
23 ~~controller on behalf of state controller Kathleen Connell~~
24 ~~speaking.~~

25 I just wanted to come here and express the

1 state controller's concern about this report. The fact
2 that the majority of the consultants I guess were the
3 developer's consultants and also her concern that the
4 mitigation systems -- and it seems like all of the
5 systems to mitigate the gas are currently in the research
6 and development phase and have been untested. So we're
7 just here expressing the state controller's concern.

8 Thank you.

9 MR. SVORINICH: Thank you, ma'am. Sir.

10 MR. POINTON: My name is Tom Pointon. I'm the lead
11 organizer for the Mar Vista community council. For the
12 record, I wish to voice my objection to the limitations
13 which are being placed on public comment on this item.

14 Speaking as a voter and a taxpayer, I am
15 concerned by this council approving the CLA report and
16 not requiring a subsequent EIR will be subjecting
17 taxpayers to yet another series of lawsuits costing
18 myself and my three children much more in the long run
19 than the Belmont or Rampart. Approving Mella-Roos Bonds
20 to assist developers will effectively make our city a
21 partner in this project which will be built at five times
22 the current density of our surrounding neighborhoods.
23 The traffic and pollution on our community will be
24 devastating and in the spirit of the new charter will be
25 devastating.

2

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LOS ANGELES AUTHORIZING THE ISSUANCE OF NOT TO EXCEED \$135,000,000 AGGREGATE PRINCIPAL AMOUNT OF CITY OF LOS ANGELES COMMUNITY FACILITIES DISTRICT NO. 4 (PLAYA VISTA-PHASE 1) SPECIAL TAX BONDS, SERIES 2000, APPROVING THE EXECUTION AND DELIVERY OF AN INDENTURE, AN INFRASTRUCTURE FUNDING AGREEMENT, A BOND PURCHASE AGREEMENT AND A CONTINUING DISCLOSURE AGREEMENT AND THE PREPARATION OF AN OFFICIAL STATEMENT AND OTHER MATTERS RELATED THERETO

WHEREAS, the City Council (the "City Council") of The City of Los Angeles (the "City") has formed the City of Los Angeles Community Facilities District No. 4 (Playa Vista-Phase 1) (the "Community Facilities District") under the provisions of the Mello-Roos Community Facilities District Act of 1982 (the "Act");

WHEREAS, the City Council, as the legislative body of the Community Facilities District, is authorized under the Act to levy special taxes on property within the Community Facilities District (the "Special Taxes") to pay for the costs of certain facilities (the "Facilities") and to authorize the issuance of bonds secured by the Special Taxes under the Act;

WHEREAS, in order to provide funds to finance the Facilities, the Community Facilities District desires to authorize the issuance of City of Los Angeles Community Facilities District No. 4 (Playa Vista-Phase 1) Special Tax Bonds, Series 2000 (the "Playa Vista-Phase 1 Bonds"), in the aggregate principal amount of not to exceed \$135,000,000;

WHEREAS, in order to provide for the authentication and delivery of the Playa Vista-Phase 1 Bonds, to establish and declare the terms and conditions upon which the Playa Vista-Phase 1 Bonds are to be issued and secured and to secure the payment of the principal thereof, premium, if any, and interest thereon, the Community Facilities District proposes to enter into an Indenture with State Street Bank and Trust Company of California, N.A., as trustee (the "Trustee") (such Indenture, in the form presented to this meeting, with such changes, insertions and omissions as are made pursuant to this Resolution, being referred to herein as the "Indenture");

WHEREAS, Playa Capital Company, L.L.C. (the "Developer") proposes to construct, or cause to be constructed, certain of the Facilities, and the Community Facilities District proposes to purchase such Facilities from the Developer pursuant to an Infrastructure Funding Agreement by and among the Community Facilities District, the City and the Developer (such Infrastructure Funding Agreement, in the form presented to this meeting, with such changes, insertions and omissions as are made pursuant to this Resolution, being referred to herein as the "Infrastructure Agreement");

REGULAR AGENDA

SEE MARKED SECTIONS
INSIDE

PVIAR-004756

Water Act, thereby enabling the development of approximately 12.50 acres of land that cannot be developed currently. See "RISK FACTORS - Section 404 Permit - Failure to Complete Interim Stormwater Management Facilities."

Any money remaining in the Deemed Escrow Bonds Account of the Redemption Fund on the Business Day immediately preceding the Escrow Redemption Date will be transferred to the Redemption Account and applied to redeem Series 2000 Bonds on the Escrow Redemption Date. The Escrow Redemption Date is initially _____. (However, the Indenture permits the Escrow Redemption Date to be extended upon the satisfaction of certain conditions.) Thus, if and to the extent that the Developer has failed to satisfy the conditions precedent to the transfer of money from the Escrow Fund to the Improvement Fund prior to the Escrow Redemption Date, the amount then on deposit in the Deemed Escrow Bonds Account will never again be available for transfer to the Improvement Fund, and such amount will never be available for the acquisition or construction of Facilities.

Hazardous Substances; Groundwater and Soil Contamination

The value of the property within the District may be adversely affected by the presence, or even by the alleged presence, of hazardous substances. In general, the owner of a parcel may be required by law to remedy conditions of the parcel relating to releases or threatened releases of hazardous substances. The federal Comprehensive Environmental Response, Compensation and Liability Act of 1980, sometimes referred to as "CERCLA" or the "Superfund Act," is the most well-known and widely applicable of these laws, but other federal, State and local provisions pertain to hazardous substances as well. Under many of these laws, the owner of property is obligated to investigate and remediate a hazardous substance on the property whether or not the owner had anything to do with the generation or disposal of the hazardous substance.

An investigation of the Playa Vista site was conducted by the Environmental Protection Agency (the "EPA") under CERCLA guidelines in the late 1980s, and the EPA determined that the site did not meet listing criteria. However, in light of the mid-1990s changes to CERCLA guidelines, which place additional emphasis on surface water runoff to sensitive receptors such as wetlands areas, the EPA is re-evaluating whether the Playa Vista site is a candidate for listing under the new, more stringent, guidelines.

The quality of the groundwater underlying Playa Vista was studied and reported upon in the environmental impact report which was certified in connection with the approval of development entitlements for Phase I of the Playa Vista project (the "Phase I EIR"). Groundwater contamination, consisting of volatile organic compounds, petroleum, hydrocarbons, metal and other contaminants, was detected beneath four areas of the historic aircraft manufacturing and testing facilities within the Playa Vista project. One of these areas, which is less than one acre in size, and a small portion of a second area are within the boundaries of the District. These groundwater plumes are relatively limited in lateral extent. The Developer believes that all known sources of groundwater contamination within the District have been removed. A groundwater treatment facility was developed to remediate the groundwater and has been in operation for approximately six years. The California Regional Water Quality Control Board, Los Angeles Region (the "Regional Board"), is overseeing this groundwater remediation effort. This oversight has been in effect for more than twelve years and was formalized in a cleanup and abatement order issued in December, 1998. This order provides a list of tasks to be completed and a time schedule for their completion. In a December 30, 1999 letter to the City, the Regional Board stated that the Developer has been in

continuous compliance with all requirements of the order. The Developer believes that the groundwater treatment facility will be successful in addressing the existing contamination and that such contamination will not adversely affect the District or the development of land within the District.

It is possible that there may be residual soil contamination within the District, although previous remediation reports indicate that soil contamination above existing cleanup levels was removed. The Developer is conducting a soil survey in accordance with the Regional Board's cleanup and abatement order. If significant soil contamination is encountered, it will be remediated under the guidance of the Regional Board prior to construction activity in that area.

The Regional Board has already established clean-up levels for Playa Vista, with which the Developer has complied. At the request of the Regional Board, the Developer has developed updated clean-up levels and has submitted these updated clean-up levels to the Regional Board for approval. These levels were designed with the goal of assuring that future occupants of the District will not be exposed to elevated levels of contaminants. Any such exposures will, for example, be below levels that require notification pursuant to California's Proposition 65. Because of remediation that has already occurred within the District, this objective has already largely been achieved, and actual clean-up levels achieved will in most instances be even more protective.

Tar sands have been encountered in locations within the District. During excavation, newly encountered tar sands are monitored to determine whether or not they exceed South Coast Air Quality Management District Rule 1166 limits. If so, the tar sands are removed and properly disposed of. Depending on the method of disposition, disposal of tar sands is regulated by the Regional Board and/or the EPA. In the past, tar sands exceeding Rule 1166 limits have been removed and sent off-site for thermal recycling in accordance with EPA regulations. All tar sands test results to date have indicated that the material is non-hazardous.

There is one abandoned oil exploration well within the District. The well proved to be a dry hole and was abandoned pursuant to Division of Oil and Gas (now Division of Oil, Gas and Geothermal Resources, "DOGGR") standards in 1932. The Developer has committed to the City that it will reabandon this and any other oil well on the Playa Vista project to current DOGGR well abandonment standards.

Although the Playa Vista project has been the subject of extensive studies, it is always possible that liabilities could arise in the future as a result of the existence on land within the District of a substance that is presently classified as hazardous but which has not been discovered or the release of which is not presently threatened or as a result of the existence on the property within the District of a substance that is not presently classified as hazardous which may in the future become so classified. Such liabilities could arise not simply from the existence of a hazardous substance but from the method of handling it as well. Any such liabilities could adversely affect the value of the property within the District.

Methane

In prehistoric times much of the Playa Vista project area was a natural, low-lying estuary. The decomposition of the plant material associated with that estuary has produced methane and other gases below the property. An additional potential source of naturally occurring methane is a deeper marine layer to the west of the District. Methane from this layer may migrate under the District via a

gravel aquifer. The presence of methane is not unusual; it exists in many areas of Los Angeles and other coastal cities.

Methane gas is lighter than air, and, when mixed with oxygen in certain ratios, it is explosive. Possible concerns arising from the presence of methane and other gases and hazardous materials were discussed in the Phase I EIR. However, opponents to the development of Playa Vista have recently alleged that the concerns with respect to the gases were not adequately addressed. In response to those allegations, the Developer engaged a geotechnical consultant to further address the potential presence of these gases and the City engaged Exploration Technologies, Inc. of Houston, Texas ("ETI") to undertake an independent peer review of the Developer's consultant's work.

ETI has submitted two reports. The first, dated November 29, 1999, addresses the potential hazards associated with the site of the proposed Fountain Park Apartments from methane, hydrogen sulfide, and benzene, toluene, ethylbenzene, and xylene ("BTEX"). That report concluded in part:

Although there is a methane hazard in Tract 49104-03, the methane source in the shallow sediments appears to be indirectly sourced from the 50 foot gravel aquifer. This aquifer, because of the distance from the potential sub-surface sources to the buildings, can serve as a partial methane monitoring and mitigation system for the shallow gas. The distribution of gas in the aquifer and in the building remediation systems can easily be continuously monitored so that building can be permitted on Tract 49104-03.

This report noted that the hydrogen sulfide concentrations on this property were "low in magnitude and appear typical of shallow marsh deposits." Finally, this report stated that analyses for BTEX in the groundwater and soil gas were performed, and were found to be below detection levels at all sites and to have no local sources in Tract 49104-03. The City's Department of Building and Safety and its Department of Public Works' Bureau of Engineering have reviewed this report and the City's Department of Building and Safety concluded that the impact of methane gas on construction of the Fountain Park Apartments Phase I and the Visitor's Center can be addressed by implementing the methane mitigation and monitoring system required by the City's Department of Building and Safety for these buildings. The Developer's plan for a methane mitigation and monitoring system for the Fountain Park Apartments Phase I and the Visitors' Center has been reviewed and approved by the City's Fire Department. The City's Bureau of Engineering concluded that:

Hydrogen sulfide levels measured were low and common to marshlands, and some of the BTEX compounds were detected only at trace levels. Trace amounts of BTEX which may be present in untested portions of the tract will be adequately mitigated with the methane system required by the Department of Building and Safety.

ETI's second report is dated April 17, 2000 and addresses the potential hazards associated with the remainder of the District. In connection with this report, ETI designed and supervised the collection and analysis of two shallow soil vapor surveys consisting of 812 sites placed on a 100 foot staggered grid over Phase I of the Playa Vista project. The soil gas samples were collected by Scientific Geochemical Services of Casper, Wyoming and analyzed by Microseeps of Pittsburgh, Pennsylvania. Using the soil gas data as a guide, 32 monitor wells were installed by Camp, Dresser and McKee and sampled for their free and dissolved gases. Gas analysis for these samples was also

conducted by Microseeps. Isotech Labs of Champaign, Illinois analyzed the free gases found in the groundwater in connection with this study.

The report states that soil gas and groundwater data define two main areas of methane gas anomalies. One in Tract No. 49104-01 and the other in the southern part of Tract No. 49104-02. The report concludes that the source of this methane gas is most likely natural gas sands located from approximately 500 feet to approximately 3,400 feet beneath the surface. The report suggests that this gas migrates from a subsurface fault referred to in the report as the "Lincoln Boulevard Fault" and that this fault should be considered as a "potentially active low potential fault." The report notes that a future earthquake with an epicenter close to the Playa Vista project could potentially cause a rapid flux of very large volumes of methane gas to the surface along the Lincoln Boulevard Fault plane. The report therefore recommends that there should be mitigation of the gravel aquifer which is located approximately 35 to 50 feet below the surface of the two tracts mentioned above and that a monitor well system should be required to continuously measure methane gas concentrations in that aquifer.

The report also recommends that methane mitigation systems should be required for all buildings within the District and that the design of the methane mitigation systems should follow the same specifications as have been previously approved for the Fountain Park Apartments.

Finally, the report notes that there are generally very low levels of BTEX contained within the soil gas collected over the survey area and they "do not appear to represent a hazard to construction."

The City's Department of Building and Safety and its Department of Public Works' Bureau of Engineering have reviewed this report and have concluded that systems to monitor and mitigate the methane in the area can be devised and implemented so as to permit development in the District.

The Developer's methane mitigation and monitoring system for the proposed Fountain Park Apartments Phase I and the Visitor's Center includes an impermeable barrier between the foundation/garage walls and the surrounding soil, a collection and venting system, and methane sensors in the garage structure. The Developer believes that this system is designed to address a "worst case" situation. The Developer has further indicated that it does not believe such an extensive system will be required in each of the residential and commercial buildings in the remainder of the District. Nevertheless, the estimated costs for methane mitigation throughout the District which the Developer provided to the Appraiser are based upon the assumption that the "worst case" system will be required. Evaluation of the property within the District reported in the Appraisal assumes that these cost estimates are reasonable. The Developer expects that methane mitigation and monitoring system that ETI recommends for the aquifer which underlies portions of the District will not cost more than \$150,000.

Natural Gas Storage

Southern California Gas Company (the "Gas Company") operates an underground natural gas reservoir located approximately one mile beneath portions of the Playa Vista project approximately two-tenths of a mile outside the western boundary of the District. This gas reservoir is not located under any proposed residential or commercial development within the District. The reservoir has a capacity of approximately 2.6 billion cubic feet of natural gas. Natural gas piped from Texas and other locations is compressed at the Gas Company's facility and is cooled and

compressed again prior to injection into the porous sandstone reservoir. When recovery of the stored gas is required, it is withdrawn from the reservoir. Although the natural gas is presently stored at depths of approximately 6,200 feet, the Gas Company has an easement that would allow it to store the gas between the depths of 500 feet and 7,000 feet. The Gas Company has easements for roads, pipelines and wells on portions of the Playa Vista project outside of the District. Numerous pipelines are located in these easements including those for high pressure gas, oil production, fuel gas, low pressure gas and others.

A group of residents of the Playa del Rey Bluffs area has complained of gas odors during the venting of gas from wells in that area; and, based upon press reports, the Developer believes that a lawsuit was filed against the Gas Company regarding alleged toxic fumes from the Gas Company's operations. The Developer is not involved in this lawsuit in any way. Gas Company officials have reported that the venting was reduced by two-thirds as of October, 1990 and by five-sixths by the end of 1991. This situation was discussed in the Phase I EIR. The Developer does not expect the property within the District to be subject to any direct or indirect impact of the Gas Company's natural gas storage operations however, there can be no assurance that future activities of the Gas Company might not adversely affect the property within the District.

Threatened and Endangered Species

During recent years, there has been an increase in activity at the State and federal level related to the possible listing of certain plant and animal species found in Southern California as threatened or endangered species. The existence of such species or their habitat has limited, or prevented altogether, land development in certain portions of the region. Opponents to the development of the Playa Vista project invoked the federal Endangered Species Act, including the potential impact of the development on the California Brown Pelican, in their challenge to the issuance of the Section 404 Permit (*California Brown Pelican, et al. v. United States Army Corps of Engineers, et al.*, which is discussed above under the heading "Opposition to Development of Playa Vista — Recent and Pending Litigation."). However, at the present time, the land within the District is not known by the City or the Developer to be inhabited by any plant or animal species that either the United States Fish and Wildlife Service or the California Fish and Game Commission has listed or has proposed for addition to the list of threatened or endangered species.

The United States Fish and Wildlife Service has concluded that the three protected species that are known to be occasionally present in the vicinity of the project (the California Least Tern, the California Brown Pelican and the Peregrin Falcon) will not be adversely affected by Phase I of the Playa Vista project. Species are proposed to be added to the lists of threatened and endangered species on a regular basis. Any action by either the State or the federal government to protect species located on or adjacent to the land within the District could negatively affect the Developer's ability to develop the land within the District for the purposes, within the time frame, and at the cost currently projected by the Developer.

Geologic, Topographic and Climatic Considerations

The value of the land within the District may be adversely affected in the future by a variety of additional factors, particularly those which may affect infrastructure and other public improvements and private improvements to such land and the continued habitability and enjoyment of such private improvements. Such additional factors include, without limitation, geologic conditions such as earthquakes, topographic conditions such as earth movements, landslides and

Property Values

Market Absorption Study. In order to provide information with respect to the potential market demand for the proposed development within portions of the Playa Vista project, the City retained The Meyers Group (the "Market Absorption Consultant") to conduct an absorption analysis and to prepare a report with respect thereto (the "Market Absorption Study"). The portion of the Playa Vista project that is within the District is referred to in the Market Absorption Study as "Phase I" or "Area D-1." An executive summary of the Market Absorption Study, along with a letter from the Market Absorption Consultant supplementing the Market Absorption Study, is attached to this Official Statement as Appendix C.

The Market Absorption Study assumes that pre-sales marketing for the for-sale residential units within the District will begin in early 2001 and that the full product array will be available in the summer of 2001. Based upon those assumptions, the Market Absorption Study concludes that virtually all of the for-sale residential units will be absorbed by the end of calendar year 2004 and that over half of these units will be absorbed by the end of calendar year 2002. The Market Absorption Study also concludes that all of the residential rental units will be absorbed prior to the end of calendar year 2002. However, the Market Absorption Study specifically notes that the absorption will not reach the level projected if the full product array is not open and selling concurrently or if some products are delayed in market entry. The Developer has indicated that not all of the for-sale residential product types are expected to be available at the time of the initial opening of sales. Thus, absorption may not reach the level projected in the Market Absorption Study. See Appendix C, "SUMMARY OF MARKET ABSORPTION STUDY AND SUPPLEMENTAL REPORT," for a discussion of the specific assumptions and methodology employed by the Market Absorption Consultant and a more detailed discussion of its conclusions.

Appraisal. In order to provide information with respect to the value of the land within the District, the City engaged Harris Realty Appraisal of Newport Beach, California (the "Appraiser"), to prepare an appraisal report (the "Appraisal"). The president of the Appraiser, who was actively involved in the preparation of the Appraisal, has an "MAI" designation from the Appraisal Institute and has prepared numerous appraisals with the sale of land-secured municipal bonds. The Appraiser was selected by the City through a competitive process and has no material relationships with the City, District or the Developer other than the relationship represented by the engagement to prepare the Appraisal. The City instructed the Appraiser to prepare its analysis and report in conformity with City-approved guidelines and the Appraisal Standards for Land Secured Financings published in 1994 by the California Debt Advisory Commission. A copy of the Appraisal is included as Appendix B to this Official Statement. Appendix J, "PRIMER ON APPRAISALS AND VALUE TO LIEN RATIOS BY STONE & YOUNGBERG LLC," provides general information with respect to appraisal methodology and terminology and may helpful in reviewing the Appraisal.

The City engaged the services of Universal Appraisal & Consulting Co., Inc. of Los Angeles, California (the "Review Appraiser"), to review the Appraisal on its behalf. The Review Appraiser has advised the City that the conclusions reached by the Appraiser in the Appraisal are reasonable.

The purpose of the Appraisal was to estimate the "as is" market value for the fee simple estate, subject to special tax and special assessment liens, for all of the property within the District that is expected to be subject to the Special Tax. The Appraisal defines the phrase "market value" as, "[t]he most probable price in terms of money which a property should bring in a competitive and open market under all conditions requisite to a fair sell, the buyer and seller each acting prudently,

knowledgeably and assuming the price is not affected by undue stimulus." The phrase "fee simple estate" is defined in the Appraisal as "absolute ownership unencumbered by any other interest or estate subject only to the four powers of government." In commenting upon the phrase "subject to special tax and special assessment liens," the Appraisal notes:

Empirical evidence (and common sense) suggests that the selling prices of properties encumbered by such liens are discounted compared to properties free and clear of such liens. In new development projects, annual Mello-Roos special tax and/or special assessment payments can be substantial, and prospective buyers take this added burden into account when formulating their bid prices. Because fee simple ownership is subject to the governmental power of taxation, but not the power to levy assessments, appraisers sometimes treat special tax and assessment liens differently. The Market Values included herein reflect the values potential buyers would consider given the special taxes and encumbrances of [the District].

The Appraiser relied primarily on an analysis based on comparable sales (referred to in the Appraisal as the "District Comparison Approach") in order to reach its opinion as to the value of the portions of the District that are expected to be developed as apartments or as office buildings. However, in the case of the portions of the District that are expected to be developed for for-sale residential products, the Appraiser utilized a discounted cash flow analysis (referred to in the Appraisal as "Developmental Analysis") after estimating merchant builder land value through a process referred to as "Static Residual Analysis" in order to arrive at its opinion of value. See Appendix B, "APPRAISAL," and Appendix J, "PRIMER ON APPRAISALS AND VALUE TO LIEN RATIOS BY STONE & YOUNGBERG LLC." Subject to the contingencies, assumptions and limiting conditions set forth in the Appraisal, the Appraiser concluded that, as of January 1, 2000, the value of the land within the District that is expected to be subject to the Special Tax was \$138.6 million. Some of the contingencies, assumptions and limiting conditions identified in the Appraisal are discussed below. Reference is made to Appendix B for a complete list and full discussion thereof.

The Appraiser has also delivered to the City a report dated _____, 2000, in which the Appraiser states that although it has not undertaken to reappraise the subject property, nothing has come to its attention subsequent to the date of the Appraisal that would cause it to believe that the value of the subject property is less than the value reported in the Appraisal. A copy of said report is also included in Appendix B.

The Appraisal is expressly contingent upon the availability of Series 2000 Bond proceeds to fund a portion of the cost of the public infrastructure required for the development of the land within the District. Specifically, the Appraisal is contingent upon the availability for such purpose of Series 2000 Bond proceeds (excluding the portion thereof in the Escrow Fund) of approximately \$17.3 million and of Series 2000 Bond proceeds in the Escrow Fund of approximately \$86 million. (In connection with the latter amount, the Appraisal reflects estimates of future annual re-valuations of the property within the District (as estimated by the Special Tax Consultant, David Taussig & Associates) for purposes of determining the likelihood of money being released from the Escrow Fund from time to time.) However, certain conditions must be satisfied before money in the Escrow Fund can be made available to acquire facilities (see "SECURITY AND SOURCES OF PAYMENT FOR THE BONDS - Escrow Fund"), and there can be no assurance that they will be satisfied. See "RISK FACTORS - Inability to Access Escrow Fund."

The Appraisal is also contingent upon the funding of certain traffic mitigation costs (approximately \$10.7 million) through the State Transportation Improvement Program and the funding of certain reclaimed water and electrical power improvements (approximately \$4.9 million) through an agreement with the City of Los Angeles Department of Water and Power. Another contingency of the Appraisal that the cost estimates for the remediation of certain environmental concerns (such as underground storage tanks, groundwater and soil), as set forth in the Appraisal, are reasonable. See, "RISK FACTORS - Hazardous Substances; Groundwater and Soil Contamination."

The Appraisal notes that the potential development of 245 dwelling units that are expected to be constructed on approximately 12.49 acres of developable land may be delayed as a result of the need for a Section 404 Permit or interim stormwater management facilities. See "RISK FACTORS - Section 404 Permit - Failure to Complete Interim Stormwater Management Facilities." As a result thereof, the land absorption used by the Appraiser assumes that the development of the 245 dwelling units in question is unlikely to occur prior to 2005.

The Appraisal also observes that:

The Playa Vista project has been subject to, and will probably continue to be subject to, numerous law suits from various environmental groups. The intent of these lawsuits is to delay or entirely stop development on portions of, or all of the Playa Vista project. Most of these lawsuits have decided in Playa Vista's favor. One lawsuit, currently being decided in the Ninth Circuit of the Federal Appeals Court [sic], could impact the 404 permit for 16.1 acres of wetlands included in the proposed freshwater marsh. This marsh is a major component of the project's stormwater drainage system. Based on the outcome of previous cases, and the [Developer's] back-up plans for an interim drainage system, if necessary, it is unlikely that the entire project could be stopped. It is possible that portions of the project could be delayed. *The appraisers realize that until all litigation is decided, there is uncertainty regarding the development of Playa Vista. The appraisers reserve the right to revise our analysis if a negative disposition of any pending or future lawsuit occurs. The analysis and values included herein assume construction of the interim drainage system without delay.* [Emphasis in original.]

See, "RISK FACTORS - Opposition to Development of Playa Vista - General," "RISK FACTORS - Opposition to Development of Playa Vista - Recent and Pending Litigation," and "RISK FACTORS - Section 404 Permit - Failure to Complete Interim Stormwater Management Facilities."

The Appraisal notes that opponents to the development of the Playa Vista project have reintroduced concerns about methane and toxic substances and that, in response thereto, the City has undertaken an independent "peer review" of information relating to these topics that had been furnished by consultants to the Developer and others. The results of the peer review process confirmed the presence of methane throughout the District, found low level concentrations of hydrogen sulfide near the surface and found trace amounts of benzene, toluene, ethylbenzene and xylene. The City has concluded that, in the case of Fountain Park Apartments, the Developer's proposed methane mitigation and monitoring system is adequate to address these issues. In the case of the other structures that may be constructed within the District, the City has concluded that adequate methane mitigation and monitoring systems can be specified in connection with the

issuance of building permits. The development costs that the Developer provided to the Appraiser assume that the Fountain Park Apartments type methane mitigation and monitoring system would be used in all buildings throughout the District, although the Developer does not believe that such an expensive system will be required for all such buildings. The City has also concluded that a system for monitoring and mitigating methane in a gravel aquifer located approximately 35 to 50 feet below the surface of a portion of the District can be devised and implemented. Although the cost of such a system was not included in the Appraisal, the Developer estimates that such cost will not exceed \$150,000. The Appraisal assumes that the presence of methane will not have a negative impact on the development of the land within the District. See, "RISK FACTORS - Methane."

In addition to the contingencies discussed above and the other assumptions and limiting conditions specifically listed in the Appraisal, the value reported in the Appraisal is based upon certain assumptions about the growth of the Los Angeles area, the demand for housing in the area, the ability of the Playa Vista project to capture a portion of that demand, the rate at which land values will increase in the future, interest rates, and other variables which are impossible to predict with certainty. In the event that any of the contingencies, assumptions and limiting conditions are not actually realized, the value of the property within the District may be less than the amount reported in the Appraisal. In any case, there can be no assurance that any portion of the property within the District would actually sell for the price indicated by the Appraisal.

The Appraiser has specifically consented to the inclusion of the Appraisal in this Official Statement. Nevertheless, the Appraisal contains the following statement:

The acceptance of and/or use of this appraisal report by the client or any third party constitutes acceptance of the following conditions:

The liability of Harris Realty Appraisal and the appraisers responsible for this report is limited to the client only and to the fee actually received by the appraisers. Further, there is no accountability, obligation or liability to any third-party. If the appraisal report is placed in the hands of anyone other than the client for whom this report was prepared, the client shall make such party and/or parties aware of all limiting conditions and assumptions of this assignment and related discussions. Any party who uses or relies upon any information in this report, without the preparer's written consent, does so at his own risk.

Direct and Overlapping Debt. Contained within the boundaries of the District are numerous overlapping local agencies providing governmental services. Some of these local agencies have outstanding bonds, and/or the authority to issue bonds, payable from taxes or assessments. The existing and authorized indebtedness payable from taxes and assessments that may be levied upon the property within the District is shown in the table below. In addition to current debt, new community facilities districts and/or special assessment districts could be formed in the future encompassing all or a portion of the property within the District; and, such districts or the agencies that formed them could issue more bonds and levy additional special taxes or assessments.

LA City Controller
2007 Audit

BOARD OF
BUILDING AND SAFETY
COMMISSIONERS

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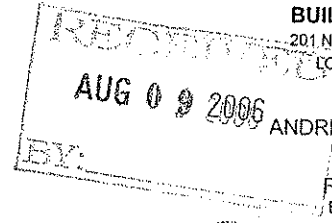
CALIFORNIA



ANTONIO R. VILLARAIGOSA
MAYOR

MB

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
LOS ANGELES, CA 90012



ANDREW A. ADELMAN, P.E.
GENERAL MANAGER

RAYMOND CHAN
EXECUTIVE OFFICER

August 8, 2006

RECEIVED

Honorable Laura N. Chick
City Controller
City of Los Angeles
200 North Main Street, Room 300
Los Angeles California 90012

SEP 19 2006

Eleventh Council District
WLA

**RESPONSE TO CONTROLLER'S PERFORMANCE AUDIT OF THE DEPARTMENT OF
BUILDING AND SAFETY (LADBS) DATED JULY 10, 2006**

Dear City Controller Chick:

The Department of Building and Safety received your performance audit of July 10, 2006 and Mayor Villaraigosa's letter of July 11, 2006 referring the audit to the Board of Building and Safety Commissioners.

The Board of Building and Safety Commissioners and the Department of Building and Safety appreciate the effort you and your staff made in auditing the Department. The findings and recommendations of the audit report will be used as a road map to make further improvements and enhancements to the Department's operations.

The performance audit includes an independent survey of the Department's customers and employees. It is very encouraging that the independent survey indicates that 90% of Department customers are very satisfied or satisfied with the Department's performance. Only 2% (only 10 out of 417) of the Department's customers surveyed could think of a better building inspection program than the one in the City of Los Angeles. It is equally encouraging that the result of the Inspection staff survey regarding their work quality indicates virtually every inspector (96.1%) assessed overall quality of their work as excellent or good.

The performance audit emphasizes that there are several important issues in tracking, monitoring, and reporting on new construction and code enforcement inspection activities that need to be addressed. The Department has extensively reviewed the 13 findings and 33 recommendations outlined in the audit. The Department has already begun evaluating the amount of work, tools, time and staffing needed to address each recommendation. We have developed a detailed and comprehensive action plan in the form of a matrix (action plan) titled "LADBS' Actions in Response to Controller's Performance Audit of July 10, 2006", which outlines the actions and timelines necessary to address each of the recommendations. This action plan has been included as an attachment to this response.

The Department is addressing two additional issue areas beyond those which address the audit recommendations to further improve the Department. Those issue areas have also been included in the action plan following the audit items.

The Department's action plan in response to the performance audit has been reviewed by the Board of Building and Safety Commissioners and was approved by the Board by a unanimous vote (4-0) during their meeting of this morning, August 8, 2006.

Again, the Department of Building and Safety appreciates the effort you and your staff made in auditing and making recommendations to improve the Department. Please call me at (213) 482-6800, if the Department or I can be of assistance or provide any additional information.



ANDREW A. ADELMAN, P.E.
General Manager

- c: The Honorable Antonio R. Villaraigosa, Mayor
 The Honorable Rockard J. Delgadillo, City Attorney
 The Honorable Members of the City Council
 The Honorable Members of the Board of Building and Safety Commissioners

Attachments

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p><u>Section I - Finding No. 1:</u> The Department does not have adequate procedures to follow-up on expired permits, temporary Certificates of Occupancy and outstanding code violations.</p>	<p><u>1.1:</u> Identify all expired permits without final inspection approval, temporary Certificates of Occupancy and outstanding Notices to Correct.</p>	<p>LADBS will identify all expired permits, expired TCOs and outstanding Notices to Correct by using the automated Plan Check and Inspection System (PCIS) to find all expired permits and outstanding Notices to Correct; and reviewing all TCOs to find those that are past due. (Complete by 11/06)</p>	
	<p><u>1.2:</u> Determine the appropriate disposition for the expired / outstanding documents. For example, determine whether final inspection approval (or Certificate of Occupancy) is warranted, if the construction work meets applicable building codes.</p>	<p>LADBS will determine appropriate disposition and resolve all expired / outstanding documents issues by establishing an ad hoc Tiger Team working weekends and after hours to contact permit applicants and perform field inspections to determine the appropriate disposition; pursuing the outstanding Notices to Correct; and closing the expired permits and TCOs or make them current. (Complete by 7/07)</p>	
	<p><u>1.3:</u> Implement a process to identify soon-to-expire building permits, temporary Certificates of Occupancy or Notices to Correct and require inspectors to determine if there has been any activity that requires inspection or other action.</p>	<p>LADBS will implement a process to identify and act on soon-to-expire building permits, TCOs and Notices to Correct by establishing a tickler system to track the soon-to-expire documents; and perform field inspections to ensure these documents remain current. (Start by 11/06 and ongoing)</p>	

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section I - Finding No. 2: The Department lacks consistent and compelling code enforcement methods for long-term code violators.</p>	<p>1.4: Establish a consistent and standard process that treats similar violators equally and invokes sufficient penalties for persistently non-compliant cases.</p>	<p>LADBS will establish a comprehensive Code Enforcement Policy Manual to define a consistent and standard process that treats similar violators equally and invokes sufficient penalties for non-compliant cases. LADBS will also establish a monthly report which identifies and tracks repeat violators; use other compliance inducement tools; and use the City Attorney's Hearing process more consistently. (Complete by 2/07)</p> <p>LADBS will consult with City Attorney and other City officials to consider seeking a City ordinance to formally establish the code enforcement consistency policy. (Complete by 2/07)</p>	
	<p>1.5: Develop a clear policy that articulates when the assessment and waiver of non-compliance fees and other enforcement tools is appropriate. This policy should include criteria for offering a fee.</p>	<p>LADBS will implement a clear and consistent policy for the application of non-compliance fees and other enforcement tools as part of the Code Enforcement Policy Manual which standardizes 'when' and 'how' non-compliance fees are imposed; and defines criteria for exceptions and waivers of non-compliance fees. (Complete by 2/07)</p>	
	<p>1.6: Survey other building departments throughout the nation to identify enforcement methods not currently utilized by the Department, such as administrative hearings, large civil penalties that accrue as non-compliance persists, etc.</p>	<p>LADBS will conduct a Best Practice Survey of other building departments of large cities throughout the nation which will include a review of the International City/County Management Association (ICMA) data to define methodology for implementing the survey. (Complete by 2/07)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>(Cont'd) <u>Section I - Finding No. 2:</u></p>	<p>1.6. (cont'd) Consult with the City Attorney and other City officials to determine if any alternative enforcement methods should be adopted by the City of Los Angeles.</p>	<p>LADBS will consult with the City Attorney and other City officials to determine which alternative enforcement methods learned from the survey should be adopted in Los Angeles. (Complete by 5/07)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p><u>Section 1 - Finding No. 3:</u> The Department has a significant number of backlogged inspections that are required by State law or City Code.</p>	<p><u>1.7:</u> Eliminate the backlog of required elevator, pressure vessel and seismic gas shut-off valve inspections.</p>	<p>LADBS will eliminate the elevator inspection backlog by establishing an ad hoc Inspection Tiger Team working weekends and after hours to perform inspections until backlog is eliminated. (Complete by 4/07)</p>	
		<p>LADBS will eliminate the pressure vessel inspection backlog by establishing an ad hoc Inspection Tiger Team working weekends and after hours to perform inspections until backlog is eliminated. (Complete by 5/07)</p>	
	<p><u>1.8:</u> Conduct all elevator and pressure vessel inspections annually and seismic gas shut-off valve inspections timely.</p>	<p>LADBS will eliminate the SGSOV inspection backlog by establishing an ad hoc Inspection Tiger Team working weekends and after hours to perform inspections until backlog is eliminated. (Complete by 2/07)</p>	
		<p>LADBS will conduct all elevator inspections annually by developing a more effective system to detect and monitor any potential backlog; and using overtime to reduce any backlog as they occur. (Start by 4/07 and ongoing)</p>	
		<p>LADBS will conduct all pressure vessel inspections annually by developing a more effective system to detect and monitor any potential backlog; and using overtime to reduce any backlog as they occur. (Start by 5/07 and ongoing)</p>	
		<p>LADBS will conduct all SGSOV inspections timely by changing operational procedures to include SGSOV inspections as required inspections; block the issuance of a Certificate of Occupancy or TCO until the SGSOV has been approved. (Start by 2/07 and ongoing)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section II - Finding No. 1: The Department does not ensure compliance with the State's regulation requiring inspector certification.</p>	<p>2.1: Designate a State, national, or international certification program(s) that is appropriate for the City's inspection staff.</p> <p>2.2: Ensure that all inspection staff become certified by the designated program as appropriate for their required expertise and in accordance with State law.</p>	<p>LADBS will designate state, national, and/or international certification programs by reviewing all available construction-related certification programs and selecting the most appropriate ones. (Complete by 10/06)</p> <p>LADBS will ensure that all inspection staff be certified in accordance with State law by identifying inspectors who are required to obtain a certification and requiring them to comply with the certification requirements. LADBS will also develop a new data base program to track and monitor inspector certification status. (Complete by 4/07 and ongoing)</p>	

LADBS: ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section II - Finding No. 2: <i>Continuing Professional Education requirements are not adequately tracked and may not be met.</i></p>	<p>2.3: Generate annual and three-year reports to actively monitor the hours of technical training each inspector has attended and notify inspectors and their supervisors when training requirements may not be met.</p> <p>2.4: Ensure all inspectors meeting training requirements on an annual and three-year basis.</p>	<p>LADBS will generate annual and three-year reports to actively monitor the training time of each inspector by developing a new Training Tracking System to actively monitor staff training hours, and forewarn inspectors and supervisors of any possible noncompliance. (Complete by 1/07)</p> <p>LADBS will ensure all inspectors meet State's training requirements by using the reports generated by the new Training Tracking System to identify the training needs; providing more training to inspectors; and monitoring the training time of the inspectors to ensure compliance. (Complete by 4/07)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section II - Finding No. 3: The Department's oversight of its Inspectors is not adequate to ensure the quality and consistency of inspection and code enforcement activities.</p>	<p>2.5: Develop a comprehensive policy for the Inspection and Code Enforcement Bureau that establishes the extent and frequency of supervisory activities, such as follow-up inspections or ride-alongs and file reviews. The policy should also establish documentation requirements and steps for resolution, if necessary.</p>	<p>LADBS will develop and implement a comprehensive policy for the Inspection Bureau that establishes the extent and frequency of inspection oversight activities by reactivating its Measure of Effectiveness (MOE) Quality Assurance Program to require each supervising Senior/Principal Inspector to perform no less than one to two MOE evaluations (review job file, conduct follow-up inspection or ride-along) each month for each Inspector/Senior Inspector under his/her charge. (Start now and ongoing)</p> <p>LADBS will develop and implement a comprehensive policy for the Code Enforcement Bureau that establishes the extent and frequency of inspection oversight activities by reactivating its Measure of Effectiveness (MOE) Quality Assurance Program to require each supervising Senior Inspector to perform no less than one to two MOE evaluations each month for each inspector under his/her charge. (Start now and ongoing)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p><u>Section II - Finding No. 4:</u> The Department's oversight of Registered Deputy Inspectors is not adequate.</p>	<p><u>2.6:</u> Verify the qualifications of Deputy Inspector applicants to ensure eligibility requirements are met.</p>	<p>LADBS will implement a more rigorous Deputy Qualification Evaluation Procedure to verify the qualifications of Deputy Inspector applicants by requiring full references; performing complete background check; and verifying International Code Council (ICC) Certification of the applicants. (Start by 11/06 and ongoing)</p>	<p>Deputy inspectors are <u>not</u> City employees and are <u>not</u> the primary inspectors for the construction projects. LADBS inspectors (city employees) inspect all construction projects and sign off each stage of construction.</p>
<p><u>2.7:</u> Establish standard disciplinary actions for Deputy Inspectors who make false or misleading statements or misrepresentations in written submissions to the Department in accordance with the LAMC.</p>	<p><u>2.9:</u> Develop an electronic means to track disciplined Deputies so that increased monitoring can be conducted by field inspectors.</p>	<p>LADBS will establish and apply standard disciplinary actions for Deputies by consulting with the City Attorney on appropriate disciplinary action; developing a matrix stating the appropriate action for each type of violation; notifying all Deputies of expected standards and possible disciplinary actions; carrying out enforcement; and monitoring results. (Start now and ongoing)</p> <p>LADBS will develop an electronic means to track and monitor Deputies' performance. (Complete by 5/07)</p>	
<p><u>2.8:</u> Establish standards for reviewing Deputy Inspectors' work including the timing and frequency of review.</p>		<p>LADBS will establish and apply standards for reviewing Deputy Inspectors' work including the timing and frequency of oversight review by requiring Deputies to call in the day before they make an inspection so LADBS inspectors will visit construction sites to verify Deputies' inspection results. LADBS will also closely monitor Deputies through detail review of their written reports. (Complete by 2/07 and ongoing)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>(Cont'd) Section II - Finding No. 4:</p>	<p><u>2.10:</u> Revise the policies and procedures manual for the Materials Control Division and Inspections Bureau to incorporate newly established procedures.</p>	<p>LADBS will revise the policies and procedures manual for the Materials Control Division and Inspection Bureau to incorporate newly established procedures; train staff on new policies and procedures; and monitor to ensure consistent application of policies and procedures inspection activities. (Complete by 1/07)</p>	

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section III - Finding No. 1: The Department does not have comprehensive and accurate performance measures for inspection activities as a means to determine whether the mission and goals are being achieved efficiently and effectively.</p>	<p>3.1: Accurately define and capture all responses (canceled, no access for inspection, etc.) for calculating performance statistics. Inspector-initiated rescheduled inspections should be recorded as rolled-over calls.</p> <p>3.2: Identify customer-initiated rescheduled inspections as such and monitor for reasonableness by supervisors.</p> <p>3.3: Identify performance measures correctly, such as "Percentage of Responses to Called Inspections" and consider separately tracking other statistics related to conducting/completing inspections or number of inspection stops.</p>	<p>LADBS will revise its inspection performance statistics to accurately define, identify, capture, track and monitor all relevant performance measures to determine whether its mission and goals are being achieved by doing the following:</p> <ul style="list-style-type: none"> ▪ Differentiate inspection results that involve: <ul style="list-style-type: none"> - 'completion of work' vs. 'attempts to make inspections' - 'inspector-initiated rescheduled inspections' vs. 'customer-initiated rescheduled inspections' ▪ Provide percentage categories for the various reasons for 'customer-initiated rescheduled inspections' and 'inspector-initiated rescheduled inspections.' ▪ Record 'inspector-initiated rescheduled inspections' as 'rolled-over inspections' along with standardized reasons for such a rescheduling. ▪ Identify other measures that track and monitor the effectiveness of inspection activities such as: <ul style="list-style-type: none"> - 'conducting inspection' vs. 'completing inspections' - number of inspection stops ▪ Set inspection time standards for different inspection activities. (Complete by 5/07) 	

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section III - Finding No. 2: The Department does not have comprehensive and accurate performance measures for code enforcement as a means to determine whether the mission and goals are being achieved efficiently and effectively.</p>	<p><u>3.4:</u> Develop long-term performance measures that demonstrate progress towards Code Enforcement goals and diagnose where Code Enforcement activities deviate from intended results.</p> <p><u>3.5:</u> Develop an operational plan that defines what efforts are needed to be diligent with code enforcement activities and how these efforts are measured.</p> <p><u>3.6:</u> Develop performance measures that document efficient use of resources, monitor whether violations have been corrected, rates of voluntary compliance, rates of induced compliance, response times by priority, the cost of enforcement activities, the impact of Code Enforcement on community, and other industry-recognized performance standards and measures. These performance measures should reflect actual code violations while additional workload indicators should be developed to reflect activities not associated with actual code violations.</p>	<p>LADBS will develop long-term performance measures and implement an operational plan to establish and monitor all appropriate code enforcement processes and performance measures to ensure its mission and goals are being achieved by doing the following:</p> <ul style="list-style-type: none"> ▪ Develop a comprehensive Code Enforcement Policy Manual that includes an operational plan to establish and monitor all appropriate code enforcement processes and performance measures. ▪ Provide a more comprehensive picture of its activities: <ul style="list-style-type: none"> - rate of induced vs. voluntary compliance - measure how quickly / often follow-up compliance inspections are made ▪ Provide statistics that reflect the efficiency in: <ul style="list-style-type: none"> - abatement of code violations - rates of compliance - cost of enforcement - response times by priority ▪ Provide a monthly report which identifies and tracks repeat violators. ▪ Conduct Best Practice Survey of other large cities in the nation to explore ways to measure benefits of enforcement activities. ▪ Use surveyed information to further improve operations and effectiveness of the Bureau. <p>(Complete by 3/07)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>(Cont'd) Section III - Finding No. 2:</p>	<p><u>3.7:</u> Consider developing performance measures that enable comparison with other municipalities.</p>	<p>LADBS will develop performance measures that enable comparison with other municipalities by conducting a Best Practice Survey of other large cities in the nation to review others' performance measures and revise LADBS' performance measures to make them comparable. (Complete by 4/07)</p>	
	<p><u>3.8:</u> Consider developing statistical measures that can be entered into mapping systems (e.g., Geographic Information Systems - GIS) to show the geographic distribution of types of violations, types of orders, and rates of compliance.</p>	<p>LADBS will develop statistical measures that can be entered into mapping systems by consulting with ITA to determine types of statistical measures and GIS system to be used; and submitting a mid-year budget request for necessary staff, equipment and software. (Complete by 5/07)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section III - Finding No. 3: The Department needs to improve their processes to obtain public feedback on their services.</p>	<p>3.9: Emphasize the purpose and benefit of soliciting sufficient public feedback, develop reporting methods that accurately reflect trends in public input, and ensure managers are informed about public perceptions and satisfaction with the quality of services provided by their staff.</p> <p>3.10: Consider assigning managers to conduct cold calls involving personnel outside their own span of control. For example, managers in the Inspection Bureau might conduct cold calls for Code Enforcement patrons.</p>	<p>LADBS will expand its Customer Service Survey to improve its processes to solicit and report feedback that will accurately reflect trends in public input by increasing number of drop boxes and survey sites; mailing a survey to a random representative sample of inspection and code enforcement customers; highlighting areas that need to be improved; and taking the appropriate follow-up action. (Complete by 2/07 and ongoing)</p> <p>LADBS will assign managers to conduct cold calls involving personnel and patrons outside their own span of control by establishing a process by which managers exchange customer lists; illustrating frequency for these calls to be made; highlighting areas that need to be improved; and taking the appropriate follow-up action. (Complete by 1/07 and ongoing)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p><u>Section III - Finding No. 4:</u> The Code Enforcement Bureau policy and procedure manuals are not current and are incomplete.</p>	<p><u>3.11:</u> Consider developing a single comprehensive manual that encompasses all of the Code Enforcement Bureau's inspection groups.</p>	<p>LADBS will develop a single, comprehensive Code Enforcement Policy Manual that encompasses all code enforcement functions by establishing policies on:</p> <ul style="list-style-type: none"> • operational methods • enforcement process • compliance tools • non-compliance fee requirements • statistical reporting • legal requirements <p>(Complete by 2/07)</p>	
	<p><u>3.12:</u> Consider developing an electronic version of the manual that could be accessed with handheld or portable electronic devices</p>	<p>LADBS will develop an electronic version of the manual accessible with handheld or portable electronic devices by developing a system to generate an electronic version of the manual; converting the manual to an electronic version; and making the electronic manual accessible on the inspectors' hand-held inspection devices.</p> <p>(Complete by 7/07)</p>	

8/8/06

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p><u>Section IV - Finding No. 1:</u> The Department's strategic plan for technology improvements lacks implementation timetables.</p>	<p>4.1: Establish a priority-based plan to ensure the implementation of planned technological improvements.</p> <p>4.2: Develop time-specific goals for implementing the information systems strategic plan.</p>	<p>LADBS will establish a priority-based Annual Information Technology Proposed Projects Plan to ensure implementation of technological improvements by identifying and prioritizing systems enhancements, and establishing and monitoring implementation timeline. (Complete by 10/06)</p> <p>LADBS will develop time-specific goals for its Strategic Information Technology Plan based on the best practices of the information technology industry, resources needed and available. (Complete by 11/06)</p>	

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>Section IV - Finding No. 2: There is no integrated information system within the Department and with other City departments (e.g., Planning).</p>	<p>4.3: Consider developing an integrated information system for Building and Safety activities and other City departments who play a role in approving buildings and structures (e.g., City Planning).</p>	<p>LADBS will develop more in-house integrated information systems such as:</p> <ul style="list-style-type: none"> ▪ Implement an interface between LADBS' time-keeping/payroll system and the code enforcement system (CEIS) ▪ Improve the exchange of data between the PCIS and CEIS (Complete by 7/07) <p>LADBS will seek cooperation with other City departments involved in the land development process to identify opportunities for further multi-department, user-centric systems. (Complete by 7/07)</p>	

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>_____</p> <p>This action is recommended by LADBS</p>	<p>_____</p>	<p>LADBS will continuously emphasize to all the staff its mission of protecting the lives, safety, health and welfare of the residents, visitors and businesses of Los Angeles through the diligent, rigorous and consistent enforcement of the Los Angeles Municipal Ordinances, and Building, Plumbing, Mechanical, Electrical and Zoning Codes by doing the following:</p> <ul style="list-style-type: none"> ▪ The General Manager and senior staff will meet with all staff in small groups to communicate the Department's mission and goals; and emphasize the importance of insuring public's health, safety and welfare. ▪ On an ongoing basis, the General Manager and senior staff will meet with all staff in small groups twice per year to communicate the Department's mission and goals; and emphasize the importance of insuring public's health, safety and welfare. ▪ Conduct an annual survey of employees to identify workplace issues. ▪ Review and revise as necessary its ongoing in-service staff training program to ensure that all public safety, health and welfare regulations and their enforcement are emphasized and carried out effectively and consistently. (Complete by 1/07 and ongoing) 	<p>This Action is Recommended by LADBS not by the Audit.</p>

LADBS' ACTIONS IN RESPONSE TO CONTROLLERS PERFORMANCE AUDIT OF JULY 10, 2006

8/8/06

Audit Issue / Finding	Audit Recommendation	LADBS Action	Status, Comments & Clarifications
<p>_____</p> <p>This action is recommended by LADBS</p>	<p>_____</p>	<p>LADBS will insure all Inspection Bureau Inspectors enter the results of all their inspections accurately and timely in the Department's computer system to avoid public confusion on if inspections have been done by doing the following:</p> <ul style="list-style-type: none"> ▪ Train and instruct all inspectors to input results of all their inspections on the day subsequent to the inspections. ▪ Ask supervisors to verify that inspectors are properly inputting the inspection results into the computer system through checking a sample of each inspector's work. <p>(Complete by 10/6 and ongoing)</p>	<p>The Department's official records of inspection results are paper inspection forms, but some customers (e.g. Playa Vista opponents) relay only on the incomplete, partial data currently available through LADBS' computer system which has led to they questioning if all inspectors have been performed.</p>

RESULTS OF LADBS CUSTOMER AND STAFF INDEPENDENT SURVEY

AUDIT SURVEY OF LADBS CUSTOMERS

It is extremely encouraging that the independent customer survey conducted by the Controller's office indicated that 90% of the Department's customers are very satisfied or satisfied with the Department's performance. Additionally, only 2% (only 10 of 417) of the customers surveyed could think of a better building inspection program than the City of Los Angeles' Department of Building and Safety. Here are some of the quotes from the audit survey of LADBS customers:

- *"All of these resources are viewed as being helpful, with particular satisfaction expressed with regard to the inspectors, the Department's Call Center, and the Web site."*
- *"Customer ratings of inspectors' provision of clear and thorough explanations, their ability to answer questions, and their availability are all good; the inspectors would appear to meet expectations in all of these respects."*
- *"Insofar as the personal characteristics of the inspectors are concerned, staff would seem to exceed expectations; they rated very highly on such factors as courtesy, helpfulness, knowledge, and professionalism."*
- *"Inspection customers are highly satisfied, with nine in ten expressing satisfaction with their experience."*
- *"It would therefore appear that the Department is exceeding customers' overall expectations."*
- *"Inspection customers who have experience with the inspection services provided by other cities are substantially more likely to say that Los Angeles is doing a better job in this regard than to say that Los Angeles is doing a worse job."*
- *"Indeed, only ten of the 417 customers interviewed feel Los Angeles is doing a worse job."*

The survey report concludes that **"...staff should be commended..."** and **"These findings suggest that the City should be strongly commended for its work, particularly given its size and complexity."**

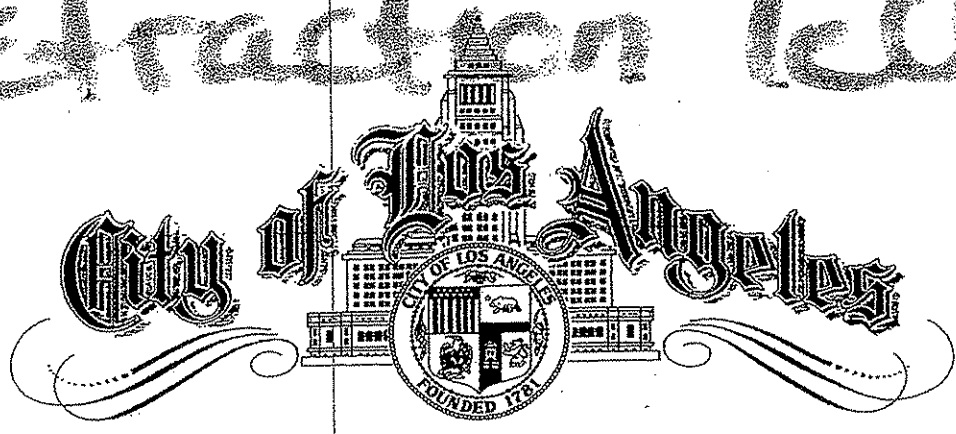
AUDIT SURVEY OF LADBS STAFF

The result of the independent survey of the inspection staff regarding their work quality was also very encouraging. The survey measured overall "quality of the work inspectors do." Virtually every inspector (96.1%) assessed the overall quality of their work as good or excellent. Here are some of the quotes from the audit survey of LADBS staff:

- *"Almost all believe they do excellent and good work; close to nine in ten feel their colleagues are committed to performing quality work as well."*
- *"Inspection staff is quite positively disposed toward their positions and the work they do."*
- *"Nine in ten are very satisfied with their jobs, and almost as many would recommend their positions to others."*
- *"Finally, staff are strongly inclined to believe their work is important and that they know what is expected of them."*

The survey report comments that **"All of these findings are decidedly encouraging."**

retraction letter



OFFICE OF
CONTROLLER

LAURA N. CHICK
CONTROLLER

200 N. MAIN STREET
ROOM 300
LOS ANGELES 90012
(213) 978-7200

DATE: July 25, 2007
TO: Frank Snapp, KNBC
FROM: Laura N. Chick, City Controller *Laura N. Chick*
SUBJECT: REVIEW OF PLAYA VISTA

My review of the City's oversight responsibilities for the Playa Vista Phase I Residential Development Project found serious issues that must be addressed by the City Departments involved and by the Mayor and City Council.

My report found significant problems including inadequate guidelines, lack of co-ordination, unclear responsibilities and shoddy record keeping. I have called for immediate action to address these serious issues.

It is unfortunate that a sentence in the report, "...nothing came to our attention to indicate that required inspections relating to methane mitigation, or the project as a whole, were not performed," has been used to negate the deep flaws that we found in the City's oversight of the project.

Again, I repeat, I regret that sentence, and if I could go backwards, I would not include it in the report. It was a negative assurance which was not a finding of fact. Those who misuse this sentence to vindicate their own point of view, have moved beyond the critical findings and recommendations of this report.

#15

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June 5, 2007

Honorable Antonio R. Villaraigosa, Mayor
 Honorable Rockard J. Delgadillo, City Attorney
 Honorable Members of the City Council
 of the City of Los Angeles

SUBJECT: CITY'S OVERSIGHT OF PLAYA VISTA PHASE I DEVELOPMENT

My Audit Division conducted a review of the City's oversight responsibilities for the Playa Vista-Phase I Residential Development Project. The primary objectives were to determine if the responsible City Departments adequately ensured the guidelines established by the Chief Legislative Analyst (CLA) were followed.

Background

Playa Vista is a large commercial and residential development project in West Los Angeles. The site has varying concentration levels of methane gas and other possible contaminants in the soil and underground. In 2000, the CLA convened a working group consisting of the Department of Building and Safety (DBS), the Department of City Planning (Planning), the Department of Public Works Bureau of Engineering (BOE), and sought input from other City Departments and contracted peer reviewers to perform studies of the land and offer recommendations. After an extensive study, the CLA prepared a report entitled "City Investigation of Potential Issues of Concern for Community Facilities District No. 4 Playa Vista Development Project." The report included methane mitigation guidelines prepared by a Playa Vista-hired consultant, Sepich Associates Methane Specialists, in conjunction with other expert consultants and DBS. The CLA Report was presented to the Council in May 2001. Though not mandated by City ordinance until February 2004, the CLA Report became the accepted authoritative guidelines by all City Departments involved, for methane mitigation at Playa Vista - Phase I.

DBS, LAFD and Planning had significant oversight responsibilities with regards to ensuring compliance with the 2001 CLA Report. Some of these responsibilities



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required Departments to expand from their traditional jurisdictions in order meet the challenges posed by this large-scale, technologically advanced project.

The scope of this review was limited to Departmental oversight of residential developments of Playa Vista-Phase I. It should be noted that a large portion of Playa Vista has yet to be developed. Groundbreaking for a 64-acre area zoned for Phase I commercial development commenced in April 2007. The City Council has also approved a second phase of development, "The Village at Playa Vista," which will include an additional 2,600 residential units, retail stores, restaurants and parks. The anticipated groundbreaking for Playa Vista Phase II is in 2008.

Summary of Review Results

Based on our review, we found that the required inspections, testing and approvals related to the installation of methane mitigation systems were performed for multi-family dwellings. However, the CLA Report did not make a distinction between single-family dwellings and multi-family or other commercial developments. In addition, it did not address potential conflicts over City departmental jurisdictions or professional qualifications when assigning oversight responsibilities. The vagueness of the CLA Report led to conflicting interpretations of the guidelines by DBS and LAFD. As a result, we found that there was inconsistent installation and acceptance testing of detection systems in some single-family homes.

We noted issues that must be addressed to ensure consistent protocols are followed relative to any and all City construction projects. City departments with oversight responsibilities must be provided with clearer lines of authority for the design, installation and testing of methane systems. The lack of clear authority resulted in poor coordination among City departments during Phase I. In addition, our review noted poor record-keeping by DBS that resulted in inconsistent documentation of the permit approval process. Significant issues and related recommendations are presented here for your consideration.

The Phase I guidelines were inadequate by not clearly defining the requirements for different types of properties.

The 2001 CLA Report contains a set of guidelines called the "Playa Vista Methane Prevention, Detection and Monitoring Program." The guidelines state that a methane system, including prevention, detection and monitoring systems, will be implemented for properties located at Playa Vista. However, no

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distinction was made between commercial or residential properties, or different types of residential projects, such as single-family and multi-family homes.

Our review noted that all properties included a methane prevention system, and all but one, a development of single-family homes located in a lower level methane area, also included detection systems.

- DBS approved building plans without the inclusion of a methane detection system for these homes citing a footnote (#5) to the guidelines, which states that the number, type, and location of detectors or "approved equivalents" can be determined by a qualified methane engineer. DBS considered the elimination of a detection system, as endorsed by a qualified methane engineer citing the adequacy of prevention systems for these homes, as an "approved equivalent".
- The guidelines also state that all buildings will be equipped with methane detection systems and that the detectors will be approved by DBS and LAFD. Another footnote (#6) states that when methane is detected, audio and visual alarms and automatic notification of LAFD shall be triggered. The interpretation made by DBS to eliminate methane detectors under footnote #5 appears to contradict the requirements stated in footnote #6, since without methane detectors, alarms could never be activated, nor could LAFD be notified.

In addition, the guidelines state that detection systems will be tested and approved pursuant to LAFD standards. The guidelines do not, however, take into consideration what those LAFD standards consist of and who is given the authority and responsibility to perform testing to LAFD standards.

- The LAFD does not have a certification program that allows anyone outside of the LAFD to perform this type of testing, nor does the LAFD have the authority to perform testing of single-family homes at Playa Vista.

As a result of the guidelines' vagueness, which were subject to interpretation by both DBS and LAFD, one single-family home development has no methane detection system installed, and tests of detection systems at other single-family dwellings were performed on an inconsistent basis.

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Recommendations

1. *Mayor and City Council should direct participating Departments to establish an agreed-upon set of guidelines which clearly define methane mitigation requirements for both multi-family and single-family homes in Playa Vista Phase II.*
2. *Ensure that guidelines do not conflict with any City ordinances, administrative codes or laws.*
3. *Request that the City Council adopt the guidelines.*

A lack of clear direction regarding their roles and responsibilities resulted in poor coordination among City Departments.

In June 2001, the City Council directed the Department of City Planning (Planning) to oversee the implementation of methane mitigation measures by all agencies constructing facilities at Playa Vista. In addition, City departments were directed to coordinate with Planning regarding methane mitigation measure implementation, including taking enforcement actions as appropriate. However, there is no mention in the CLA guidelines of Planning's role over the project.

- Participating department representatives, led by Planning, developed a comprehensive document known as the "matrix" to specify each department's oversight responsibility and to ensure that all activities had received appropriate authorization. However, the document has never been finalized and remains in draft format. DBS and Planning also have varying interpretations of the primary purpose of the matrix, and of the importance it plays in ensuring compliance with the CLA guidelines.
- Planning is not ordinarily included as an approver of a Temporary Certificate of Occupancy (TCO), since their oversight does not include life-safety issues. However, based on inter-departmental discussions, and in the absence of clear delegation of authority, Planning perceived their role to become, in effect, the final reviewer prior to the issuance of TCOs and COs, in order to ensure that all Departments' respective oversight responsibilities had been fulfilled.
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homes without final certification from LAFD or Planning. Planning management stated that they lacked the authority to hold approval of TCOs.

The CLA Report states that DBS has the responsibility to approve the design and implementation of methane systems and that methane detection systems will be tested and approved pursuant to LAFD standards.

- DBS inspectors must ensure that systems have been installed according to the stated building plans; however, we noted that DBS relied on non-City engineers, consultants and Deputy Inspectors to assure that the systems were operational. We also noted that the City has no certification program for Deputy Methane Inspectors; instead, DBS required the manufacturers of the methane systems to certify the deputy methane inspectors.
- The LAFD performs acceptance testing of the methane detection systems to ensure that they meet all of the required detection and emergency alert standards. However, since LAFD's typical jurisdiction includes only commercial buildings and multi-unit residential structures, single-family homes were not required to be inspected by LAFD.
- LAFD did perform acceptance tests for some single family homes to ensure that their systems operated appropriately. However, in 2005 the testing ceased based on an agreement signed by DBS and LAFD management stating that "testing and approval of methane systems shall be certified by the installer and engineer of record or someone certified by LAFD," however, the LAFD also did not have a methane certification program. As a result, the testing was performed by contracted installers who provided only a certification that the system was installed, calibrated, and functional, instead of being independently tested by LAFD to its standards.
- This lack of clearly defined responsibilities continued during our review, when DBS and LAFD entered into a second written agreement in February 2007, requiring that all methane detection systems in single-family dwellings be tested and approved using LAFD standards and procedures, and that acceptance testing be conducted by LAFD inspectors.

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As a result of the Report's unclear jurisdictional authority, testing of methane detection systems for single-family homes was performed on an inconsistent basis. In addition, LAFD and Planning did not approve Temporary Certificates of Occupancy for one single-family home development, since LAFD inspectors had not completed acceptance testing.

Recommendations

4. *The Mayor and City Council should designate a City Department which has the responsibility, expertise and authority to lead the Playa Vista Phase II project*
5. *Mayor and Council should more clearly define the roles, responsibilities and jurisdictional authority of DBS and LAFD regarding the standards pertaining to the installation, inspection and testing of methane systems for all structures at Playa Vista.*
6. *DBS and LAFD management should require more formalized methane training for all staff with oversight responsibilities over inspection and approval of methane systems, and develop a certification program for Deputy Inspectors and others who perform methane-related inspections and testing on behalf of the City.*

DBS' poor record-keeping resulted in inconsistencies over project documentation and the permit approval process.

DBS inspection documents had to be individually retrieved from each field inspector because there is no centralized record-keeping system organized by site location. DBS also stated they could not guarantee that all the requested documents had been retrieved, and that certain documents may no longer exist.

While the completeness of the files varied and not all individual permits for the sites had adequate documentation to substantiate appropriate approval, we focused on those documents that provided assurance that methane mitigation systems were inspected according to approved plans.

- DBS explained that there is no uniform process for crosschecking or following up on specific open permits by an assigned inspector or for a given site location.

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- During our review, DBS consolidated Playa Vista inspection reports and discovered that many permits were never closed on projects where Certificates of Occupancy had been issued. DBS subsequently closed these permits as part of their "housekeeping" procedures.

Although DBS exhibited poor record-keeping and had many permits that remained open for Playa Vista properties, nothing came to our attention to indicate that required inspections relating to methane mitigation, or the project as a whole, were not performed.

Recommendation

7. DBS management should improve internal record-keeping procedures to ensure the approval of open permits prior to the issuance of certificates of occupancy.

We would like to thank the management and staff of DBS, LAFD and Planning for fully cooperating with our review. If you have any questions, please contact Rushmore D. Cervantes, Chief Deputy Controller, at (213) 978-7323.

Sincerely,

Laura N. Chick

LAURA N. CHICK
City Controller

cc: Andrew A. Adelman, General Manager, Department of Building and Safety
Chief Douglas Barry, Los Angeles Fire Department
S. Gail Goldberg, General Manager, Department of City Planning

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June 5, 2007

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4. *The Mayor and City Council should designate a City Department which has the responsibility, expertise and authority to lead the Playa Vista Phase II project*
5. *Mayor and Council should more clearly define the roles, responsibilities and jurisdictional authority of DBS and LAFD regarding the standards pertaining to the installation, inspection and testing of methane systems for all structures at Playa Vista.*
6. *DBS and LAFD management should require more formalized methane training for all staff with oversight responsibilities over inspection and approval of methane systems, and develop a certification program for Deputy Inspectors and others who perform methane-related inspections and testing on behalf of the City.*

DBS' poor record-keeping resulted in inconsistencies over project documentation and the permit approval process.

DBS inspection documents had to be individually retrieved from each field inspector because there is no centralized record-keeping system organized by site location. DBS also stated they could not guarantee that all the requested documents had been retrieved, and that certain documents may no longer exist.

While the completeness of the files varied and not all individual permits for the sites had adequate documentation to substantiate appropriate approval, we focused on those documents that provided assurance that methane mitigation systems were inspected according to approved plans.

- DBS explained that there is no uniform process for crosschecking or following up on specific open permits by an assigned inspector or for a given site location.

Honorable Antonio R. Villaraigosa, Mayor
Honorable Rockard J. Delgadillo, City Attorney
Honorable Members of the City Council
of the City of Los Angeles

June 5, 2007
Page 7 of 7

- During our review, DBS consolidated Playa Vista inspection reports and discovered that many permits were never closed on projects where Certificates of Occupancy had been issued. DBS subsequently closed these permits as part of their "housekeeping" procedures.

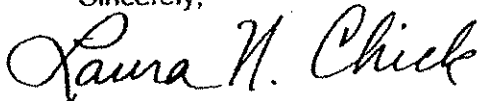
Although DBS exhibited poor record-keeping and had many permits that remained open for Playa Vista properties, nothing came to our attention to indicate that required inspections relating to methane mitigation, or the project as a whole, were not performed.

Recommendation

7. DBS management should improve internal record-keeping procedures to ensure the approval of open permits prior to the issuance of certificates of occupancy.

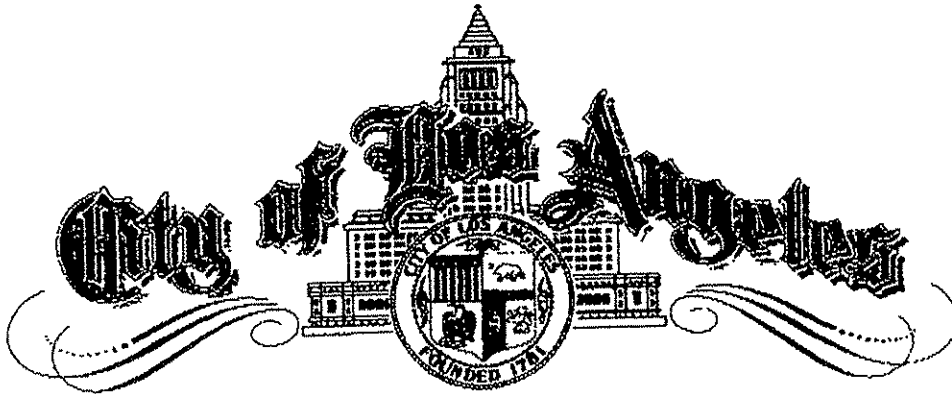
We would like to thank the management and staff of DBS, LAFD and Planning for fully cooperating with our review. If you have any questions, please contact Rushmore D. Cervantes, Chief Deputy Controller, at (213) 978-7323.

Sincerely,



LAURA N. CHICK
City Controller

cc: Andrew A. Adelman, General Manager, Department of Building and Safety
Chief Douglas Barry, Los Angeles Fire Department
S. Gail Goldberg, General Manager, Department of City Planning



OFFICE OF
CONTROLLER

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August 7, 2007

S. Gail Goldberg, Director of Planning
City Planning Department
Room 525, City Hall
200 N. Main Street
Los Angeles, CA 90012

*Status is
Response to
Chick*

Subject: **EVALUATION OF JOINT RESPONSE TO CONTROLLER'S REVIEW OF
THE CITY'S OVERSIGHT OF PLAYA VISTA – PHASE I DEVELOPMENT**

My Audit Division evaluated your response, prepared jointly with the Department of Building and Safety and Fire Department and dated July 30, 2007, to the report entitled "City's Oversight of Playa Vista Phase I Development." I accept some of the planned actions. Your response, however, does not recognize the seriousness of the issues identified and urgency needed to resolve them and affect change prior to the start of Phase II. Please see the evaluation of each response listed below.

Recommendations

1. *Mayor and City Council should direct participating Departments to establish an agreed-upon set of guidelines which clearly define methane mitigation requirements for both multi-family and single-family homes in Playa Vista Phase II.*

Your response indicates that you will update previously established written agreements to better delineate responsibilities and clearly define methane mitigation requirements for both multi-family and single-family homes.

The clarity of the guidelines and respective departmental responsibilities are critical to the overall success of the Playa Vista project. I strongly encourage you to use this opportunity to learn from the ambiguity and differences of opinion that surrounded Playa Vista Phase I guidelines, and proactively establish clearly defined requirements and



S. Gail Goldberg
August 7, 2007
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oversight protocols for all remaining development at Playa Vista. In addition, while your departments should appropriately take the lead on this issue, it is imperative that the Council and Mayor formally adopt such guidelines and protocols.

- 2. Ensure that guidelines do not conflict with any City ordinances, administrative codes or laws.*

Your response indicates that you will re-examine the methane guidelines to ensure there are no conflicts with any City ordinances, administrative codes or laws, which is appropriate. This recommendation, however, was made to address the new, revised guidelines that I believe are necessary to clarify City oversight responsibilities at Playa Vista.

- 3. Request that the City Council adopt the guidelines.*

Your response indicates that Council codified the current citywide methane mitigation guidelines on February 4, 2004. This implies that Phase II would be subject to only this citywide ordinance, rather than any additional or revised guidelines as advised in Recommendation 1 of the report.

The Playa Vista Phase II EIR states that methane mitigation systems for each building will be based on *either* the Village at Playa Vista Building Methane Guidelines or the current City Methane Ordinance. At the initiation of the project, there should be a definitive agreement as to which of these guidelines, including additional clarification or specifications for this project, are to be used, along with concurrence by participating Departments and approval by the City Council and Mayor.

- 4. The Mayor and City Council should designate a City Department which has the responsibility, expertise and authority to lead the Playa Vista Phase II project.*

Your response indicates that the Phase II EIR requires a Mitigation, Monitoring and Reporting Program (MMRP) that specifies the applicable project enforcement and monitoring agencies. You also state that an annual evaluation by the Department of Planning is required to determine compliance with the terms and conditions of the Phase II EIR.

These actions were also in place during Playa Vista Phase I. Your response does not indicate how you intend to correct the deficiencies identified during the review. Our review noted that the Planning Department's role as CEQA monitor lacked authority to hold approval of certificates of occupancy, or enforce compliance. Absent strong leadership over a project of this magnitude, varying inter-departmental interpretations of guidelines cannot be effectively resolved. I reiterate the need for the Mayor and Council to designate and provide necessary authority to a City department to ensure compliance with the guidelines.

S. Gail Goldberg
August 7, 2007
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- 5. Mayor and Council should more clearly define the roles, responsibilities and jurisdictional authority of DBS and LAFD regarding the standards pertaining to the installation, inspection and testing of methane systems for all structures at Playa Vista.*

Your response indicates that DBS and LAFD are establishing clear written agreements for reviewing, approving and inspecting methane systems as well as defining roles, responsibilities and jurisdictional authority, which is appropriate.

Such inter-departmental procedural agreements must be based on clearly defined requirements that have been approved by the Mayor and Council, which was not the case for Phase I.

- 6. DBS and LAFD management should require more formalized methane training for all staff with oversight responsibilities over inspection and approval of methane systems, and develop a certification program for Deputy Inspectors and others who perform methane-related inspections and testing on behalf of the City.*

Your response indicates that LAFD is implementing a methane acceptance testing certification program and that all active systems will be acceptance tested by LAFD inspectors or certified testers.

During the Phase I review, LAFD indicated that certified testers would conduct maintenance testing subsequent to the initial acceptance of a newly installed mitigation system by LAFD, and that only an LAFD inspector could conduct the initial acceptance test. Your action plan must clarify your intent to certify all acceptance testers, to ensure the City's oversight responsibility for acceptance testing will not be eliminated.

Your response indicates that formal training will be provided for DBS inspection staff by LAFD. DBS inspectors should also obtain necessary training from other methane experts, including engineers with experience designing and installing passive methane mitigation systems.

You also indicate that DBS will establish a Deputy Inspector program to monitor the installation of the methane membrane barrier, which is appropriate.

- 7. DBS management should improve internal record-keeping procedures to ensure the approval of open permits prior to the issuance of certificates of occupancy.*

Your response indicates that the process of implementing a similar recommendation from a prior audit have been on-going, which is appropriate.

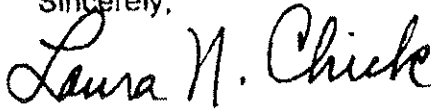
Many of the recommendations were also addressed to the Mayor and City Council. Due to the significance of the Playa Vista project, and my concern that City agencies

S. Gail Goldberg
August 7, 2007
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must have clear lines of authority and better coordinate their actions to ensure proper oversight, I strongly encourage you to work with elected officials to ensure timely adoption of these important actions by the City's governing body.

My staff may follow up in the future on the status of these recommendations. If you have any questions or comments, please contact Farid Saffar, Director of Auditing, at (213) 978-7392.

Sincerely,



LAURA N. CHICK
City Controller

cc: Sally Choi, Deputy Mayor, Office of Mayor Antonio Villaraigosa
✓ Jane Ellison Usher, President, City Planning Commission
Andrew A. Adelman, General Manager, Department of Building and Safety
Douglas L. Barry, Interim Fire Chief, Los Angeles Fire Department

KNBC AUDIT REVIEW

Review of the Work Papers Behind the City Controller's June 5, 2007 Report on City Oversight of Playa Vista – and Analysis of Controller's Final Conclusion

This review examines the more than 600 pages of "work papers" used in preparing the City Controller's Report of June 5, 2007 titled "Subject: City's Oversight of Playa Vista Phase I Development." The papers, which derive from city agencies, were released in response to Public Records Act requests.

In particular, our review was undertaken as a reportorial exercise to determine if the work papers support the Controller's final conclusion at page 7, paragraph 2, of her Report, which reads:

"... nothing came to our attention to indicate that required inspections relating to methane mitigation, or the project as a whole, were not performed."

Based on extensive analysis and review by our staff, consultation with experts and with members of the Grassroots Coalition, including Patricia McPherson, who have assembled voluminous city files on Playa Vista through Public Records Act requests, we proffer the following:

The Controller's concluding statement above is factually, demonstrably *incorrect* as measured against the work papers collected by her own auditing staff.

Indeed, her conclusion seems to be an arbitrarily expanded version of an equally indefensible statement contained in a document prepared by one of her auditors titled "Playa Vista Compliance Review" and included in work papers at Tab C-1. It states: "During the review nothing came to our attention [sic] to indicate that inspections were not performed at any of the 18 projects [reviewed]. This conclusion is based on the documents reviewed and listed on the spreadsheets, as well as *from information obtained during interviews with DBS management and DBS inspectors*" [emphasis added].

Conspicuously lacking in this sourcing information is any reference to auditor interviews with Fire Department Inspector Michael Ng (at work papers Tab B-5), which often contradict both DBS testimony and documentation and the Controller's Report on key issues. Indeed the sourcing statement above suggests that for some reason the Controller and her staff ignored, marginalized or dismissed what they learned from Fire Inspector Ng.

Further, an auditor's note with apparent DBS annotations at Tab-35 of the work papers suggests that the Controller allowed the Department of Building and Safety to qualify and soften other judgments she included in her seven-page report. (See our comments at the top of page seven below.)

Why the Controller's final conclusion above is deemed factually incorrect:

First, the Controller's work papers indicate (at tab C-1) that only 18 of the 33 building sites at Playa Vista were examined in the audit. In fact a close examination of the documentation shows that her auditors reviewed only *part* of some sites (e.g. Icon at 63400 Seawalk). Moreover the actual number of building projects reviewed may be closer to 16 than 18 since in several instances (e.g. Tapestry 1 and 2) one site with two addresses was counted as two separate sites. In any case, because only a portion of Playa Vista's building projects were examined, the Report overreaches in suggesting that its final conclusion applies to "the project as a whole."

Second, the Controller's final conclusion above is contradicted by the following statement on page 5, paragraph 1, of the Report: "testing of methane detection systems for single family homes was performed on an inconsistent basis." If the testing was *inconsistent*, the reasonable inference to be drawn is that the testing was incomplete or uneven – i.e. not fully performed.

Third, the Controller's final conclusion is explicitly contradicted by Fire Inspector Michael Ng in testimony and documentation provided to the auditors and included in the work papers.

For example, in his "Correction Notice" for "Courtyard Capri II," dated 01/15/07 (at C-12), Ng wrote "Only 6 of 16 homes available for testing. All 6 tested failed." In an additional handwritten note he underscored the seriousness of these failures by stating: "All central dialer tests failed (no signal [could be] rec'vd by monitoring company indicating high level methane alarms.)."

In a record of Ng's testimony included in the work papers (at B-5), the Controller's auditor states in reference to the Capri II series of single family dwellings: "On January 15, 2007, Inspector Ng performed the initial acceptance tests on six single family homes at Lee Court Homes II. These homes were completed in 2005 but had never been tested by the LAFD due to the written agreement between management. All six homes failed the acceptance test performed by LAFD... There were numerous deficiencies noted in the correction notices... *Not all of the homes were able to be tested on January 15, 2007, since it was a City Holiday and not all of the homeowners responded to the testing request... Inspector Ng subsequently performed additional testing of some of the remaining homes, all but one failed the acceptance test performed*" [emphasis added]. The reference to "some" indicates that not all of the remaining homes were tested.

In another conversation with the auditors, dated April 11, 2007, Ng is said to have indicated that as of that date "he has yet to receive authorization to resume re-testing of the Lee Court Homes II that failed acceptance tests."

In short, from Ng alone we learn that not all the required inspections have been performed at Playa Vista

Fourth, any assurance that such "required inspections" have been successfully performed is further undercut by statements made by DBS' own inspectors to the Controller's staff.

Without notable exception, these statements show that the DBS lacks the expertise, organization and documentation to vouch for the inspection process.

Background:

Based on interviews with DBS inspectors (work papers at B-1 through B-4), the Controller's auditors note:

- that three of the four on-site DBS inspectors interviewed, Alex Velazquez, Newton Gerhardt and Tim Moore, have no training in methane inspection,
- that Gerhardt "did not actively participate in the testing done [by outside contractor Taft Electric],
- that Moore "did not perform any testing of the systems... [and] did not perform any electrical inspections at single family homes,"
- that "DBS did not have the expertise to provide a deputy certification of methane,"
- that DBS "inspectors receive certifications from [outside] deputy inspectors, contractors and engineers,"
- that Velazquez "received written activity reports from Deputy inspectors... [and] receives certification from the installer that the methane barrier is installed according to guidelines",
- that "DBS does not maintain a central files for the PV inspection records [and that] "[i]nspection records for each of the site locations will have to be requested from the assigned DBS inspectors,"
- that "there may not be a specific DBS document for each approval given by an inspector,"
- that "a DBS inspector may not even be aware of a permit that was opened and falls under his specific responsibilities,"
- that Velazquez "acknowledged that he has been unable to account for all of the inspection files for all the projects he has inspected,"
- that Principal Supervisory Inspector at Playa Vista Richard Fortman "explained that he could not guarantee that each and every inspection document still exists and is available for review," and
- that "DBS confirmed that permits are still being closed as they are discovered even though the projects have been completed" -- and even though the ultimate authority for what's required at Playa Vista, the Chief Legislative Analysts Report approved by the City Council in June 2001, states (Tab C-9 of working papers): "No Certificate of Occupancy shall be issued for any building [at Playa Vista] until the methane system, as required by Methane Systems requirements attached as Appendix 1 are operational and a qualified methane engineer has certified the system to be operational."

In her Report (see test at page 5) the Controller observes that "DBS relied on non-City engineers, consultants and deputy inspectors to assure that the systems were operational... [and] required the manufacturers of the methane systems to certify the deputy methane inspectors." But she does not mention the additional fact (noted in her "Audit Procedures" at Tab B-9) that the deputy inspectors are not only manufacturer-

certified but *"developer paid."* Nor does the Controller note, as do her auditors (B-9), that "no determination was made whether DBS Inspectors were qualified to review the deputies' work product."

The Controller does acknowledge in her Report (at page 6) that "DBS' poor record keeping resulted in inconsistencies over project documentation and the permit approval process... [that] there is no centralized record-keeping system organized by site location... that certain documents may no longer exist...[and] that there is no uniform process [at DBS] for cross-checking or following up on specific open permits by an assigned inspector or for a given site location."

But the Controller also makes the extraordinary admission in her Report that she has effectively cherry-picked the evidence her auditors gathered. In particular she states: "While the completeness of the files varied and not all individual permits for the sites had adequate documentation to substantiate appropriate approval, *we focused on those documents that provided assurance that methane mitigation systems were inspected according to approved plans*" [emphasis added].

Note: on the way to completing that sentence the Controller concedes that "not all individual permits for the sites had adequate documentation to substantiate appropriate approval." She does not explain how, given this inadequacy, she can justify focusing selectively "on those documents that provided assurance that methane mitigation systems were inspected according to approved plans."

Nor does the Controller make any reference in her Report to the following information that her auditors collected in conversations with Fire Inspector Michael Ng (at B-5): namely, that Ng, having been on site at Playa Vista for six years, is the *only* on-site inspector from any city agency who has any training in methane and methane inspection, that Ng maintains complete files on all his inspections (which focus exclusively on "active mitigation systems" -- methane gas detectors and related vent systems), and that Ng offered to have the DBS inspectors accompany him to training sessions but they declined.

Nor does the Controller take note of Ng's remarks to her auditors about the dangers inherent in relying on manufacturer-certified, developer-paid deputy inspectors to perform baseline inspection work at Playa Vista. In an audit interview on April 11, 2007, Ng expressed "concerns" that "the decision [on required detection systems] be made by independent and informed parties, not non-independent contractors who have vested conflicts of interest." Ng also advised the Controller's auditor that there is "an independence issue; an installer cannot be an independent tester over his own work."

In addition, Ng cited the cautionary example which he saw as personified by one paid consulting engineer, Sepich whose firm (Methane Specialists) is still doing deputy inspections at Playa Vista. Ng noted that when Sepich was designing the active mitigation systems for one PV building, Fountain Park Apartments, the firm low-balled the number of required detectors, even though comparably sized structures had "ten

times" the recommended number. According to the auditor's interview notes, Ng "believes that this engineer bases his recommendations on the expectations of each developer (cost factor), rather than from a logical and consistent standpoint."

In short, Ng warned that the deputy inspectors do not have the independence to guarantee the integrity of the inspection process.

He also noted that shortcuts in the system design, testing and inspection could place firefighters (and implicitly the public) in danger in the event of methane leakage at Playa Vista. In an October 31, 2006 interview (at B-5) Ng explained that methane detectors designed by DBS and installed at Capri 2, a complex of 28 single-family dwelling at Playa Vista, were dangerously flawed. By his account, DBS had failed to require that sensors be placed in the lowest level of the buildings, in the garage where the ventilation system is located. He said this "would impose a safety risk to the LAFD when they responded to an actual emergency" and that "the fire fighters would assume that in the event of methane detection in the home the ventilation system would have been activated when in fact it might not be the case." Ng noted that when LAFD objected to the design, "the DBS said that they would accept full responsibility." Ng, however, refused to give a passing acceptance test to any of these homes.

In another set of interviews – November 29, 2006- January 22, 2007 -- Ng reported that Lee Homes had later installed garage detectors in the first set of dwellings he had examined and that on "retest" the systems had all passed.

However, according to a document he provided to the auditors titled "Court Homes Methane Pre-test" (at Tab C-12) sixteen *other* homes in the Capri 2 complex received an "NA" (non-applicable) rating when inspected for garage sensors – in other words these homes had *no* garage sensors. On January 15, 2007 Ng tested the *non-garage* sensors and related components in six of these homes and gave the systems a *failing* grade. He subsequently retested these systems and all but one failed.

There is no indication in the work papers – and certainly no indication in the Controller's report – that Lee Homes has since installed sensors in the garages of these dwelling and thus obviated the danger Ng described.

The Controller's Report is equally silent about another danger Ng identified. In an October 31, 2006 interview he noted that the Taft Electric Company provides an annual inspection report on gas detectors throughout Playa Vista to certify that they are properly calibrated and operational. He went on to point out: "the annual reports have documented violations of ventilation fans that are not operating correctly or have been turned off." The auditor, who recorded these remarks, added: "outside the annual inspection he [Ng] does not believe that there is anyone that monitors the fans on a regular basis."

The Controller's 7-page formal report makes no mention of this.

The Controller does note (page 5 of Report) that one set of single family homes, Capri 1, has no methane detectors because of what DBS claims are low methane concentrations under the complex and because of what the DBS sees as a loophole in the requirements established in the Chief Legislative Analyst's Report adopted by the City Council in June 2001. The Controller states that a footnote in the requirements (which she characterizes as "guidelines," though in fact the courts have determined them to be legally enforceable) allows DBS to approve "equivalents" for the systems prescribed. She goes on to say: "DBS considered the elimination of a detection systems, as endorsed by a qualified methane engineer citing the adequacy of prevention systems for these homes, as an 'approved equivalent'." She does not acknowledge that the "qualified methane engineer" was "developer-paid." Nor does she explain how *no* methane detector is the "equivalent" of an actual one.

Nor does the Controller record the cautionary note Ng sounded with her auditor when he was asked about the elimination of these detectors on grounds there is little methane under the Capri 1. In a series of interviews from November 29 2006 – January 22, 2007 Ng warned that methane gas is "migratory, meaning that it has the capability to move from location to location, including a level 1, area, such as Lee Court Homes 1."

As reflected in CLA Report (at work papers C-9 – see concluding pages titled "Methane System Requirements") a Level 1 area is one where methane concentrations are found to be 100 parts per million or less. Though the Controller has taken DBS' word that Capri 1 is a Level 1 area, her work papers include (at Tab C-10) a "Playa Vista: Phase 1 Methane Mitigation" chart, provided by DBS, that shows that Capri 1 is actually a Level 1 and 2 (higher gas concentration) area. Thus the rationale for eliminating the detectors, which the CLA report prescribes for all sites and all methane level across Playa Vista ("Methane System Requirements"), becomes all the more dubious.

The Controller's Report (at page 5) does take note of the evidence provided in her work papers that the LAFD and DBS agreed in 2005 to relieve the Fire Department of its inspection responsibilities for methane detectors in single family homes at PV and that the two agencies restored this responsibility to the Fire Department in February 2007. The Controller attributes this back-and-forth to "a lack of clearly defined responsibilities" on the part of the LAFD and DBS at Playa Vista (at page 5 of her Report). She also faults the "guidelines" (CLA "Methane Mitigation Requirements") for "vagueness" (page 3 of Report) and states that "no distinction was made [in the guidelines] between commercial or residential properties, or different types of residential projects, such as single-family and multi-family homes."

A fair-minded reading of the CLA Report and the requirements it establishes (at work papers C-9) does not support the Controller's characterizations. The CLA Report makes no distinction between residential and commercial projects because on pages one and two of the actual document, the mitigation and detection requirements are clearly applied to *all* properties at PV (indeed the Controller's own auditor pencils in the margin of page one of the CLA Report included in the work papers: "rules for all properties"). Moreover, Inspector Ng in his October 31, 2006 interview with the controller's auditor (work papers

Tab B-5) refers a "matrix," long in existence, "which details the responsibilities for each department." (See copy of the Matrix at work papers C-27.)

Thus the "vagueness" and lack-of-clear-jurisdiction themes appear to be latter-day rationalizations by the Fire Department and DBS to justify changing or ignoring the legally enforceable CLA ground rules. In fact, the minutes of a meeting between Fire Department and DBS officials dated January 4, 2007, and included in the work papers (at B-6-1), show these officials floating the idea that "the CLA report does not clearly state that the LAFD should perform inspections of single family homes." In an "inter-departmental correspondence" dated February 22, 2007, officials of the two agencies seem to acknowledge that the CLA requirements, which grew out of the DBS' proposed "Playa Vista Methane Prevention, Detection and Monitoring Program," are much clearer than they have previously acknowledged (and clearer than the Controller allows). The memo states: "Single-family dwellings located in the Playa Vista Phase I area are required to comply with the 'Playa Vista Methane Prevention, Detection and Monitoring Program' dated January 30, 2001. LAFD and LADBS will review the plans for methane detection systems in all single family dwellings...Acceptance testing of methane monitoring and detection systems will be conducted by LAFD inspectors."

Spreadsheets

Final evidence that the Controller's Report misrepresents or at least misapprehends her auditors' work product is contained in the spreadsheets (work papers at Tab C-1) the auditors prepared on 18 residential building sites at Playa Vista. (There was no review of commercial sites like Electronic Arts, which is located in an area of the highest methane concentrations.) (See page one of this analysis for comments on the number of sites examined).

The spreadsheets, based on documentation from the Department of Building and Safety (and presumably from the Fire Department, though this is not apparent from the sheets), contradict the Controller's contention that "nothing came to our attention to indicate that required inspections relating to methane mitigation, or the project as a whole, were not performed." In numerous instances, these spreadsheets indicate that the auditors knew – or had reason to know -- that required inspections had *not* been performed at Playa Vista or were inadequately documented.

The spreadsheets are keyed to the methane detection and mitigation requirements set out in the CLA Report adopted by the City Council and thus made legally binding in June 2001 (at tab C-1).

As can be seen from the actual text, the CLA Report establishes three levels of methane mitigation, detection and monitoring requirements depending on the gas concentrations beneath each building site. These requirements, broken down into "Levels," are summarized at the end of the CLA Report in the chart labeled "Methane System Requirements."

The "Level 3" requirements apply to areas of the highest methane concentrations (12,500 parts per million – the lowest explosive level – and above).

"Level II" embraces areas with methane concentrations measured in the middle range at 1000 parts per million to 12,500 ppmv.

And "Level 1" includes areas with concentrations of 100 ppmv and below.

(Parenthetically, it should be noted that the Controller's work papers include two charts provided by DBS with inconsistent methane Level ratings for at least eight Playa Vista building sites – e.g. the same site may be listed as a Level 2 area on one chart and a Level 3 area on the second chart. This creates obvious confusion as to what mitigation measures are required.

One of these charts, titled "Office of the Controller – Compliance Review Playa Vista – Schedule of Residential Building Projects" can be found at work paper Tab C-1. The other chart, at Tab C-1, is titled "Playa Vista: Phase I Methane Mitigation."

The sites with differing methane Level ratings are as follows: 6011 S. Dawn Creek (listed in one chart as Level 3 and in the other chart as Level 2); 6021 Dawn Creek (Level 3 and 2); 6020 S. Caledon Creek (Level 3 and 2); 5625 S. Crescent Park (Level 2 and 3); 13075 W. Pacific Promenade; 13080 Pacific Promenade (Level 2 and 3); 6400 S. Crescent Park East (Level 3 and 2); 6020 Seabluff Dr. (Level 2 and 3); 13001 W. Bluff Creek Dr. (Level 3 and 2); 5864 Kyot Way (Level 1 and Level 1 and 2); 13028 Villosa Place (Level 1 and Level 1 and 2.)

The CLA Report states (page 2 of the text): "Building system requirements [Level ratings] will be determined based on the highest methane concentrations located beneath the building site as indicated on the applicable methane soil gas site survey." But given the migratory nature of methane gas described by Inspector Ng in his audit testimony (at work paper Tab B-5), presumptively gas levels can change, and the CLA Report provides for *continuous* electronic monitoring in Level 2 and 3 areas to detect such variances (page 3 of the CLA text), and *manual sampling every quarter* in Level 1 areas to the same purpose (page 4 of the CLA text). (There should also be other sampling – see our "Still Working On It" addendum below.)

According to the CLA Report, several of the required mitigation, inspection and monitoring requirements are universal, i.e. applicable to all sites. Every building at Playa Vista, regardless of the gas concentration Level, requires a sub-slab impermeable membrane to keep subterranean methane from seeping up into the building, and membrane-related collection vent pipes to detect any leaks and to siphon errant gases away from the building.

In addition, every building requires a methane detector at its lowest floor level to detect any methane in the air; audible and visual alarms to alert residents to such emissions, and a system for "automatic notification of the LAFD."

Finally, every building at Playa Vista, Phase 1, regardless of methane level, must receive "annual testing" of all systems and be subject to "continuous methane sampling and data collection accessible by the homeowner's association, LADBS and LAFD via the internet."

At the upper extreme, Level 3 buildings must not only have all the above technology and monitoring protocols in place; they must also be equipped with one or more 50 foot vent wells to siphon off methane gases deep in the earth.

At the lowest extreme, Level 1 buildings must have all of the universal detection/monitoring devices and protocols in place except for continuous monitoring via the internet. Unlike other buildings at other levels they are subject to quarterly manual gas sampling, with a quarterly written report on the sampling to be provided to the Fire Department and the Department of Building and Safety.

At Levels 2 and 3, the CLA Report requires a mechanical ventilation system to be installed that will be triggered if methane concentrations elevate. It also mandates that data be collected from sensors below the impermeable membrane and sensors between the membrane the lowest floor/basement level.

Measured against these CLA mandated requirements, *the Controller's spreadsheets reveal extensive omissions and/or shortfalls in the inspection, monitoring and testing data. Indeed, though auditor notations vary dramatically in specificity and clarity from one spreadsheet to another, it would appear that not one building project examined had a complete set of the required methane-related inspections.*

The most obvious of the omissions/shortfalls pertain to requirements for continuous monitoring and inspection, and for performance tests.

Continuous sampling via the internet

The CLA Report declares (text page 3): "In areas of Playa Vista where methane soil gas concentrations, as indicated on the applicable methane soil gas survey, are above 100 ppm, methane concentrations within the building system shall be monitored continuously by an electronic monitoring system. The methane concentration data shall be accessible (read only) over a secure Internet connection to the Los Angeles Fire Department, the Department of Building and Safety and the property owners association (or building owner as applicable.) In addition, an annual written report of the data together with any recommendations from a qualified methane engineer will be provided by the property owner's association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department. Copies of the written reports also shall be provided to the Playa Vista Master association."

Nowhere on the eighteen spreadsheets is there ANY data entry relating to the required "sampling & data collection – Internet" listed under the heading

“Monitoring and Maintenance.” And nowhere does the Controller take note of this omission and its implications in her seven-page Report.

Nowhere in any of the spreadsheets is there mention of the required annual reports on data collected through continuous monitoring via the internet. Under the heading “Monitoring and Maintenance – Supporting Documents” there are, repeated references to “Taft Report.” As evidenced by interview notes at Tab B4-4 of the work papers, DBS officials have tried to convince the auditor that the annual Taft Report is comprehensive and “needs to be 100 percent compliant to be accepted by DBS.”

But in fact, as can be determined from a textual review, the Taft reports and quarterly supplements apply only to the methane detectors at the lowest floor level of the buildings at Playa Vista and to the immediately related fans and vents. Indeed, an auditor acknowledges as much in “Audit Procedures” at Tab B-9 of the work papers. Here the auditor writes: “Taft Electric Company was the primary installer of detection systems...Taft Electric Company was responsible for providing annual maintenance or monitoring reports to DBS and LAFD certifying that the systems are operational according to stated guidelines.” The Controller’s own seven-page report makes no direct mention of Taft, its limited responsibilities or the limited scope of its inspection work. Nor does the report take note of Fire Inspector Ng’s caveat about the adequacy of Taft’s inspections. As remarked previously, in record of an October 31, 2006 interview with Ng, the Controller’s auditor noted: “The annual [Taft] reports have documented violations of ventilation fans that are not operating correctly or have been turned off. Outside of the annual inspection he [Ng] does not believe that there is anyone that monitors the fans on a regular basis.”

Annual testing and reports on all “individual building systems”

The CLA Report states under the heading of “Maintenance and Reporting” (page 5 of the text): “Individual building systems will be tested, maintained, and serviced at least annually by the building owner or property owners’ association pursuant to the manufacturers specifications and to the satisfaction of the Los Angeles Fire Department and the Department of Building and Safety....On or before July 1 of each calendar year the building owner or the property owner’s association shall submit a certification of the Los Angeles Fire Department and the Department of Building and Safety that the annual testing, maintenance and service has been completed and certifying that the system is operational.”

Nowhere in the spreadsheets is there any reference to the required *annual* testing, maintenance and service of “*individual building systems*” or to the annual reports that are supposed to document such testing. As indicated above, the annual Taft Reports apply only to methane detectors and related fans and vents. They do not cover any annual testing – if any takes place – of the membranes, of the fifty foot vent wells, or sub-slab-mechanical ventilation. Indeed, in the spreadsheets, under the heading “Testing/Monitoring,” there are NO entries that reflect any annual

testing of any of these devices. Nor is there any indication anywhere in the work papers that such testing takes place, that the related annual reports exist or that the auditors or the Controller thought to ask for them.

Quarterly manual gas sampling and reports in Level 1 areas

The CLA Reports states (page 4 of the text): "In areas of Playa Vista where methane concentrations, as indicated in the applicable methane soil gas site survey, are less than 100ppmv, methane concentrations within the building prevention systems will be manually sampled. Sampling will be conducted quarterly, provide that the methane concentrations remain below 100 ppmv... If in any quarter the monitoring data indicate that methane concentrations exceed 100 ppmv or if the monitoring data is highly variable, the Department of Building and Safety or the qualified methane engineer may require additional manual sampling of electronic monitoring of the methane concentrations. A quarterly written report of the monitoring data shall be provided by the property owners' association (or building owner, as applicable) to the Department of Building and Safety and the Los Angeles Fire Department."

According to the spreadsheets, only one set of dwellings at Playa Vista – the collection of Lee Group A (aka Capri 1) single-family homes at 13028 Villosa – falls under a Level 1 heading with methane concentrations of 100 ppmv or less. Another set of Lee Homes (Capri 1), at 5864 Kiyot Way, is shown on the appropriate spreadsheet to include Level 1 and Level 2 methane concentrations. Neither of the Capri I homes spreadsheets shows ANY entry related to the required "manual quarterly assessment" or to required quarterly reports on these assessments.

Moreover, auditor notes inscribed at the bottom of the Lee Group A spreadsheet indicate spotty overall documentation: "TCO [Temporary Certificate of Occupancy] issued in 2003, renew every 6 months/No FD sig.[nature] on TCO. The majority of Lee Group a had no sign off on TCO by FD. No C of O [Certificate of Occupancy] – Need additional sign-off by Fire, DWP, Public Work... Deputy Report – Lost – Grading."

DBS inspectors listed on the Lee Group A spreadsheet are Newton Gerhardt and Alex Velasquez. (Gerhardt is also the only DBS inspector listed by name on the other Lee Homes 1 spreadsheet). In an October 31, 2006 interview with the Controller's auditor (at work papers Tab B-5), Fire Inspector Ng indicated "he does not believe that Mr. Gerhardt has adequate training on methane mitigation systems." Velasquez, in his own interview with the auditors (Tab B-1) "acknowledged that he has been unable to account for all of the inspection files for all of the projects that he inspected."

The Controller, in her seven-page Report, makes no mention of the readily apparent omissions in the Lee Homes 1 spreadsheets, and is silent about her own auditor's notes concerning Gerhardt's lack of qualifications or Valasquez' lack of paperwork.

One additional note about the Lee Homes I. As Inspector Ng, among others, reported to the auditors, and as the Controller acknowledges in her Report, the DBS eliminated the gas detectors in the Lee Homes (Capri 1) series, in part because of the low level of methane concentrations.

However, as noted previously, the spreadsheet for Lee Homes 1 at 5864, lists the complex as being both a Level 1 and a Level 2 methane concentration area. The CLA states, as remarked above, that "building system requirements will be determined based on the highest methane concentrations located beneath the building site as indicated on the applicable methane soil gas site survey." Thus, per the CLA, Lee Homes 1 (Capri 1) should have the more robust methane mitigation and inspection requirements of a Level 2 area, including active methane detectors.

50 Foot Vent Wells

The CLA Report states in its appendix, "Methane Systems Requirements," that "subsurface ventilation" is required for Level 3 building areas where the highest methane concentrations have been detected. The spreadsheets interpret this requirement as applying to "subsurface ventilation (L3) Pipes to 50 ft vent wells."

Nowhere in the spreadsheets for the 18 building sites reviewed is there ANY explicit inspection data relating to *continuous* monitoring and testing or even *annual* assessments of and reporting on the 50 foot vent wells. This seems consistent with DBS' responses to Public Record Act Requests filed by Grassroots Coalition for information relating to continuous monitoring and testing of the vent wells. In each instance, DBS declared that there was no data responsive to the request.

(It is also consistent with what an aide to Councilman Rosendahl learned from Playa Vista representatives during a tour of the PV site on July 6, 2007. The aide was told flatly that the 50-foot vent wells do not work – an extraordinary, indeed unprecedented concession from Playa Vista.)

Regarding the 50-foot vent wells, the "Supporting Documents" entries in the spreadsheets appear to relate exclusively to *installation* of the wells. Even then, they are often inconclusive. For three of the eighteen sites reviewed (5744 Celedon, 6346 Seawalk, and 13001 Bluff Creek), the spreadsheets show no "Supporting Documents" whatsoever for the vent wells – which could mean that the auditors received no documentation from DBS relating to the wells' installation

In two instances (6020Seabluff and Villa d'Este), the spreadsheets list only "permit" as documentation for the vent wells – which could mean that the only evidence of the vent wells' existence resides in shorthand entries in the DBS computerized PCIS system showing that a permit was issued or finalized for the wells.

Even more problematic are three Level 3 spreadsheets that refer to inspection certifications for 50 foot wells by Carlin Environmental Consulting, (CEC), a consultant paid by Playa Vista, whose website advertises expertise in installing

liquid-boot membranes. In these spreadsheets (for 13200 Pacific Promenade, 6028 Crescent Park, and 6104 S. Crescent Park) a "notes" entry appears in the "Supporting Documents" column with no further information, followed by an unsourced entry that reads "deep vent well completed and inspected 7/30/03." Underneath an auditor has appended this note: "CEC Dec. 3, 2003 letter indicates that the mitigation and system and monitoring system has been installed and operating effectively." There is no explanation of how a "letter" from Carlin suffices for 50 foot-vent-well documentation or inspection data in lieu of city-generated verification and sign-offs.

Eleven of the spreadsheets for Level 3 buildings at Playa Vista list Alex Velasquez as a DBS inspector of record. He is the individual who "acknowledged" to the Controller's audit staff (at work papers tab B-1) "that he has been unable to account for all of the inspection files for all of the projects that he has inspected." On two other Level 3 spreadsheets, Newton Gerhardt appears as the sole DBS inspector of record. Inspector Ng described him to auditors (at Tab B-5) as someone with no training in methane.

On various Level 3 spreadsheets, the auditors list "DBS Notes," "B-94," "DBS Plan check" and/or "permit" in the "Supporting Documents" column, sometimes with dates but often without any elaboration. These entries are so unspecific as to make impossible any analysis of their meaning or veracity. In fact there should be multiple B-94 inspection-document entries for every mitigation device at Playa Vista and every site. The auditors frequently insert a singular "B-94" into the spreadsheets, suggesting that they are referring to just one document. If only one B-94 is available for each device per site the record would seem woefully inadequate.

Sub-slab Membranes

The CLA report states (page 3 of text): "...building prevention system elements shall include...a City of Los Angeles approved methane gas membrane designed to prevent methane gas from migrating into enclosed building areas. As indicated on various spreadsheets, a smoke test is the accepted method for initially verifying the integrity of the membrane. The CLA Report also states (page 3 of text): "Methane sensors above and below the methane membrane may also be utilized to assist the qualified methane engineer in determining the integrity of the methane membrane."

Nowhere in the eighteen spreadsheets is there any indication that the sensors related to the membranes are being monitored continuously to enable a qualified inspector to determine the continued integrity of the membranes.

Moreover, according to the spreadsheets, only ELEVEN of the eighteen sites reviewed had smoke tests conducted on their sub-slab membranes. Two more had smoke test entries noted in incorrect spreadsheet columns.

The spreadsheets for five sites showing smoke tests (5300 S. Playa Vista Drive, 12963 W. Runway, Villa d'Este, 5700 Seawalk and 5701 Kiyot) provide no dated

documentation for them in the "Supporting Documents," and spreadsheets for the last two of these sites include only the phrase "Methane Report" in the "Supporting Documents."

This phrase, "Methane Report," which also appears as a "supporting document" for various other inspection entries in the eighteen spreadsheets, is never explained in the work papers and corresponds to no documentation noted on DBS' computerized PCIS website or produced in connection with any PRA responses we have examined.

The spreadsheets list NO smoke tests for the following sites: 5864 Kyot (Capri 1); 6346 Seawalk; 5562 Brisa Way; 13080 Pacific Promenade and 13001 Bluff Creek (under construction).

Of these, only two (Bluff Creek and Seawalk) show dated spreadsheet inspection entries for the *membranes* themselves. Only one (Seawalk) shows any dated spreadsheet inspection entry for "sensors below membrane" and "sensors between membrane and slab inside building." The absence of dated entries raises questions about the completeness of the inspections and of the membranes themselves.

The two sites whose spreadsheets list the "smoke test" entry in inapplicable columns are 5625 S. Crescent Park West and 13200 W. Pacific Promenade (along with 6028 S. Crescent Park and 6104 S Crescent Park which are listed on the same spreadsheet.). Both spreadsheets contain auditor's notes referring readers to a "letter" from CEC, Carlin Environmental Consulting.

On the spreadsheet for 5625 S. Crescent Park, the notes read: "August 28, 2003 letter from CEC noted that the [sic] all components of the methane barrier system, passive and active venting systems, and electronic monitoring systems are successfully installed.

On the spreadsheet for 13200 W. Pacific Promenade, the auditor's notes read: "CEC Dec 3, 2003 letter indicates that the mitigation system and monitoring system has [sic] been installed and operating effectively.

It appears that here again the auditors concluded that these broadbrush CEC letters substitute for B-94 inspection notes and other customary city-generated verifying documentation.

Methane Detectors

The CLA Report states (page 2 of the text): "All buildings will be equipped with methane gas detection systems within spaces located in the basement levels of the buildings and data collecting sensors below the lowest floor/basement slab..." As the auditors learned from Fire Inspector Ng (work paper Tab B-5) and other sources, and as the Controller noted in her report, the DBS decided unilaterally to eliminate detection devices in the Capri 1 single-family complex partly on the grounds that it was an a Level 1 methane

concentration area, though in fact the spreadsheet for "5864 Kiyot - Lee Homes 1" lists it as a combined Level 1 and 2 area.

The spreadsheets confirm what the Controller's records without naming names: the single-family dwellings that make up Lee Homes 1 (Capri 1) at 5864 Kiyot Way have no methane detectors in the lowest level of the buildings. More surprisingly, the spreadsheets for three more sites carry no inspection, testing or monitoring entries for methane detectors: 5300 Playa Vista Drive (Level 3, occupied); Villa d'Este (Level 3, occupied); 13001 Bluff Creek (Level 2, under construction).

The spreadsheets for six other sites list only "permit" as the final "supporting document" verifying installation of detectors.

One of these, for 6020 Seabluff, Units 1-116, pegs the "permit" to the following date: 8/30/2005. But the cover document which the auditors prepared for the spreadsheets - "Office of Controller - Compliance Review Playa Vista - Schedule of Residential Building Projects" (Tab C-1) - contains a handwritten auditor's note for this address that casts doubt on the adequacy of all inspections there. The handwritten entry reads: "Litigation...No TCO issued per city - de-watering."

Further, among the Controller's work papers is an internal DBS e-mail, written by Inspector Richard Fortman on January 18, 2007 detailing documentation problems for 6020 Seabluff, including un-issued permit applications, un-reviewed application histories and non-finaled permits. Fortman states: "It will take weeks for me to process every application for an occupancy certificate...The current property at 6020 Seabluff Dive at Playa Vista has been waiting for weeks to achieve this goal. Until our staff fulfills this requirement I will not put my signature on any occupancy certificate." Since 6020 Seabluff is listed as still being under construction, some of these issues may be due to work-in-progress. But Fortman's e-mail and the spreadsheet indicate that the problems may be of such magnitude as to obscure which inspections have taken place with adequate documentation and which have not.

The spreadsheets for four more sites show only undated "notes" as "supporting documents" verifying installation of detectors.

Two spreadsheets - for 5625 S. Crescent Park West and for 13200 W Pacific Promenade - rely on the broad-brush CEC letters to supplement the "permit" entry as inspection verification for the detectors. One of these spreadsheets, for the Pacific Promenade address, contains an additional free-floating entry at the bottom of the page that casts doubt on the reliability of all above entries. It reads: "Many line items in the Certificate of Occupancy Final Checklist (revised Oct. 23, 2006) has [sic] not been initialed. Some example line items include: copy of the fire life safety pre-test..."

As Fire Inspector Ng points out in his audit testimony (at Tab B-5), the Fire Department customarily performs acceptance tests for methane detectors. Nowhere is there any indication of this in the spreadsheets. Indeed, where an "inspector" is

listed for detector inspections – and this is done infrequently – it is “DBS” DBS/DI [deputy inspector].” This may reflect the fact that DBS signs off on the site permit after FD has signed the inspection matrix. But there is nothing in the spreadsheets – or in auditors’ “Audit Procedures” or the Controller’s seven-page Report – to clarify this.

Ng also makes clear in his audit testimony (B-5) that Taft Electric performs “pre-tests” for the detectors and produces yearly inspection reports to verify their functionality and proper calibration. However, only one of the spreadsheets, for 6346 Seawalk, lists “Taft” in the “inspector/engineer” column for methane detectors and the required inspections. Thus, at the very least the spreadsheets provide an imprecise or incomplete guide to who is performing installation and maintenance inspections on the detectors.

Propriety of DBS Issuing TCOs and COs without full Inspection Compliance and Certification by Fire Department

The CLA Report states (page 5 of text): “No Certificate of Occupancy shall be issued for any building until the methane systems, as required by Methane System requirements attached as Appendix 1, are operational and a qualified methane engineer has certified the systems to be operational.”

A Handwritten auditor’s note at Tab C-32, with an asterisk at the top that reads “Provided by DBS 5/16/07,” contains notations about the issuance of Temporary Certificates of Occupancy at Capri 2 (Lee) Homes at PV. The “provided by DBS” caveat appears to refer to inserts in bold in the following notations: “**According to CLA Guidelines**, TCO’s were authorized by DBS without obtaining the req’d concurrence from LAFD and Planning at Lee Home – Capri Court II.” A marginal insertion in bold that reads “**more accurate language**” has an arrow pointing from the above notation to the following one in bold: “**LAFD and Planning did not approve the issuance of some temporary Cert. Of Occupancies for some single family dwellings.**”

The bold addenda, apparently inserted by DBS, soften the meaning of the first notation and indeed the “according to CLA guidelines” is an inaccuracy since the CLA Report in no way allows TCO’s to be “authorized by DBS without obtaining the req’d concurrence from LAFD...” Even so, enough is preserved of the initial auditor’s notation to indicate that Capri II got TCO’s “without Fire Department concurrence.”

This is confirmed by an entry and a footnote in audit interviews, November 29, 2006 – January 22, 2007, with Fire Inspector Ng. Under the heading Lee Homes II appears the following paragraph: “A written agreement between DBS and LAFD management prohibited Inspector Ng from performing acceptance tests of the remaining [16] homes upon their completion.” An auditor’s footnote (1) to this paragraph reads: “Since Inspector Ng did not perform acceptance tests he also did not sign off on TCO’s (see TCOs at w/ps C-15).”

In audit interviews (at Tabs B1-B5) DBS officials acknowledged that the permitting process is lagging behind occupancy. One audit note reads: "DBS confirmed that permits are still being closed as they are discovered even though the projects have been completed"

The spreadsheet for 6010 S. Celedon -- which is shown on the "Playa Vista Phase I Methane Mitigation" chart to be a Level 2 area and occupied -- contains the following notation: "no certificate of occupancy on file."

The spreadsheet for 13200 W. Pacific Promenade, -- which is shown on the "Playa Vista Phase I Methane Mitigation" chart to be a Level 3 area and occupied -- contains the following notation: "Many line items in Certificate of Occupancy Final Checklist (revised Oct. 23, 2006) has [sic] not been initialed. Some example line items include: copy of fire life safety pretest; inspector notes are complete and finalized with a matching HLFRR code in PCIS." (The spreadsheet also lists two other sites 6028 S. Crescent Park and 6104 S. Crescent Park. Neither is listed on the "Playa Vista Phase I Methane Mitigation" chart.)

The spreadsheets would seem to indicate that two complexes have TCOs without properly documented inspections, and Inspector Ng's testimony indicates that at least 16 Capri 2 homes are without full TCO documentation. The spreadsheets also show that two sites have CO's without the requisite properly documented inspections. According to the CLA Report, the last two at the very least should not have received their CO's.

In fact, as already indicated, a review of all the spreadsheets show not one site or site complex that has all the inspections fully and properly noted. Thus it might be argued that many CO's have been issued without the criteria of the CLA Report having been met.

Alarms and Fire Department Notification System

The CLA Report states in reference to the universally required methane gas detectors at the lowest floor level of all PV buildings (page 2 of the text): "The detection system will activate a visual and audible building alarm if methane concentrations are detected at 12,500 ppmv within the building (25 percent LELK) or higher. Concurrent with the building alarm activation, an electronic signal will notify the Los Angeles Fire Department of the building alarm activation."

The spreadsheets contain little inspection information regarding the alarms and notification system referenced above, and what they do contain is uneven. Only one spreadsheet -- for 13075 W Pacific Promenade has "FD" in the "inspector/engineer" column for alarms and the LAFD notification system. Other spreadsheets indicate DBS handled the initial inspection work. Who consistently inspects these systems? The spreadsheets provide no clarity whatsoever.

Moreover, two documents obtained by the Controller's audit staff indicate that whatever the available test and inspection information, it may not fully reflect the functionality of the alarms and the electronic signaling system designed to notify the Fire Department of alarm activation and the presence of methane. In a letter, dated May 2, 2006 to Jeff Lee of Lee homes (at C-1) a Playa Vista official, Doug Moreland, quotes Inspector Ng as saying that "some units at Capri Court II had inadvertently disconnected phone lines attached to the auto methane dialer systems." Moreland goes on to say: "the residents do not understand that the dedicated phone lines need to be connected at all times to the auto dialers for the system to function properly...[N]otification needs to be sent to the Sub-association Management Company about the importance of maintaining the dedicated phone lines."

In addition, as remarked previously, in a Correction Notice dated January 15, 2007, re failed acceptance tests at Capri II single family homes (at C-12), Ng writes: "All central station dialer tests failed. (No signal [could be] rec'vd by monitoring company indicating high level methane alarm.)"

End Note:

In sum, the City Controller's final positive conclusion about the adequacy of inspections at Playa Vista is fatally at odds with the data her own auditing staff expertly collected. Further, her recommendations to the City – with the exception of those pertaining to DBS' poor record keeping – apply to a phase of the Playa Vista project, Phase II, that her staff did not even review. Given the evidence the Controller has gathered, some refinement of her final conclusion and recommendations would seem to be indicated, though we can only judge from the data provided to us. There may be other materials that we have not seen that might warrant further rethinking.

Addenda

More Missing Inspection Data – City Council-Mandated Annual Report and public Task Force

As indicated in the work papers at Tab C-21, the City Council voted on February 6, 2004 to "hereby move that Council amend the Panning and Land Use Management Committee Report...relative to establishing citywide methane mitigation requirements: instruct the Department of Building and Safety to report back annually relative to what is being learned, what is being submitted as analysis occurs, and the levels of improvement needed; and further, instruct the Department of Building and Safety to create a task force, including but not limited to neighborhood Councils, individuals involved with development and experts as needed."

On March 28, 2006 City Councilman Bill Rosendahl, whose district embraces Playa Vista, sent a letter to DBS inquiring about the *public* task force and the annual report mandated by the City Council motion. Following a DBS letter in response, he sent a second letter to the Department dated June 22, 2006 in which he decried the fact that a

task force that DBS had created and described in the letter was *not* open to the public as the Motion contemplated.

Rosendahl continued: "To be clear, the task force you mention is [a] substantially different one than the one envisioned by the council motion. This is either an egregious mistake or a flagrant disregard for a directive from the City Council."

With respect to the required Annual Report, Rosendahl admonished the Department: "Your reply letter attached a copy of just one annual report, coincidentally dated a day before your letter was sent...I remain curious about the reports required for previous years. Further, the annual report you provided relies heavily on the work and feedback of the methane Task Force. Given my concerns about how the task force you have composed fails to meet the mandate or mission of the council directive, its use as a foundation for the annual report makes the entire document suspect."

Though the Controller's work papers acknowledge the City Council Motion, they make no mention of the adequacy of the DBS' follow-through, or Rosendahl's concerns. Since both the task force and annual report relate to the issue of accountability and City oversight of the Playa Vista site, some attention to these issues would seem warranted.

More Missing Inspection Data – Methane Mitigation Monitor, Planning Department and CEQA

Though representatives of the LA Planning Department advised the auditor's staff (work papers at Tab B-7) that their agency is largely a repository for inspection documentation generated by DBS and LAFD, LA City Council directives, building on the California Environmental Quality Act (CEQA), have in fact mandated a methane mitigation monitor for Playa Vista answering directly to the Planning Department.

According to the law itself, "CEQA requires that each public agency adopt objectives, criteria and specific procedures to administer its responsibilities under the Act and the CEQA Guidelines (Section 21082). Accordingly, local agencies should revise their adopted CEQA guidelines and procedures as necessary to include the requirements of Section 21081.6. The task of designing, monitoring and reporting programs is the responsibility of the public agency which is approving the project."

On June 12, 2001, The LA City Council adopted the recommendations by the PLUM Committee to note and file the CLA Report setting out mitigation requirements for Playa Vista, to direct the planning department to require the project mitigation monitor to oversee implementation of the mitigation measures described in the report and direct other city departments to coordinate with the planning department regarding implementation of the new methane mitigation systems." The existing environmental monitor at Playa Vista, mandated by CEQA, thus took on the additional duty of methane monitoring.

However, based on Planning Department audit testimony, the environmental monitor at Playa is not actively pursuing his methane mandate. That would seem to be an issue which the city controller and other city authorities might wish to address.

DBS's Handling of Facts – the SoCalGas issue and Avery

According to the working papers (at Tab P-4), the DBS provided the auditors with a power point presentation on Playa Vista. One of the "Points" stated: "Methane gas at PV does not come from gas stored at the S. Cal. Gas Storage Facilities."

This oft-repeated contention of DBS' has been challenged by an analysis issued by the Consumer Protection and Safety Division, California Public Utilities Commission, on November 18, 2004. The PUC analyst reviewed a report by Sepich Engineering on 3/25/99 and discovered that traces of methane with the helium marker of SoCal storage gas had been detected at Playa Vista. The PUC analyst stated: "The significance of this isotopic analysis report is the presence [of] Storage reservoir gas or Native PDR gas signature and the location of where the sample was collected (Area-D of Playa Vista Project). My opinion is that the probability of Storage Reservoir Gas sample from PDR area containing Ethane and 22 PPM Helium is greater than 50 percent. . . Furthermore the location where the sample was collected should be of major concern."

DBS had the Sepich report in hand long before the PUC uncovered it, but has continued to claim categorically that SoCal storage gas is not present at Playa Vista. DBS has acknowledged that if such gas has seeped into the project, this would change methane equations for the site and necessitate changes in mitigation requirements.

Another example of apparent DBS fact-juggling is contained in the controller's work papers at Tabs C-2-0 and C-3. On February 26, 2007 the chief of DBS's engineering Bureau sent a letter to the Controller's Audit Division titled "Safety Regarding Methane Mitigation Systems Within Playa Vista Capri II." On page 3 of the letter he cited as "input from the city's methane task force" an un-attributed quote from an expert that reads: "it is abundantly evident that a passive system beneath a building is all that is required to protect the interior of the building from dangerous levels of methane gas instruction. . ." The letter was clearly designed to justify DBS' decision to cut back on mitigation measures at Capri II. What DBS did not acknowledge – but what an auditor noted in marginalia – is that the source of the quote was the engineering firm "Terra Petra" headed by one Hugh Avery. In a separate working paper at C-2-0, an auditor notes in a margin: "We are told by Richard Fortman, DBS and Michael Ng, LAFD, Mr. Avery is a paid consultant of Playa Vista." *In other words, DBS was attempting to represent the opinion of a clearly interested party as independent authority for its position on Capri II.*

Nowhere in the Controller's Report is there any indication that DBS attempted to suppress, ignore or manipulate data to buttress its positions, even though an outside observer might be tempted to question some of DBS's data and findings as a result.

Noteworthy omission from Controllers' Report – Alfred Babayans

Prior to the issuance of the Controller's Report, Councilman Rosendahl sent her a copy of a sworn declaration by former DBS engineer, Alfred Babayans, who helped design the mitigation systems at Playa Vista.

Among other things Babayans states under oath: DBS review procedures for permitting and approval of the methane mitigation systems at Playa Vista were "substantially relaxed...to favor the building contractors and limit the cost implications..."

He goes on: "I personally became aware that gas mitigation systems were allowed to be installed at Playa Vista by the City without first going through a blueprint review and design verification with the methane ordinance requirements..."

"The methane mitigation systems...failed to comply with appropriate design requirements to assure safe operation over the range of anticipated operating conditions..."

"A so-called Dual System was used in which subsurface perforated gas collection pipes were simultaneously used to also collect water – that was seeping into these gas collection pipes – and drained to a sump area. This practice is extremely dangerous because of the high probability that the perforated gas collection pipes will fill with water...and completely defeat the passively designed gas mitigation system..

"The above-described defective design features employed at the Playa Vista site also prevent – on an on-going basis – the ability to detect and determine if the methane mitigation system is actually venting gas into the atmosphere, as required to protect the building structures from explosion and fires. This is the central flaw of the passive mitigation system that was allowed to be installed at Playa Vista against my strenuous objections..."

"I have reviewed various Declarations that have been prepared by LADBS employees who I formerly worked with, that purport to claim that the gas mitigation system at Playa Vista works as intended. Based upon my personal knowledge of the defects existing in this system, these declarations by current employees of the City are only self-serving conclusory opinions, not based upon the actual limitations of the system as installed..."

"The serious design defects that exist in the methane mitigation system... were deliberately and intentionally allowed to be used by LADBS officials in order to favor cost cutting measures advanced by the building developers. This violated the established practices and procedures of LADBS... As result of these violations, there is an ever present risk of fires and explosions at the Playa Vista site" [emphasis added].

Given Babayans' expertise, the specificity of his allegations, and their obvious bearing on the utility of methane inspections and City oversight at Playa Vista, one might have reasonably expected him to be among those interviewed by the Controller's staff,

especially since the Babayans declaration was presented to her by Councilman Rosendahl whose legislative responsibilities include the safety of Playa Vista.

But nowhere is Babayans referenced in the auditor's work papers or the Controller's Report.

Propriety of DBS Altering CLA Methane Mitigation Requirements

In an audit interview on October 31, 2006 (B-5), Fire Inspector Michael Ng made clear: "In regard to Lee Homes – Capri Court 1, DBS decided independently that no active methane mitigation systems would be installed in the single-family homes. DBS explained to LAFD that it was within their discretion to make a determination that no systems were necessary, as stated with the CLA report."

With respect to the legitimacy of this discretionary claim, code experts have emphasized to us the importance of an Attorney General's ruling in a Pasadena case several years ago whereby the A.G. voided Pasadena Ordinance No. 6847 that substituted a local building standard for the state mandated one. According to a law journal excerpt, "Attorney General concluded that Ordinance No. 6847 is not consistent with state law. Ops Cal Atty Gen 01-306. The legislature has enacted the California Building Standards Law (Health and Safety Code 18901 to 18949.31) and the California Building Standards Code (California Code of Regulations Title 24). The California building code is based on the 1997 edition of the Uniform Building Code. 24 California Code of Regulations 104.2.8 permits a building official to approve of alternate materials and designs, but *such approval must be based on specific evidence that the proposed design is at least the equivalent of that prescribed by the California Building Code in strength, effectiveness, fire resistance, durability, safety and sanitation*. Because the building official did not make such a determination but relied on the proceedings of the International Code council to validate the international Building Code, Ordinance No. 6847 does not comply with state law" [emphasis added].

Code experts say that Ops Cal Atty Gen 01-306 appears to void DBS' unilateral deviation from the Code standards at PV, especially in the absence of "specific evidence" of equivalency. They also say that the Appeals Court ruling in the Etina v City of Los Angeles has the same effect.

Thus, there appear to be two legal authorities that would warrant challenging the propriety of DBS' decisions (with Fire Department concurrence) to obviate Fire Department methane inspection duties at single-family homes at PV and to eliminate methane detectors at the Capri 1 single-family-homes complex.

"Still Working On It" – another Missing Inspection

Included among the Controller's work papers (at Tab C30) is a document called "Still Working On It" prepared by the city's peer reviewer for Playa Vista, Engineering Technologies Inc. (ETI). This document postdates the City Council's adoption of the

CLA Report and is an attempt by ETI to underscore the importance of certain proposed mitigation and monitoring measures at Playa Vista. It's "recommendations" section states in part: "The methane mitigation systems proposed for these buildings must be thoroughly tested to insure that their performance meets the specifications. *Gas samples must be collected from the sampling ports located both above and below the membrane and analyzed in a laboratory for their methane through butane contents.* Simultaneous sample collection must be performed in the vent riser in order to determine how closely the vent monitoring system meets the requirements of monitoring the gas concentrations under the slab and in reducing the methane gas concentrations below the membrane to below 3.75 percent. If these testing and reporting procedures are not followed then a hazardous condition exists" [emphasis added].

This passage not only underscores the importance of the sampling explicitly mentioned in the CLA report, but stresses the criticality of yet another sampling process – that involving the "ports" located above and below the membranes. Nowhere in any records we have examined – and nowhere in the Controller's work papers – is there any indication that such port sampling has ever occurred. Indeed, interviews with Playa Vista workers and on-site inspection of the ports suggest these portals have never been opened, at least not in recent years. Methane experts tells us such "port" sampling would be of a piece with the continuous monitoring contemplated by the CLA Report.

Office of the Controller - Compliance Review
 Playa Vista - Schedule of Residential Building Projects

8 out of 18 sites
 are rated at different
 levels of gas concentration
 on 2 different docs

Project Name	Builder / Manager	Type	Address	PCIS #	Level	2
✓ Fountain Park / Essex Property Trust Sunrise Senior Living		Apartment	13151 Fountain Park Dr.	99010-10000-03384	II	R
✓ P-3000 Tapestry I	Sunrise Senior Living	Assisted Living	5562 South Brisa Way	00041-10000-22693	III	R
P-900-I Tapestry I	John Laing Homes	Condo	5701 Kiyot Way	99010-10000-03881	II	R
✓ P-900-I Tapestry II	John Laing Homes	Condo	5700 S. Seawalk Dr	02010-10000-02909	II	R
✓ P-900-II Tapestry II	John Laing Homes	Condo	6011 S. Dawn Creek with Dawn Creek	03010-10000-03141	III	R
✓ The Metro P-600	John Laing Homes	Condo	6010 S. Celedon Creek	03010-10000-03143	III	R
✓ Avalon P-200	West Millenium Home	Condo	5625 S. Crescent Park W	99010-10000-03918	II	R
✓ Paradise P800-I	Warmington Homes	Condo	13075 W. Pacific Promen	99010-10000-03878	II	R
Crescent P-100	Shea Homes	Condo	13173 W. Pacific Promen	00010-10000-00640	III	R
✓ Villa d'Este P-700	Olson Group	Condo	13200 W. Pacific Promen	00010-10000-00083	III	
✓ Esplanade P-500	Warmington Homes	Condo	5935 S. Playa Vista	00010-10000-02251	III	R
Chatelaine P-1000-A	Standard Pacific Hom	Condo	13080 Pacific Promenade	01010-10000-00424	II	R
West Millenium P-550	Standard Pacific Hom	Condo	5721 S. Crescent Park W	02010-10001-01809	III	
✓ Avalon P-200-II	West Millenium Home	Condo	5300 S. Playa Vista	02010-10000-01423	III	R
✓ Promenade P-400	Warmington Homes	Condo	12963 W. Runway Rd.	02010-10000-03513	II	R
Warmington Homes P-700-B	Western Pacific Hou	Condo	13044 W. Pacific Promen	02010-10000-03174	II	-
Standard Pacific Homes P-525	Warmington Homes	Condo	7101 S. Playa Vista	02010-10000-04304	III	
Keith Companies P-102	Standard Pacific Hom	Condo	12975 W. Augustin Pl.	03010-10000-01803	II	
Greystone Homes P-825	Keith Companies	Condo	6400 S. Crescent Park E	03010-10000-04665	III	
NA	Greystone Homes	Condo	13031 W. Villosa Pl	04020-10000-04086	II	

h

PLAYA VISTA: PHASE I METHANE MITIGATION

Key: = Occupied

= Under Construction

= Permit Issued; no construction

Project Name	Owner/Builder	Address	Methane Level (1, 2, 3)	Building	
Centerpointe Club	Playa Vista Parks and Landscape Corporation (PVPAL)	6200 Playa Vista Dr.	3	<input type="radio"/>	
Fire Station	Playa Capital Company constructing for the City of Los Angeles Fire Department	5451 S. Playa Vista Dr.	2	<input type="radio"/>	
Fountain Park Apts. Phases I & II	Essex Fountain Park Apts, L.P. (built by Playa Phase I Apartments LLC and Playa Phase II Apartments LLC)	13151/13163/13175 W. Fountain Park Dr., 5389/5399 S. Playa Vista Dr.	2	<input type="radio"/>	
Library	City of Los Angeles	6400 S. Playa Vista Dr.	2	<input type="radio"/>	
Visitor Center	Playa Venia LLC (built by Playa Capital Company LLC)	5450 S. Lincoln Blvd.	2	<input type="radio"/>	
Water's Edge	Playa Vista-Water's Edge, LLC	5522 S. Brisa Way; 5510/5570 S. Lincoln Blvd.	3	<input type="radio"/>	
Crescent Walk	Olson-Playa Vista, LLC	13200 W. Pacific Prom./ 5625 Crescent Park East	3	<input type="radio"/>	
Waterstone	Westwind Crescent Park Condos, LLC	6400 S. Crescent Park East	3	<input type="radio"/>	
200	Avalon	Warmington Avalon, LLC	13075 W. Pacific Prom.	3	<input type="radio"/>
200B	Catalina	Warmington Avalon, LLC	12963 W. Runway Rd.	2	<input type="radio"/>
250	Tempo	East Concert Park, LLC	6020 S. Seabluff Dr.	2	<input type="radio"/>
300/1250	The Lofts/Park Houses	Concert Park South Venture, LLC	13020 W. Pacific Prom.	3	<input type="radio"/>
325	Concerto Lofts	Warmington PV 325 Associates, LLC	13045 W. Pacific Prom.	3	<input type="radio"/>
400	Promenade	Western Pacific Housing, Inc.	13044 W. Pacific Prom.	2	<input type="radio"/>
500	Esplanade	Plaza Condominium Ventures, LLC	13080 W. Pacific Prom.	2	<input type="radio"/>
525	Carabella	Standard Pacific Corp.	12975 W. Augustin Pl.	2	<input type="radio"/>
550	Bridgeway Mills	Bridgeway Mills, LP	5300, 5350, 5400 S. Playa Vista Dr.	3	<input type="radio"/>
600	The Metro	Crescent Park Ventures, LLC	5625 S. Crescent Park East	3	<input type="radio"/>

3

PLAYA VISTA: PHASE I METHANE MITIGATION

Key: Occupied
 Under Construction
 Permit Issued, no construction

Parcel Number	Owner/Builder	Address	Neighboring Parcel #	Building Status
625	Coronado	Warrington PV 625 Associates, LLC		
700	Villa D'Este	Warrington Villa d'Este, LLC	7100 S. Playa Vista Dr.	3 C
700B	Villa Savona	Warrington Villa d'Este, LLC	5935 S. Playa Vista Dr.	3 O
800	Paraiso	West Landmark Ventures, LLC	7101 S. Playa Vista Dr.	3 O
825	Serenade	Greystone Homes, Inc.	13173 W. Pacific Prom.	3 O
900A	Tapestry I	WL Homes, LLC	13031 W. Villosa Place	2 C
900B	Tapestry II	WL Homes, LLC	5701/5801 Kiyot, 5700/5800 S. Seawalk Dr.	2 O
900C	Runway Lofts	Runway Lofts Venture, LLC	6011/6021 Dawn Creek 6010/6020 S. Caledon Creek 12910 Runway Rd.	2 O
1000	Chatelaine	Chatelaine Ventures, LLC	5721 S. Crescent Park W.	3 P
1000B	Dorian	Chatelaine 2 Ventures, LLC	6241 Crescent Park W.	3 O
1225A	Capri Court I	Court Homes at Playa Vista, LLC	5832-5764 S. Kiyot Way, 13028-13044 W. Villosa Pl.	3 O
1225B	Capri Court II	Court Homes at Playa Vista, LLC	12910-12940 W. Agustin Pl., 5720-5749 S. Dawn Creek, 12911-12941 W. Runway Road	13, 23 O
1225C	Matisse	Bluff Creek Limited Partnership	13001-13029 W. Bluff Creek Dr.; 13004- 13028 W. Discovery Creek; 6502-6682 S. Para Way, 6407-6651 S. Seabluff Dr.	3 C
1225D	Mondrian	Bluff Creek Limited Partnership	12904-12940 Discovery Creek; 12907-12923 Bluff Creek Dr.; 6404-6410 Dawn Creek	2 C
1300A	Icon	WL Homes, LLC	13041-13083 W. Bluff Creek Dr.; 6305-6335 S. Para Way; 6300-6400 S. Seawalk Dr.;	3 P
1300B	Icon	WL Homes, LLC	13041-13082 S. Kiyot Way 13050 W. Discovery Creek	3 C (partial)
2000	Crescent Park Apts.	Crescent Park Corp. (built by Fairfield North Crescent, LLC)	5710 Crescent Park East	3 C (partial) O

PLAYA VISTA: PHASE I METHANE MITIGATION

Key: Occupied

Under Construction

Permit Issued; no construction

Permit Number	Project Name	Owner/Builder	Address	Methane Level (1, 2, 3)	Building Status
2000B (Bldg 1)	S. Crescent Park Apts.	Finvest Playa Vista, LLC	7225 S. Crescent Park West	3	C
2000B (Bldg 2)	S. Crescent Park Apts.	Finvest Playa Vista, LLC	6565 S. Crescent Park West	3	C
3000	Sunrise Assisted Living	Sunrise Playa Vista Senior Living, LLC	5555 S. Playa Vista Dr.	3	O

Notes:

- 1) In the case of "for sale" residential product, completed units have been sold to, and are now owned by, individual homebuyers
- 2) Level 1 requires quarterly reports
- 3) One unit falls within extrapolated methane level 2

5

**LOS ANGELES FIRE DEPARTMENT
CONSTRUCTION SERVICES
CORRECTION NOTICE**

JOB ADDRESS: COURTYARD - CAPCT II (ADDRESSES BELOW)			INSPECTION DATE: 01/15/07
JOB DESCRIPTION: A-3 SINGLE FAMILY HOMES			CONTACT PHONE: (310) 827-0171
TO: (NAME) JONATHAN LONNER V.P.	(TITLE) V.P.	FIRM/DBA: LEE HOMES	REINSPECTION CALL: 213/272-8596
ADDRESS: 475 WASHINGTON BL.			INSPECTOR: M. Ng
CITY: M.D.R.	STATE: CA.	ZIP: 90792	UNIT: CSU

Before Final Approval can be obtained, the following deficiencies shall be corrected, and the system(s) pre-tested. Call for reinspection when all corrections have been made.

METHANE ACCEPTANCE TESTS FOR:

- ① 5734 CELEDON CRK - 1. SENSORS FAILED 2. HORN/STROBES FAILED 3. DEALER/CSSS FAILED - NO HIGH METHANE ALARM SIGNAL 4. NO TROUBLE SIGNAL FOR M/S.
- ② 5736 CELEDON CRK - 1. PANS FAIL TO ACTIVATE ON ALARM 2. DEALER WIRING DISCONNECTED
- ③ 5738 CELEDON CRK - 1. HORN/STROBES FAILED - NO ACTIVATION 2. NO HIGH LEVEL ALARM SIGNAL - CSSS
- ④ 17931 RUNWAY RD - 1. HORN/STROBES FAILED - NO ACTIVATION 2. NO ACCESS TO PANS & PANEL (OWNER STORAGE)
- ⑤ 5730 CELEDON CRK - 1. SENSOR FAILED 2. NO ACCESS TO PANS & PANEL (OWNER STORAGE)
- ⑥ 5743 DAWN CREEK - ① HOUSE SENSOR FAILED - 64% 2. V/R SENSOR FAILED - 34% VOL

* NOTES - ONLY 6 OF 16 HOMES AVAILABLE FOR TESTING, ALL 6 TESTED FAILED.

ADDITIONAL INFORMATION ON BACK

BY INSPECTOR:

Michael Ng
Michael Ng, Insp II

SUPP. SYS.	RATED CON.	ELEV.	HVAC	ALARM	CSSS	EXIT SIGNS	E-LI/PWR	FINAL APPR.

COURT HOMES METHANE PRE-TEST

LOT #	ADDRESS	HOUSE SENSOR	GARAGE SENSOR	VENT RISER	DIALER TEST	24HR. BACKUP BATTERY	10% LEL EX-FAN TEST	4% VOL. BLOWER TEST	HORN/STROBE TEST	LAFD SIGN-OFF/NOTES
21	5730 CELEDON CREEK	60% FAIL NA	NA	NO ACCESS FAIL			NO ACCESS	NO ACCESS	OK	
22	5732 CELEDON CREEK	NA	NA							
23	5734 CELEDON CREEK	57% FAIL NA	58% NA	56	FAIL		OK	OK	FAILED	
24	5736 CELEDON CREEK	60% FAIL NA	NA		FAIL		FAIL	FAIL	OK	
25	5738 CELEDON CREEK	57% FAIL NA	NA	58	FAIL		OK	OK	FAILED	
26	12931 RUNWAY ROAD	53%	NA	NO ACCESS	FAIL		NO ACCESS	NO ACCESS	FAILED	
27	12941 RUNWAY ROAD		NA							
28	5744 CELEDON CREEK		NA							
1	5749 DAWN CREEK		NA							
2	12911 RUNWAY ROAD		NA							
3	12921 RUNWAY ROAD		NA		FAIL					
4	5743 DAWN CREEK	64% FAIL NA	NA	FAIL	FAIL		OK	OK	OK	
5	5741 DAWN CREEK		NA							
6	5739 DAWN CREEK		NA							
7	5737 DAWN CREEK		NA							
8	5735 DAWN CREEK		NA							
9	12940 AUGUSTIN	49%	50%	51%	PASS	PASS	PASS	PASS	PASS	
10	5726 DAWN CREEK	48%	46%	49%	PASS	PASS	PASS	PASS	PASS	
11	12940 AUGUSTIN	50%	51%	47%	PASS	PASS	PASS	PASS	PASS	
12	12940 AUGUSTIN	50%	49%	48%	PASS	PASS	PASS	PASS	PASS	
13	12940 AUGUSTIN	51%	52%	49%	PASS	PASS	PASS	PASS	PASS	
14	12940 AUGUSTIN	50%	47%	52%	PASS	PASS	PASS	PASS	PASS	
15	12940 AUGUSTIN	53%	46%	51%	PASS	PASS	PASS	PASS	PASS	
16	12940 AUGUSTIN	50%	49%	50%	PASS	PASS	PASS	PASS	PASS	
17	12940 AUGUSTIN	52%	46%	51%	PASS	PASS	PASS	PASS	PASS	
18	12940 AUGUSTIN	48%	50%	51%	PASS	PASS	PASS	PASS	PASS	
19	5720 DAWN CREEK	49%	50%	47%	PASS	PASS	PASS	PASS	PASS	
20	12940 AUGUSTIN	50%	48%	49%	PASS	PASS	PASS	PASS	PASS	

LOS ANGELES CITY FIRE DEPARTMENT NEW CONSTRUCTION CORRECTION NOTICE

JOB ADDRESS:

COURTYARD - CAPRE II

*NOTES - ALL CENTRAL STATION DEALER TESTS FAILED (NO SIGNAL REC'D BY MONITORING CO. INDICATING HIGH LEVEL METHANE ALARM)

ACCESS TO EQUIPMENT (FANS, SENSORS, PANELS) COMPLETELY OBSTRUCTED BY HOMEOWNER STORAGE ON SOME HOUSES.

BY INSPECTOR



(SIGNATURE)

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58

Summary of Meeting

Date: November 15, 2006

Present: Alex Velazquez, DBS Inspector
Controller Audit Staff - B. Young, A. Vazquez,
DBS Management Representatives - Ray Chen, Colin Kuncic

Re: Playa Vista Compliance Review

On November 15, 2006, audit staff met with Alex Velazquez, DBS Inspector to discuss his duties as an inspector on Playa Vista projects. Inspector Velazquez provided the following information during the meeting:

1. His primary responsibility at Playa Vista was to perform inspections relating to grading and passive methane mitigation systems, including the installation of methane barriers and underground vents.
2. He has not had any formalized methane training and stated that he received on-the-job training from Playa Vista engineers, contractors and deputy inspectors. Train
3. He personally observed the installation of the deep well vent pipes that were drilled into the ground. He stated that they were installed at a minimum of 50 ft. underground.
4. He received written activity reports from Deputy Inspectors, which is referenced in his own chronological activity logs.
5. He did not have interaction with DBS Chief Grading Supervisor, David Hsu. Mr. Hsu headed the Playa Vista engineering staff, unrelated to the inspection staff.
6. Mr. Velazquez used a diagram to describe the installation of the passive system. The diagram depicted the amount of gravel, sand and sealed membrane that was installed underneath the projects.
7. He described the test of the sealed membrane that was conducted under the direction of Deputy Inspector, Bobby Garcia.
8. He believes that he makes on average 30 site visits to a particular project that he inspects.
9. He receives certification form the installer that the membrane barrier is installed according to guidelines.
10. He acknowledged that he has been unable to account for all of the inspection files for all of the projects that he inspected.

Missing
E.I.

10

BY

Summary of Meeting

Date: November 30, 2006

Present: Newton Gerhardt, DBS Inspector
Controller Audit Staff = B. Young, A. Vazquez, H. Wang

Re: Playa Vista Compliance Review

On November 30, 2006, audit staff met with Newton Gerhardt, DBS Inspector, to discuss his duties as an inspector on Playa Vista single family homes. Inspector Gerhardt provided the following information during the meeting:

He is a Building Mechanical Inspector (BMI) who was assigned to perform inspections of single family homes. He was the primary inspector for the majority of single family homes.

He has never received any formal specialized training on methane. He has received other classroom training provided by DBS, unrelated to methane. Training

His inspection duties included inspection of active methane mitigation systems. He would ensure that the systems were installed according to the stated building plans for the site location.

He intends to obtain training in the future from LAFD Inspector Michael Ng relating to methane systems. Training

He has observed some testing of the systems by Taft Electric Company but did not actively participate in the testing.

3

BY



Summary of Meeting

Date: November 29, 2006

Present: Tim Moore, DBS Electrical Inspector
 Controller Audit Staff * B. Young, A. Varance, H. Way

Re: Playa Vista Compliance Review

On November 29, 2006, audit staff met with Tim Moore, DBS Electrical Inspector, to discuss his duties as an inspector on Playa Vista multi-unit projects. Inspector Moore provided the following information during the meeting:

1. His duties included inspection of all electric related systems on multi-unit projects at Playa Vista, including active methane mitigation systems. One of his duties included assurance that active systems were installed according to the stated plans. He did not perform any testing of the systems.
2. His inspection included electrical systems that were installed with the building structure as well as sensors and other mitigation systems installed underneath the structure. He also inspected the structures electrical backup systems and methane control panel.
3. He did not perform any electrical inspections at single family homes. He received written activity reports from deputy inspectors. He is not aware of any significant problems with the work performed by Play Vista contractors.
4. He has been assigned to the Playa Vista project for approximately three years, and spends about 95% percent of his time on Playa Vista related inspection activities.
5. He did not indicate that he had any formal methane training.

Training

11

12

27

DX

Memo of Telephone Conversation

Date: October 27, 2006

Participants: Nick Delli Quadri, DBS
Colin Kumabe, DBS
Brian Young

Re: Playa Vista RFI

I received a call from DBS to discuss a record request (RFI) submitted for the Playa Vista Compliance Review. The following information was discussed:

1. DBS does not maintain a central file for the PV inspection records. Inspection records for each of the site locations will have to be requested from the assigned DBS Inspectors. Record
2. We agreed that it was not necessary for DBS to provide the archived grading reports that preceded the actual development of the property. The archived records are extensive and would not provide relevant information
3. DBS has previously consolidated some of the records requested resulting from the grass-roots litigation.
4. DBS will call next week to give a status update on the document production.

BY-1

130

3

BY

Memo of Conversations

Dates: November 1, 2006
November 8, 2006
November 30, 2006
On-call throughout the review

Present: Richard Fortman, DBS
Controller Staff Reviewers - B. Young, A. Valenzuela, H. Wang

Richard Fortman is the Principal Supervisory Inspector for the Playa Vista Project. He acted as the main contact during our review in regards to answering specific questions relating to reviews of inspection documents. He also coordinated meetings with other DBS staff members. During the review he provided the following responses to our inquiries:

Permit Process

The automated and manual permit process did not have the capability to assign inspectors to be each and every Playa Vista permit. Permits were initiated in more than one method; they were requested by contractors, developers and inspectors. A DBS inspector may not even be aware of a permit that was opened and falls under his specific responsibilities.

Records
Problems

In addition, many permits had overlapping inspection duties, which may not be documented on each and every permit within the inspector notes. Some inspectors wrote verbatim the same notes on multiple permits in order to track overlapping activities. An example was the inspection notes maintained by Alex Velazquez.

When an inspector finalizes his inspection activity at a site location the inspector indicates that the inspection is final within his notes, meaning that all inspection work is complete for the site. In addition inspectors receive certifications from deputy inspectors, contractors and engineers which also support the inspection activity.

Final
Inspected

Record Request

He was responsible for coordinating with his staff the consolidation of inspection records for our review. He indicated that the records had to be retrieved from the PV field inspectors at the DBS West Los Angeles Office. He explained that he could not guarantee that each and every inspection document still exists and is available for review.

Records
Recordkeeping



BY

Summary of Meeting

Date: November 8, 2006

Present: Ray Chan, DBS
 Colin Kumabe, DBS
 Ruben Perez, DBS
 Richard Fortman, DBS
 Brian Young, Controller
 Alexandra Vazquez, Controller
 Hank Wang, Controller

Re: Playa Vista Project

On November 8, 2006, Controller staff met with DBS management and staff to discuss the Playa Vista Project. The following information was discussed:

1. The combustible level of methane gas was described as being 50,000 parts per million (ppm)
2. The different levels of methane were discussed as being Level 1, 2, and 3, based on the amount of methane present at the site location. Level 1 was the lowest of the three levels.
3. The grading inspector is one of the initial inspectors on a project initiation.
4. Inspection cards are the property of the owner (contractor) not DBS. The inspection cards are located at the site and indicate when an inspector has provided authorization for the project to move forward. The inspection card serves as a reference for different contractors to indicate the on-going status of the site.
5. There may not be a specific DBS document for each approval given by an inspector. ~~if there is a problem noted by the inspector a notice to correct will be issued.~~ An inspector records his inspection work in the PCIS automated system. Doc >
+ permits
6. The membrane barrier installed is tested by engineers and deputy inspectors. The DBS inspector will witness the test.
- ⑦ ~~There are no certified methane deputies by DBS. DBS did not have the expertise to provide a deputy certification for methane. A request for modification was issued by DBS indicating that deputies would be certified by the manufacturer.~~ Training
Deputies



Bx

- 8. The on-going maintenance report prepared by Taft Electric Company needs to be 100% compliant to be accepted by DBS. DBS will not certify a report that is not 100% compliant. If a report was submitted by Taft without full compliance, DBS would have to issue a correction notice to fix the problem, which would require DBS to perform an inspection. This would also require a fee to be paid and a permit to be issued for the correction.
- 9. Lee Homes 1 was located in a low methane concentration area. It does not have an installed detection system.
- 10. DBS confirmed that permits are still being closed as they are discovered even though the projects have been completed. DBS indicated that they will continue to close the outstanding permits notating the actual date of the closure.

Findings #3

Inspector

Asst. Insp.

* Recordkeeper

B-5-4

Bx

B4-4

41

10

BY

Summary of Meeting
LAFD – Playa Vista

Date: October 31, 2006
Present: Michael Ng, Fire Inspector
Ronald Jackson, Battalion Chief
Alexandra Vazquez
Brian Young
Place: LAFD – Playa Vista Office
Re: Playa Vista Compliance Review

On October 31, 2006, Special Investigators Alexandra Vazquez and Brian Young met with Fire Inspector, Michael Ng and Battalion Chief, Ronald Jackson to discuss the LAFD's role in the Playa Vista project. Michael Ng provided the following information during the meeting:

1. He has worked at the Playa Vista (PV) site for six years. He has been the only full time LAFD representative that has worked at PV.
2. The LAFD role is primarily active methane mitigation, consisting of the inspection and testing of methane sensors, alarms and ventilation systems. The LAFD does not have any jurisdiction over the passive methane mitigation systems installed underground, which is the responsibility of DBS.
3. Normally the LAFD does not have any role in the inspection of single-family dwellings. The CLA report, however, provided responsibilities for both DBS and LAFD for all dwellings in PV Phase 1.
4. The DBS has responsibility over design authority of the methane mitigation system. This authority includes the authority to determine how and where the active mitigation sensors and alarms would be installed within the homes. This was a decision made by the CLA. The LAFD has disagreed with this decision since they were assigned the task to inspect and monitor systems where they had little input as to the design and installation. The LAFD believes that it would have made more sense to give the same department full authority over the active mitigation system instead of splitting the responsibilities. (opinion)
5. The LAFD does have more authority over multi-unit complexes, such as condominiums and apartment complexes.

LAFD
Testing

DBS
only

4/3

17

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- 6. John Sepich and his company, who was hired by the contractors, primarily developed the methane mitigation system. Mr. Sepich created a map to indicate the location and levels of methane concentrations at PV.
- 7. The methane mitigation standards adopted by the CLA for PV Phase I was newly designed specifically for PV. Since this was new territory for the City there were no other similar standards available to rely on.
- 8. Mr. Ng took it upon himself to learn as much as he could about methane and attended several training sessions. He frequently spoke to manufacturers and engineers to determine the available technology to help mitigate methane. He invited DBS inspectors and staff to also participate in training sessions, none of whom took him up on this offer.
- 9. In regards to Lee Homes – Capri Court 1, DBS decided independently that no active methane mitigation systems would be installed in the single-family homes. DBS explained to LAFD that it was within their discretion to make a determination that no systems were necessary, as stated within the CLA report. Since no active systems were installed there was nothing for the LAFD to inspect and therefore did not sign-off on the occupancy certificate.
- 10. In regards to Lee Homes – Capri Court 2, some active methane mitigation systems were installed. The LAFD was asked to perform inspections of a portion of the homes in this project. The LAFD determined that the active methane mitigation system designed by DBS did not meet LAFD standards and would not certify the homes. The main problem identified by LAFD was that methane sensors were not placed in the garage where the ventilation system was located and that if methane was present the ventilation system would not operate correctly.
- 11. The LAFD stated that by not having the sensors installed in the garage it would impose a safety risk to the LAFD when they responded to an actual emergency. The firefighters would assume that in the event of methane detection in the home that the ventilation system would have been activated when in fact it might not be the case.
- 12. When the LAFD expressed their concerns to DBS the DBS said that they would accept full responsibility for the design of the active system. The LAFD agreed that they would not be held accountable for the design.
- 13. One of the DBS Inspectors responsible for Lee Home inspections is Newt Gerhardt. He does not believe that Mr. Gerhardt has adequate training on methane mitigation systems.

Training

Lee I

>

Lee II

Lee II

*

9/20/03

BY

14. Subsequent to a meeting of LAFD and DBS officials a memorandum was prepared to clarify each department's responsibility over single-family dwellings at PV.

15. He is aware of the matrix system designed specifically for PV. The matrix is a written document, which details the responsibilities for each department and is subsequently provided to the Planning Department. He maintains copies of LAFD matrix documents, based on PV address..

16. In addition to the matrix he also has documentation for all of the inspections he performed and corrective action notices issued.

17. He receives copies of annual methane compliance reports, which are prepared by Taft Electric Company. The annual reports are required to be approved by both LAFD and DBS. The annual reports have documented violations of ventilation fans that are not operating correctly or have been turned off. Outside of the annual inspection he does not believe that there is anyone that monitors the fans on a regular basis.] ①

① however, DBS ^{now} requires Taft to ensure compliance and correct all problems before submission of final reports.
BT

115

19

DX

Memo of TC Conversations

Dates: November 29, 2006
December 7, 2006
December 8, 2006
January 22, 2007

Participants: Michael Ng, LAFD
Brian Young, SI

Re: Lee Court Homes I and II

On several occasions, including the above dates, I had conversations with Inspector Ng, regarding Lee Court Homes I and II methane mitigation systems. During the conversations the following information was discussed:

Lee Court Homes I

1. Lee Court Homes I is the only complex in Playa Vista Phase I that does not have installed active methane systems. No sys installed
2. According to his interpretation of the CLA Report – Attachment # 9, footnote # 6, all Playa Vista buildings needed to have audible and visual alarms which notify the LAFD which are activated from a detection of methane. Lee Court Homes I did not comply with this requirement by not having an active mitigation systems installed in the single family homes. to report - #3
End: 5
3. He did not sign any of the TCO's relating to Lee Court Homes I, since he never performed an acceptance of the system. The only certification provided by LAFD was limited to non-methane required standards, such as access requirements and fire hydrant compliance.
4. I explained to Inspector Ng that DBS had exercised their authority to use approved "equivalents" to satisfy the methane requirements. Inspector Ng responded by discussing the characteristics of methane gas and the fact that it is migratory meaning that it has the capability to move from location to location, including a level 1 area, such as Lee Court Homes 1. to report

Lee Court Homes II

5. Inspector Ng performed acceptance tests on the first phase of completed single family homes at Lee Court Homes II. These homes failed this test primarily due to deficiencies in the design of the active mitigation systems. to report
- Wn

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The systems did not have sufficient detectors installed within the garage to detect methane and activate the mechanical fans. Lee agreed to make the necessary corrections to the first set of homes, which subsequently passed a re-test by LAFD.

6. A written agreement between DBS and LAFD management prohibited Inspector Ng from performing acceptance tests of the remaining homes upon their completion. (Footnote 1) (2)
7. Inspector Ng indicated that a company such as Taft Electric Co. acts as the installing contractor for an active system. Taft performs a "pre-test" prior scheduling an appointment with the LAFD to perform an acceptance test. The "pre-test" is not a substitution for an acceptance test, since it is less thorough than an acceptance test. Taft does not have the capability to perform an acceptance test of their own work, nor does the LAFD endorse a contractor to perform an acceptance test.
8. Even though a "pre-test" is performed, the majority of the initial acceptance tests performed by the LAFD do not pass on the first test. Correction notices are issued to the installer to make the required changes in order for the system to perform at an acceptable level. The LAFD performs a re-test of the system after the corrections are made.
9. On January 15, 2007, Inspector Ng performed the initial acceptance tests on six single family homes at Lee Court Homes II. These homes were completed in 2005 but had never been tested by the LAFD due to the written agreement between management. All six homes failed the acceptance test performed by LAFD. DBS and Taft Electric Company were present during the testing. There were numerous deficiencies noted in the correction notices issued by LAFD.
10. Not all of the homes were able to be tested on January 15, 2007, since it was a City Holiday and not all of the homeowners responded to the testing request.
11. Inspector Ng. subsequently performed additional testing of some of the remaining homes, all but one failed the acceptance test performed.

Report #4
Findings

*

(2) See LAFD correction notices issued 1/15/07, at w/p C-12-11

(1) Footnote. Since Inspector Ng did not perform acceptance tests he also did not sign off on TCO's. (see TCO's at w/p's C-15)

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BY

Summary of Conversation

Date: March 28, 2007
Participants: Michael Ng, LAFD
Brian Young
Re: Methane Training

On March 28, 2007 I contacted Inspector Ng to verify prior discussions relating to methane training courses that Inspector Ng had attended. Inspector Ng provided the following information:

1. He received his primary training from the manufacturers of methane mitigation systems. He recalls attending at least four courses from different manufacturers, including Sierra (SMC) and Delphin. The training sessions included instruction on the installation, design, function and overall operability of the mitigation systems. He attended his first training session approximately five years ago.
2. When he was first assigned as the LAFD's inspector at Playa Vista he contacted DBS to determine who his counterpart would be in regards to methane related inspection and testing. DBS informed him that they did not have anyone with methane experience and would be relying on the LAFD.
3. Inspector NG is the only trained inspector on methane mitigation systems for the LAFD. The LAFD also has engineers and plan check reviewers of methane systems but they do not participate in testing the systems.
4. He serves as a training instructor to other LAFD staff and has written a training manual relating to methane on behalf of the LAFD.
5. He regularly meets with the manufacturer representatives at Playa Vista to discuss the types of systems that are to be utilized by the contractors.

Exper.
Training

4/8

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Memo of TC Conversation

Date: April 11, 2007

Participants: Michael Ng, LAFD
Brian Young, SI

Re: Playa Vista Compliance Review

On April 11, 2007, I called Inspector Ng to clarify some of the matters discussed previously regarding the Playa Vista project. Inspector Ng provided the following information during the conversation:

1. He believes that important components of an active system would include, alarm systems, methane detectors to detect the gas, mechanical ventilation system, and that consideration be given to the safety of residents and firefighters in emergency situations.
2. One of his concerns regarding the decision to have a detection system is that the decision be made by independent and informed parties, not non-independent contractors who have vested conflicts of interest. Once independent parties can evaluate the information ~~that~~ appropriate decisions can be made relative to the requirements of detection systems.
3. He described a situation where a paid consulting engineer (John Sepich) on the Playa Vista project recommended conflicting active systems for similar structures at Playa Vista. He cited the initial plans for Fountain Park Apartments as having only a minimal number of detectors for a large structure compared to a similar type structure having 10 times the amount of detectors per the stated plans. He believes that this engineer bases his recommendations on the expectations of each developer (cost factor), rather than from a logical and consistent standpoint.
4. He has yet to receive authorization to resume re-testing of the Lee Court Homes II that failed acceptance tests.
5. The LAFD requires that contractors perform an initial "pre-test" prior to an LAFD acceptance test. In addition the contractor must certify in writing that a pre-test was performed and that the system is ready for LAFD testing. The LAFD does not like to perform an acceptance test if a system is not ready to be tested, it is both time consuming and inefficient to perform a test without the preliminary preparation by the contractor.
6. An acceptance can only be conducted by a uniformed LAFD Inspector, there is no certification program which would allow a non LAFD

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acceptance tester. There is also an independence issue; an installer can not be an independent tester over their own work. An acceptance test is performed by the LAFD on newly installed systems. An acceptance test is much more thorough and comprehensive than a pre-test conducted by the installer. Depending on the size of the system and the amount of preparation done by the contractor has an impact on the amount of time it takes to conduct an acceptance test. Some tests last several days or weeks.

7. The LAFD has proposed a certification process for maintenance testers, which is different than acceptance testers. Maintenance testing is performed at regular time periods only after an acceptance test has been performed by the LAFD. This certification process has yet to be implemented.
8. Lee Court Homes I has yet to receive final sign off by the LAFD even though it has been occupied since 2003. Inspector Ng does not feel that the project has complied with the CLA regulations since an active system was never installed.

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METHANE SYSTEM REQUIREMENTS

location

A baseline soil gas survey shall be conducted for each building site to determine the areas of Playa Vista Phase I in which building methane prevention systems are required.¹

Mitigation Measure	Methane Concentration Level		
	Level I ²	Level II ²	Level III ²
	White: <10ppmv Blue: 10-30ppmv Lt. Blue: 30-100ppmv	Green: 100-1000ppmv Yellow: 1000-12,500ppmv	Orange: 12,500-150,000ppmv Red: 150,000ppmv or >
Methane Prevention System³			
<ul style="list-style-type: none"> Passive - Underneath the Building <ul style="list-style-type: none"> 12" gravel blanket gas collection vent pipe impermeable membrane 	Required Required Required	Required Required Required	Required Required Required
<ul style="list-style-type: none"> Active - Mechanical Ventilation <ul style="list-style-type: none"> ventilation triggered with elevated methane concentrations 	None	Required ⁴	Required ⁴
Subsurface Ventilation	None	None	Required
Methane Detection System			
<ul style="list-style-type: none"> Within the Building <ul style="list-style-type: none"> detectors in spaces located in the basement/lowest level in the building⁵ audible alarm⁶ visual alarm⁶ automatic notification of LAFD⁶ 	Required Required Required Required	Required Required Required Required	Required Required Required Required
<ul style="list-style-type: none"> Underneath the Building <ul style="list-style-type: none"> data collecting sensors below impermeable membrane⁵ data collecting sensors between impermeable membrane and lowest floor/basement slab⁵ 	None Required	Required Required	Required Required
Methane Monitoring System			
<ul style="list-style-type: none"> manual quarterly assessment continuous methane sampling and data collection accessible by the homeowners' association, LADBS and LAFD via the Internet 	Required ⁷ None	None Required ⁸	None Required ⁸
Maintenance of the Prevention, Detection and Monitoring Systems			
<ul style="list-style-type: none"> annual testing to the satisfaction of LADBS and LAFD homeowners' association to have financial responsibilities 	Required Required	Required Required	Required Required

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BUILDING SOIL GAS SURVEY

Page 2

Printed January 30, 2001

Contingency Plan			
when high methane concentration are detected within a building	Required	Required	Required
when methane system components fail	Required	Required	Required

Footnotes:

1. Projects for which building permit applications were received by LADBS prior to January 1, 2002 may use as baseline methane concentration data the soil gas survey data prepared by CDM/ETI at Appendix 1. After January 1, 2002, all projects shall submit for approval to the satisfaction of LADBS, individual soil gas site assessments that characterize methane soil gas concentrations for the building site.
2. Levels of methane concentrations and corresponding colors on the methane concentration maps are identified in the Appendix 2 or individual building site soil gas assessments.
3. LADBS may reduce on requirements in areas where the methane concentrations in the area of building sites is non-detect.
4. When methane concentrations are detected at 37,500 ppmv by the sensors in the ventilation system below the impervious membrane, a mechanical ventilation system shall be automatically activated.
5. Number, type and location of detectors (or approved equivalents) to be determined by a qualified methane engineer, as approved by LADBS.
6. Audible alarm, visual alarm and notification of LAFD shall be triggered when methane concentrations are detected a 12,500 ppmv.
7. Sampling data reviewed by a qualified methane engineer shall be approved by LADBS. When such data is determined to be highly variable, additional manual sampling or electronic sampling may be required by LADBS. A qualified methane engineer shall submit a report to LADBS with conclusions and recommendations.
8. When the methane concentration data indicates significant changes in methane concentrations below the membrane, then a report by a qualified methane engineer shall be submitted to LADBS characterizing the reasons for such changes.

1/30/01

Fountain Park - 13141, 13151, 13163, 13175 Fountain Park		1/6/1999	
Inspector / Testing			
Level - Soil Sample Result :			
Inspector (s):	Hugh Avery; John Luna; Gary Lay		
Engineer (s):	Exploration Technology, Inc.; Sepich Associates; Methane Specialist		
Inspector (s):	B. Martinez; Hintori; Joel Burmes; Jenny Ayala; Dwight Pau; Bosco Tang/Emmanuel Austin; Eddy Allahverdi		
Supportors	John Edward Sepich; Taft Electric Company;		
PV - CLA Criteria	Inspector/ Engineer	Testing / Monitoring	Supporting Documents
DESCRIPTION			Date(s)
Blanket	Engineer/DI/DBS		11/1/2000
Leak Detection (Horizontal)	Engineer /DI/DBS		1/22/2002
Leak Detection (Vent Risers)	Engineer /DI/DBS		1/22/2002
Membrane System	Engineer /DI/DBS		12/14/2000
Mechanical Ventilation (L2,3)	Engineer/DI/DBS		1/19/2001
Leak Detection (L3) Pipes to 50ft (passive)	Engineer/DI/DBS		12/11/2000
Leak Detection (Active)			
Leak Detection (Building)			
Leak Detection (below membrane)	DBS/DI		1/22/2002
Leak Detection (between membrane and slab (building))	DBS/DI		1/22/2002
Leak Detection (Detectors - lowest level)			
Leak Detection (Visual Alarms)			
Leak Detection (Notification)			
Leak Detection (CLEANING & MAINTENANCE)			
Leak Detection (Quarterly Assessment (L1))			
Leak Detection (Leak & Data Collection - Internet)			
Leak Detection (Methane Compliance (TAFT))			TAFT Report

BY
For ALW

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5562 Brisa Way - Sunrise Senior		g
5562 Brisa Way - Sunrise Senior		
Event	Inspector/Engineer	Testing / Monitoring
PV - CLA Criteria	Inspector/Engineer	Testing / Monitoring
Supporting Documents	Supporting Documents	Date(s)
CHLORINE		
Gravel Blanket		Notes
Gas Collection Vent Pipes (Horizontal)	Engineer / DBS/ DI	Eng. Report / Notes / B-94
Gas Collection Pipes (Vent Risers)	Engineer / DBS/ DI	Eng. Report / Notes / B-94
Gas Membrane System	Engineer / DBS/ DI	Eng. Report / Notes / B-94
Basement Mechanical Ventilation (L2,3)	Engineer / DBS/ DI	Eng. Report / Notes / B-94
Basement Ventilation (L3) Pipes to 50ft	Engineer / DBS/ DI	Eng. Report / Notes / B-94
Basement Wells (passive)		3/2/2006
DETECTION		
Under Building)		
Sensors below membrane	Engineer /	Eng. Report / Notes / B-94
Sensors between membrane and slab	Engineer /	Eng. Report / Notes / B-94
side Building)		
Methane Detectors - lowest level		Notes
audible & Visual Alarms		Notes
FD Auto - Notification		Notes
MONITORING & MAINTENANCE		
Annual Quarterly Assessment (L1)		
Sampling & Data Collection - Internet		
Annual Methane Compliance (TAFT)		

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BY

Area / Description	Inspector / Specialist	Testing / Monitoring	Supporting Documents	Date(s)
Daya Vista Apartments	Tapestry I, Product 900-1	5700	Walk Drive	Lots 22-27
Methane Inspection / Testing	Methane Specialists			
Methane Level - Soil Sample Result:				
Deputy Inspector (s):	Chris Diener			
Methane Engineer (s):	N/A			
BS Inspector (s):	DBS Inspector also C. Diener			
PV - CLA Criteria	Inspector/ Engineer	Testing / Monitoring	Supporting Documents	Date(s)
REVENTION				
1" Gravel Blanket	Alex Velazquez, 3/12-3/22/02			
Gas Collection Vent Pipes (Horizontal)	Engineer / James Powers, 3/28/06		Methane Report	
Gas Collection Pipes (Vent Risers)	Engineer / James Powers, 3/28/06		Methane Report	
Methane Membrane System	Engineer / C. Diener	Smoke Test	Methane Report	
Subslab Mechanical Ventilation (L2,3)	Alex Velazquez			
Subsurface Ventilation (L3) Pipes to 50ft vent				
Shells (passive)	Alex Velazquez			
DETECTION				
Under Building	Timothy Moore, Permit Finalized 12/7/04; Applicant Info. - Dan Erbach of Methane Specialists, App. No. 03041-10000-03953			
Sensors below membrane	Engineer /			
Sensors between membrane and slab	Engineer /			
Inside Building				
Methane Detectors - lowest level				
audible & Visual Alarms	Timothy Moore, Fire Alarm System Finalized on 12/2/04; App. No. 03041-3000-01460.			
FD Auto - Notification				
MONITORING & MAINTENANCE				
Annual Quarterly Assessment (L1)				
Sampling & Data Collection - Internet				
Annual Methane Compliance (TAFT)	Not required. Certificate of Occupancy Issued 3/30/06.		TAFT Report	



4/24/06

Playa Vista Address:
 Methane Inspection / Testing
 Methane Level - Soil Sample Result:
 Deputy Inspector (s):
 Methane Engineer (s):
 DBS Inspector (s):
 Contractors

6011 S. Dawn Creek
 Combustible gas survey conducted at June 20 2006
 maximum 42ppm (Level III) of
 Jason Narath
 GeoKinetics
 Alejandro Velasquez, James Power, David Tsau, Patrick Kelly, Mahlon Driver
 Advanced Construction Technologies; Group Delta Consultants; GeoKinetics
 Supporting Documents

PV - CLA Criteria

Date(s)

Inspector/ Engineer

Testing / Monitoring

Documents

PREVENTION

12" Gravel Blanket	DBS			4/5/04; 11/20/06
Gas Collection Vent Pipes (Horizontal)	DI/DBS			5/12/2004; 6/14/06
Gas Collection Pipes (Vent Risers)	DI/DBS			5/12/2004; 6/14/06
Methane Membrane System	DI/DBS	Smoke Test		7/9/2004
Subslab Mechanical Ventilation (L2,3)	DI/DBS			7/12/05; 6/19/06
Subsurface Ventilation (L3) Pipes to 50ft vent wells (passive)	DI/DBS			5/12/2004; 7/12/05; 6

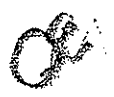
DETECTION

(Under Building) Sensors below membrane	DBS/DI			5/27/04; 6/23/2006
Sensors between membrane and slab (Inside Building)	DBS/DI			5/27/04; 6/23/2006
Methane Detectors - lowest level Audible & Visual Alarms LAFD Auto - Notification	DBS/DI			5/27/04; 6/23/2006

MONITORING & MAINTENANCE

Manual Quarterly Assessment (L1) Sampling & Data Collection - Internet Annual Methane Compliance (TAFT)	N/A			Year Not Ended Yet
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BY
For H/L



Playa Inspection / Testing
 Meth: level - Soil Sample Result :
 Meth: level - Soil Sample Result :
 Deputy Inspector (s):
 Methane Engineer (s):
 DBS Inspector (s):
 Contractors

Photovac Flame Ionization Detector (F...)
 16ppm
 Jason Narata
 GeoKinetics
 Alejandro Velazquez; Leslie Trujillo; James Power; David Tsau
 Group Delta Consultants; Advanced Construction Technologies; Taft Electric
 Supporting Documents

PV - CLA Criteria
Inspector/ Engineer Testing / Monitoring Date(s)

PREVENTION
 12" Gravel Blanket Concrete Cylinder Compression Test 4/5/04; 6/7/04
 Gas Collection Vent Pipes (Horizontal) DI/DBS DBS Plan/Check or Permit; Concrete Cylinder Compression Report; DBS Notes 5/12/2004
 Gas Collection Pipes (Vent Risers) Engineer /DI/DBS B-94; Certificate of Compliance for Methane Barrier Completion 5/12/2004
 Methane Membrane System Engineer /DI/DBS B-94; Certificate of Compliance for Methane Barrier Completion 8/18/2005; 8/15/05; 1/7/12/2005; 5/25/06
 Subslab Mechanical Ventilation (L-2,3) DI/DBS B-94; DBS Plan/Check or Permit 7/12/2005; 5/25/06
 Subsurface Ventilation (L-3) Pipes to 50ft vent wells (passive) DI/DBS B-94; DBS Plan/Check or Permit 7/12/2005; 5/25/06

DETECTION
 (Under Building) Engineer /DBS/DI DBS Plan/Check or Permit 7/12/2005; 5/25/06
 Sensors below membrane Engineer /DBS/DI DBS Plan/Check or Permit 7/12/2005; 5/25/06
 Sensors between membrane and slab (Inside Building) Engineer /DBS/DI DBS Plan/Check or Permit 7/12/2005; 5/25/06
 Methane Detectors - lowest level Audible & Visual Alarms LAFD Auto - Notification

MONITORING & MAINTENANCE
 Manual Quarterly Assessment (L1) Year Not Ended Yet
 Sampling & Data Collection - Internet N/A
 Annual Methane Compliance (TAFT)

B/
 For New



Playa Vista Address:
 Methane Inspection / Testing
 Methane Level - Soil Sample Result:
 Deputy Inspector (s):
 Methane Engineer (s):
 DBS Inspector (s):
 Contractors

6010 S. Caledon Creek
 Combustible gas survey conducted at February 22, 2006
 maximum of 76 ppm (Flame Ionization Detector)
 James Marath
 GeoKinetics; Jason Narath, Matt Crowley, Vincent Robino
 Alejandro Velazquez, Timothy Moore, John Luna, Patrick Kelly, Mahlon Driver
 Taft Electronic Comay, Dvaidovich & Associates, Mojtaba Rojabni;

PV - CLA Criteria

Inspector/Engineer Testing / Monitoring

Supporting Documents

Date(s) Notes

PREVENTION

2" Gravel Blanket	Engineer /DI/DBS	Concrete Cylinder Compression Test Report	DBS Notes/Compaction Report; DBS Notes	8/15/04, 6/16/04, 10/13/04, 10/18/04	Different dates represent differer
Gas Collection Vent Pipes (Horizontal)	Engineer /DI/DBS		DBS Notes/Certification of Compliance with B+S;	1/6/2006, 2/14/06	
Gas Collection Pipes (Vent Risers)	Engineer /DI/DBS		DBS Notes/Certification of Compliance with B+S;	1/6/2006, 2/14/06	
Methane Membrane System	Engineer /DI/DBS	Smoke Test	DBS Notes/Certification of Compliance with B+S;	1/6/06, 2/14/06	Approval of horizontal and vertic
Subslab Mechanical Ventilation (L2,3)	DBS/DI		DBS Notes/B-94/DBS Plan Check and/or Permits	5/12/04, 8/18/05, 9/2/ May 04	- Initial Permit; Aug 05 - I
Subsurface Ventilation (L3) Pipes to 50ft	DBS/DI		DBS Notes/B-94/DBS Plan Check and/or Permits	5/12/04, 8/18/05, 9/2/ May 04	- Initial Permit; Aug 05 - I

DETECTION

Under Building sensors below membrane	DBS/DI		DBS Plan Check and/or Permits; B-94	7/11/2005, 5/8/06	Permit July 05, Final Approval M
sensors between membrane and slab (inside Building)	DBS/DI		DBS Plan Check and/or Permits; B-94	7/11/2005, 5/8/06	Permit July 05, Final Approval M
Methane Detectors - lowest level audible & Visual Alarms	DBS/DI		DBS Plan Check and/or Permits; B-94	7/11/2005, 5/8/06	Permit July 05, Final Approval M

AFD, Auto - Notification

MONITORING & MAINTENANCE

Annual Quarterly Assessment (L-1)
 Sampling & Data Collection - Internet
 Annual Methane Compliance (TAFT)

Year Not Ended Yet

N/A

No certificate of occupancy on file

(Handwritten initials/signature)

BY For How

5625 S. Crescent Park West

314 Vista Add.
Methane Inspection / Testing
Methane Level - Soil Sample Result:
Deputy Inspector (S):
Methane Inspector (S):
Methane Inspector (S):
Contractors

Carlin Environmental Consulting (CEC)
Alejandro Velasquez, Terry Durbin, Ernest Ortega, Jerry Asher, Timothy Moore, Joel Burns, Donald Hafner, Robert Thompson, Jack Conger
Seems Plumbing Co., James Coleman, Salter Company

Inspector/Engineer Testing/Monitoring Date(s) Notes

REVENTION

" Gravel Blanket DBS Permit or Plan Check; Inspector Notes; B- 3/9/01; 2/28/04; 8/14/01; 3/9/01 - Application for Permit; 2/10/9/01 Notes
Gas Collection Vent Pipes (Horizontal) DBS Permit or Plan Check; Inspector Notes, B- 9/19/01; 9/2/03; 4/22/03; 9/19/01 - Application for permit; 1
Gas Collection Pipes (Vent Risers) DBS Permit or Plan Check; Inspector Notes; B- 9/19/01; 9/2/03; 3/17/03 9/19/01 - Application for permit; 1
Methane Membrane System DBS Permit or Plan Check; Inspector Notes; See Note 12/16/2002 12/16/02 - Note indicate all mem

Slab Mechanical Ventilation (L2,3) Approval Letter; DBS Letter to contractor dated 10/8/03; DBS Permit or Plan Check; Inspector Notes; See Note 9/4/02; 2/9/04 Permit application is 9/4/02; Issu
Surface Ventilation (L3) Pipes to 50ft Smoke Test
11 wells (passive) N/A

DETECTION
Under Building)

Sensors below membrane Engineer/DBS/DI DBS Permit or Plan Check; Inspector Notes; See Note 1/22/02; 3/15/04
Sensors between membrane and slab side Building) Engineer/DBS/DI DBS Permit or Plan Check; Inspector Notes; See Note 1/22/02; 3/15/04
Methane Detectors - lowest level Engineer
Audible & Visual Alarms Engineer

FD Auto - Notification

Note: August 28, 2003 letter from CEC noted that the all components of the methane barrier system, passive and active venting systems, and electronic monitoring systems are successfully installed.

MONITORING & MAINTENANCE
Annual Quarterly Assessment (L1)
Sampling & Data Collection - Internet
Annual Methane Compliance (TAFT)

Taft Report

9/16/2004 Certificate of Occupancy is dated



bx
For RW

Initial permit issued before 9/1/01; hence actual soil test determine level of methane is not required.

Inspector: Michael Todd, Ronald Oskins, Gary Lay, John Luna
 Supporting Documents: James Powers, Thomas Scarin, Alejandro Velazquez, Terry Dribin, Jerry Asher, Joel Burens, Timothy Moore, Michael Packard
 Date(s): 7/18/01; 1/18/02; 5/9/03; 10/16/03
 Notes: 7/18/01 - Permit Issued; 1/18/02 - Grading Permit Issued; 10/16/03 - Final M

Inspector/Engineer: Testing / Monitoring
 D/DBS
 D/DBS/Contractor
 D/DBS/Contractor
 DBS/DBS/Contractor
 DBS
 FD/DBS/DI
 FD/DBS/DI
 DBS/DI
 FD
 FD

PV - CLA Criteria
 VENTION
 Travel Blanket
 Collection Vent Pipes (Horizontal)
 Collection Pipes (Vent Risers)
 Gas Membrane System
 Slab Mechanical Ventilation (L2,3)
 surface Ventilation (L3) Pipes to 50ft wells (passive)
 SECTION
 under Building
 floors below membrane
 floors between membrane and slab
 inside Building
 methane Detectors - lowest level
 fire & Visual Alarms
 =D Auto - Notification

Supporting Documents: B-94, DBS Permit, Inspector Notes
 B-94, Final Methane Certification, Inspector Notes
 B-94, Final Methane Certification, Inspector Notes
 B-94, DBS Permit, Final Methane Certification, Inspector Notes
 DBS Permit
 N/A
 DBS Permit, Inspector Notes; B-94
 LADBS Inspection Record Final Inspection, Inspector Notes; B-94
 Inspector Notes; B-94
 LADBS Inspection Record Final Inspection
 8/8/06, 9/15/05
 Certificate of Occupancy Issued

Monitoring & Maintenance
 Annual Quarterly Assessment (L1)
 Sampling & Data Collection - Internet
 Annual Methane Compliance (TAFT)

TAFT

BA
 For flow

Ethane Level - Sample Result:
 Duty Inspector (s):
 Ethane Engineer (s):
 S Inspector (s):
 Contractors

Level III
 Bobbie Garcia; Kevin Pexton; Kevin Lea; Michael Jacobs
 Carlin Environmental Consulting
 Alejandro Valdezquez, Timothy Moore; Leslie Trujillo, Mahlan Driver
 J.P. Gergen Construction

PV - CLA Criteria Inspector/Engineer Testing / Monitoring Supporting Documents

EVENTION

Gravel Blanket	DI/DBS	Compaction Report	Inspector Notes; DBS Permit or Plan Check; B-94	7/6/2001; 10/26/01; 11/25/02	7/6/01 - Permit Application; 10/2/01; Final Compaction Report 2001
Collection Vent Pipes (Horizontal)	Eng/DI/DBS		B-94; Engineer Report; DBS Permit or Plan Check; Inspector Notes	6/25/2003; 6/6/01	Engineer Report from CEC certifi
Collection Pipes (Vent Risers)	Eng/DI/DBS		B-94; Engineer Report; DBS Permit or Plan Check; Inspector Notes	6/25/2003; 6/6/01	Engineer Report from CEC certifi
Gas Membrane System	Eng/DI/DBS	Smoke Test	B-94; DBS Permit or Plan Check; Engineer Report; Inspector Notes	6/25/2003; 6/6/01	Engineer Report from CEC certifi
slab Mechanical Ventilation (L2,3)	Eng/DBS/DI		Engineer Report; DBS Permit or Plan Check; Inspector Notes	6/25/2003; 6/6/01	Engineer Report from CEC certifi
surface Ventilation (L3) Pipes to 50ft	Eng/DBS/DI		Engineer Report; DBS Permit or Plan Check; Inspector Notes	6/25/2003; 6/6/01	Engineer Report from CEC certifi

SECTION

for Building)					
sors below membrane	Eng/DBS/DI		Engineer Report; DBS Permit or Plan Check; Inspector Notes	6/25/2003; 2/10/04	Engineer Report from CEC certifi
sors between membrane and slab of Building)	Eng/DBS/DI		Engineer Report; DBS Permit or Plan Check; Inspector Notes	6/25/2003; 2/10/04	Engineer Report from CEC certifi
ane Detectors - lowest level	Eng/DBS		Engineer Report; Inspector Notes	6/25/2003; 2/10/04	Engineer Report from CEC certifi
ble & Visual Alarms	Eng/DBS		Engineer Report; Inspector Notes	6/25/2003; 2/10/04	Engineer Report from CEC certifi
Auto - Notification					

MONITORING & MAINTENANCE
 Quarterly Assessment (L1)
 Logging & Data Collection - Internet
 Methane Compliance (TAFT)

TAFT

Certificate of Occupancy, 11/3/04; Taft Report

6/30/2005



Handwritten:
 For HW

Inspection Testing Sample Result:
 Inspectors: [blank]
 Engineer(s): [blank]
 Inspector(s): [blank]
 Factors: [blank]

John Luna
 Group Delta Consultants, Inc.
 Alejandro Velazquez, Terry Dribin, Ernest Ortega, Jerry Asher, Mahlon Driver, Timothy Moore, Joel Burns
 Gergen Construction, Carlin Environmental

PV - CLA Criteria

Supporting Documents

Notes

Date(s)

VENTION

Inspection Item	Inspector/Engineer	Testing / Monitoring	Supporting Documents	Date(s)	Notes
Travel Blanket	DBI/DI	Compaction Report	DBS Permit, Inspector Notes, DBS Approval Letter; Carlin Environmental Consulting Letter; B-94	1/16/02; 11/20/03; 9/10/02	permit application - 1/16/02; permit issued - 11/20/03; ins
Collection Vent Pipes (Horizontal)	DBI/DI		DBS Permit or Plan Check, Inspector Notes; Carlin Environmental Consulting; Certificate of Compliance for Methane Barrier Application; B-94	1/17/02; 11/20/03; 5/31/2002; 6/27/02; 12/18/03; 9/5/03	permit application - 1/17/02; permit issued - 11/20/03; ins plumbing plan check application - 6/27/02; plumbing per engineer 9/5/03 date methane barrier was completed per engineer 9/5/03
Collection Pipes (Vent Risers)	DBI/DI/Eng		DBS Permit or Plan Check, B-94; Certificate of Compliance for Methane Barrier Application;	5/31/2002; 6/27/02; 12/18/03; 8/29/02; 9/5/03	plumbing plan check application - 6/27/02; plumbing per
Gas Membrane System	DBI/DI/Eng		B-94; DBS Permit or Plan Check	5/31/2002, 8/23/02	Application - 5/31/02; Permit finaled - 12/18/03; B-94 11/
Slab Mechanical Ventilation (L2,3)	DBI/DI	Smoke Test	DBS Permit or Plan Check, Inspector Notes; B-94;	7/1/02; 12/5/03	Application for Methane Ventilation
Surface Ventilation (L3) Pipes to 50ft wells (passive)	DBI/DI/Eng		DBS Permit or Plan Check; B-94, Inspector Notes;	1/17/02; 8/14/03 11/20/03; 5/31/2002; 12/18/03; 7/1/02; 12/5/03	Deep vent well completed and inspected 7/30/03

Note: CEC Dec 3, 2003 letter indicates that the mitigation system and monitoring system has been installed and operating effectively.

Inspection Item	Inspector/Engineer	Testing / Monitoring	Supporting Documents	Date(s)	Notes
CEC Building	DBI/DI/Eng	CEC Letter dated 12/3/06	DBS Permit or Plan Check	7/9/02, 7/7/04	Application 7/9/02; Finaled 7/7/04
Gas below membrane	DBI/DI/Eng		DBS Permit or Plan Check	7/9/02, 7/7/04	Application 7/9/02; Finaled 7/7/04

MITORING & MAINTENANCE
 Quarterly Assessment (L1)
 pling & Data Collection - Internet

Gas Methane Compliance (TAFT)

10/11/2006; 9/16/04;
 10/05
 Certificate of Occupancy - initial date 6/17/04

Many line items in the Certificate of Occupancy Final Checklist (revised Oct 23, 2006) has not been initiated. Some example line items include: copy of fire life safety pretest; inspector notes are complete and finaled with a matching HLR code in PCIS.

(Recorkeeping 15603)
 BY Pa Hu



Villa D'Este	935 S. Playa Vista Drive, Product 700.	Carlin Environmental Consulting Inc., 2/25/04	Supporting Documents	Date(s)
Methane Inspection / Testing Methane Level - Soil Sample Result: Deputy Inspector (s): Methane Engineer (s): Methane Inspector (s):	Kevin Lee, Gary Carlin, Bobbie Garcia, Richard Laton, Otto Figueroa, Rich Fudurich Carlin Environmental Consulting Inc., Gary T. Carlin (Pres.) & James R. Coleman Alex Velazquez and Jerry Asher			
PV - CLA Criteria	Inspector/ Engineer	Testing / Monitoring	Supporting Documents	Date(s)
REVENTION Gravel Blanket Collection Vent Pipes (Horizontal) Collection Pipes (Vent Risers) Membrane System Mechanical Ventilation (L2,3) Surface Ventilation (L3) Pipes to 50ft vent wells (Invasive)	Alex Velazquez, 3/18-3/22/02 (Permit App 02030-1000-00109) Engineer Alex Velazquez, 3/25 to 3/29/02 (Permit App 00010-10001-022) Engineer Alex Velazquez, 4/29/02 Engineer Alex Velazquez, 4/30-5/30/02 Smoke Tests done 4/2/02 & Methane Report Jerry Asher (Permit App. 01042-10001-16640), Permit Finaled 4/21/03. Jerry Asher (Permit App. 01042-10001-16640), Permit Finaled 4/21/03.	Methane Report Methane Report Methane Report		
DETECTION Under Building Sensors below membrane Sensors between membrane and slab Inside Building Methane Detectors - lowest level Audible & Visual Alarms FD Auto - Notification	Timothy Moore, Permit Finaled 7/16/04; Permit App 01041-10000-22822. Engineer / Timothy Moore Engineer / Timothy Moore			
MONITORING & MAINTENANCE Annual Quarterly Assessment (L1) Sampling & Data Collection - Internet Annual Methane Compliance (TAFT)	Taft Report not in binder. *CK provided me w/copy of Taft Report, Signed by LADBS on 10/25/06. *Certificate of Occupancy issued 7/14/04; signed by Ronald Skarin.		TAFT Report (copy attached)	

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Ken

Lava Vista Address:	13080 Pacific Promenade - St. Pauli Homes		
ethane inspection / Testing			
ethane Level - Soil Sample Result:	Level 3		
deputy Inspector (s):	bobbie Garcia		
ethane Engineer (s):	Carlin Environmental		
BS Inspector (s):	Alex Velazquez / Powers/ Foster		
PV - CLA Criteria	Inspector/Engineer	Testing / Monitoring	Supporting Documents
REVENTION			Date(s)
2" Gravel Blanket			5/21/2002
Gas Collection Vent Pipes (Horizontal)	Engineer / DBS/DI		Notes / Report
Gas Collection Pipes (Vent Risers)	Engineer / DBS/DI		Eng. Report / Notes / B-94
ethane Membrane System	Engineer / DBS/DI		Eng. Report / Notes / B-94
Subslab Mechanical Ventilation (L2,3)	Engineer / DBS/DI		Eng. Report / Notes / B-94
Subsurface Ventilation (L3) Pipes to 50ft	Engineer / DBS/DI		Eng. Report / Notes / B-94
Vent wells (passive)			3/2/2006
DETECTION			
Under Building			
Sensors below membrane	DBS		Notes / Permit
Sensors between membrane and slab	DBS		Notes / Permit
Inside Building			
ethane Detectors - lowest level	DBS		Notes
Audible & Visual Alarms	DBS		Notes
AFD Auto - Notification			Notes
MONITORING & MAINTENANCE			
Annual Quarterly Assessment (L1)			
Sampling & Data Collection - Internet			
Annual Methane Compliance (TAFT)			

BY

Playa Vista Address: 5300 S. Playa Vista - Millennium Homes - Bridgeway Mills

Leakage Inspection / Testing			
Leakage Level - Soil Sample Result:			
Deputy Inspector (s):	Bobbie Garcia, John Luna		
Engineer (s):	Carlin Environmental		
BS Inspector (DI) (s):	Alex Velazquez		
Consultant(s):			
Contractor(s):	Gergen Construction	Supporting	
<u>PV - CLA Criteria</u>	<u>Inspector/ Engineer/ DI</u>	<u>Testing / Monitoring</u>	<u>Documents</u>
REVENTION			
2" Gravel Blanket	DI, DBS, Eng.		B-94, DBS Notes, Compact Report
Gas Collection Vent Pipes (Horizontal)	DI, DBS, Eng.		B-94s, DBS Notes, Eng. Cert.
Gas Collection Pipes (Vent Risers)	DI, DBS, Eng.		B-94s, DBS Notes, Eng. Cert.
Leakage Membrane System	DI, DBS, Eng.	Smoke Test	B-94s, DBS Notes, Eng. Cert.
Subslab Mechanical Ventilation (L2,3)			
Subsurface Ventilation (L3) Pipes to 50ft			
Drainage wells (passive)	DI		B-94
DETECTION			
Under Building			
Sensors below membrane	DI		B-94
Sensors between membrane and slab	DI		B-94
Inside Building			
Leakage Detectors - lowest level			
audible & Visual Alarms			
FD Auto - Notification			
MONITORING & MAINTENANCE			
Annual Quarterly Assessment (L1)			N/A
Sampling & Data Collection - Internet			
Annual Methane Compliance (TAFT)			No Taft Report Due



AY

12963 W. Runway Road; (aka 12961 - 71 W. Runway Road, aka 12950-12970 W. Agustín Road)
 Level II
 n/a
 Ron Skarin
 Carlin Environmental (CEC)
 Alex Velazquez, James Powers, Timothy Moore, Jerome Napier, Mahlon Driver
 Mestre Greve Associates

PV - CLA Criteria Inspector/Engineer Testing / Monitoring Supporting Documents Date(s) Notes

EVENTION

Gravel Blanket DI/DBS Compaction Report Approval Letter Inspector Notes; DBS Plan Check or Permit; Structural Observation Report Form; Compaction Approval Letter; B-94 5/16/2003 Placement of a 1

Collection Vent Pipes (Horizontal) Engineer /DI/DBS Methane Gas Control Certification Letter; DBS Plan Check or Permit 4/10/03 - permit issued; 2/7/05; inspec

Collection Pipes (Vent Risers) Engineer /DI/DBS Methane Gas Control Certification Letter; DBS Plan Check or Permit 4/10/03 - permit issued; 2/7/05; inspec

thane Membrane System Engineer /DI/DBS Inspector Notes 7/21/2003

slab Mechanical Ventilation (L2,3) DI/DBS Inspector Notes

Surface Ventilation (L3) Pipes to 50ft DI/DBS

t wells (passive)

TECTION

der Building) DBS/DI DBS Plan Check of Permit; Inspector Notes 8/13/03; 1/22/2004 - inspection ok

isors below membrane

isors between membrane and slab DBS/DI DBS Plan Check of Permit; Inspector Notes 6/21/2004; 10/28/04 - inspection ok

ide Building)

thane Detectors - lowest level DBS/DI DBS Plan Check of Permit; Inspector Notes 1/23/2004; 7/8/04 inspection ok

ible & Visual Alarms

ED Auto - Notification

NITORING & MAINTENANCE


ual Quarterly Assessment (L1)

mping & Data Collection - Internet

ual Methane Compliance (TAFT) N/A

On record. (Note: Taft Electric is responsible for service and maintenance.)

Emergency Plan



Handwritten initials: JH, FW, MW

4/11/00 (E11); 11/24/03 (CDM); 11/25/03 (LEVEL III); 13900 ppm (by Exploration); 24000 (from Carlin Environmental/CDM)
 Metha... Level - Soil Sample Result :
 Deputy Inspector (s): Colin Ku; Rodolfo Mezamabe, Les Trujillo, Kevin Lea, George Carlin, Otto Figueroa, Kevin Peyton
 Methane Engineer (s): Bobby Garcia, Ray Mullinix
 DBS Inspector (s): David Tsau, James Power, Alex Velasquez, Timothy Moore; Patrick Kelly
 Contractors: Greg Riley, Allwest Remediation, Carlin Environmental

Supporting Documents

Date(s)

Inspector/Engineer

Testing / Monitoring

Inspector/Engineer

PV - CLA Criteria

PREVENTION

12" Gravel Blanket	DI/DBS	3/28/06	Inspector Notes; DBS Plan Check or Permit; Structural Observation Report Form; Compaction Report Approval Letter	4/27/2005; 6/9/05
Gas Collection Vent Pipes (Horizontal)	Engineer /DI/DBS		Inspector Notes; DBS Plan Check or Permit	4/5/05; 6/9/2006
Gas Collection Pipes (Vent Risers)	Engineer /DI/DBS		Inspector Notes; DBS Plan Check or Permit	4/5/2005
Methane Membrane System	Engineer /DI/DBS	Smoke Test	Inspector Notes; DBS Plan Check or Permit	Permit issued 2/3/05
Subslab Mechanical Ventilation (L2,3)	DI/DBS		B-94, DBS Plan Check or Permit	4/15/2005; 4/11/05; 4/5/05
Subsurface Ventilation (L3) Pipes to 50ft vent wells (passive)	DI/DBS		DBS Plan Check or Permit	4/5/2005

DETECTION

(Under Building) Sensors below membrane	DBS/DI		Inspector Notes; DBS Plan Check or Permit	8/30/2005
Sensors between membrane and slab (Inside Building)	DBS/DI		Inspector Notes; DBS Plan Check or Permit	8/30/2005
Methane Detectors - lowest level	DBS/DI		Inspector Notes; DBS Plan Check or Permit	8/28/2005

MONITORING & MAINTENANCE

Manual Quarterly Assessment (L-1)
 Sampling & Data Collection - Internet
 Annual Methane Compliance (TAFT) N/A



Handwritten initials: "BY" and "FW".

ya Vista ; .ress: thane Inspection / Testing thane Level - Soil Sample Result : duty Inspector (s): thane Engineer (s): S Inspector (s):	6346 Seawalk - John Laing Home Level 3 GeoKinetics Newton Gerhardt	Inspector/Engineer Testing / Monitoring Supporting Documents	Date(s) 6/1/2005
PV - CLA Criteria			
EVENTION			
Gravel Blanket	DBS		
s Collection Vent Pipes (Horizontal)	Engineer / DBS	Eng. Report / Notes / B-94	
s Collection Pipes (Vent Risers)	Engineer /	Eng. Report / Notes	
thane Membrane System	Engineer /	Eng. Report / Notes	6/1/2005
slab Mechanical Ventilation (L2,3)		Notes	
surface Ventilation (L3) Pipes to 50ft it wells (passive)			
TECTION			
ider Building)			
isors below membrane	Engineer /	Engineer / notes	5/11/2006
isors between membrane and slab	Engineer /	Engineer / notes	
ide Building)		Engineer / notes	
thane Detectors - lowest level	Engineer / Taft	Engineer / notes	
ible & Visual Alarms	Engineer / Taft	Engineer / notes	
:D Auto - Notification	Engineer / Taft	Engineer / notes	
NITORING & MAINTENANCE			
ual Quarterly Assessment (L1)			
npling & Data Collection - Internet			
ual Methane Compliance (TAFT)			

DX



<p>Maya Vista, Address: 13001 Bluff Creek - Lee Homes 3, Under Construction</p> <p>ethane Inspection / Testing</p> <p>ethane Level - Soil Sample Result:</p> <p>deputy Inspector (s):</p> <p>ethane Engineer (s):</p> <p>BS Inspector (s):</p>	<p>Inspector/Engineer</p> <p>Newton Gerhardt</p>	<p>Testing / Monitoring</p>	<p>Supporting Documents</p> <p>Date(s)</p>
<p>PV - CLA Criteria</p>	<p>Inspector/Engineer</p>	<p>Testing / Monitoring</p>	<p>Date(s)</p>
<p>REVENTION</p> <p>2" Gravel Blanket</p> <p>Gas Collection Vent Pipes (Horizontal)</p> <p>Gas Collection Pipes (Vent Risers)</p> <p>Methane Membrane System</p>	<p>DBS</p> <p>Engineer / DI / DBS</p> <p>Engineer / DI / DBS</p> <p>Engineer / DI / DBS</p>	<p>Notes</p> <p>Notes / B-94</p> <p>Notes / B-94</p> <p>Notes / B-94</p>	<p>7/16/06</p>
<p>Subslab Mechanical Ventilation (L2.3)</p> <p>Subsurface Ventilation (L3) Pipes to 50ft</p> <p>Gas Vent wells (passive)</p>	<p>DBS/ DI</p>		
<p>DETECTION</p> <p>Under Building</p> <p>Sensors below membrane</p>	<p>Engineer /</p>	<p>Notes</p>	
<p>Sensors between membrane and slab</p> <p>Inside Building</p> <p>Methane Detectors - lowest level</p> <p>Audible & Visual Alarms</p> <p>AFD Auto - Notification</p>	<p>Engineer /</p>	<p>Notes</p>	
<p>MONITORING & MAINTENANCE</p> <p>Annual Quarterly Assessment (L1)</p> <p>Sampling & Data Collection - Internet</p> <p>Annual Methane Compliance (TAFT)</p>			

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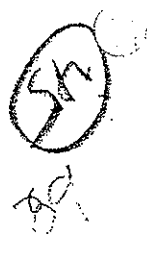


5864 Kiyot - Lee Homes 1	Supporting Documents	Date(s)
5864 Kiyot - Lee Homes 1		
ethane Inspection / Testing		
ethane Level - Soil Sample Result :	Level 1 and 2	
Deputy Inspector (s):		
ethane Engineer (s):		
3S Inspector (s):	Newton Gerhardt	
<u>PV - CLA Criteria</u>	<u>Inspector/ Engineer</u>	<u>Testing / Monitoring</u>
<u>REVENTION</u>		
" Gravel Blanket	DBS	Notes
Gas Collection Vent Pipes (Horizontal)	Engineer / DBS	Notes / Eng.
Gas Collection Pipes (Vent Risers)	Engineer / DBS	Notes / Eng.
ethane Membrane System	Engineer / DBS	Notes / Eng.
slab Mechanical Ventilation (L2,3)		
Subsurface Ventilation (L3) Pipes to 50ft		
vent wells (passive)		
<u>DETECTION</u>	None Installed	
Under Building		
Sensors below membrane		
Sensors between membrane and slab		
side Building)		
ethane Detectors - lowest level		
audible & Visual Alarms		
FD Auto - Notification		
<u>MONITORING & MAINTENANCE</u>		
Annual Quarterly Assessment (L1)		
Sampling & Data Collection - Internet		
Annual Methane Compliance (TAFT)		

BY

Address:		5744 Caledon - Lee Homes 2	
Methane Inspection / Testing			
Methane Level - Soil Sample Result:		Level 3	
Deputy Inspector (s):		ACT	
Methane Engineer (s):		Newton Gerhardt	
BS Inspector (s):			
PV - CLA Criteria		Inspector/ Engineer	Testing / Monitoring
Supporting Documents		Date(s)	
REVENTION			
2" Gravel Blanket	DBS		Notes
Gas Collection Vent Pipes (Horizontal)	Engineer / DBS		Notes
Gas Collection Pipes (Vent Risers)	Engineer / DBS		Notes
Methane Membrane System	Engineer / DBS		Notes / B-94
			3/11/2005
Slab Mechanical Ventilation (L2,3)	DBS		Notes
Subsurface Ventilation (L3) Pipes to 50ft			
Point wells (passive)			
DTECTION			
Under Building			
Sensors below membrane	Engineer /		Notes
Sensors between membrane and slab	Engineer /		Notes
Inside Building			Notes
Methane Detectors - lowest level			Notes
audible & Visual Alarms			Notes
LPD Auto - Notification			
MONITORING & MAINTENANCE			
Annual Quarterly Assessment (L1)			
Sampling & Data Collection - Internet			
Annual Methane Compliance (TAFT)			

Bx



Lee Vista Address:	13028 Villosa - Lee Group A	
Methane Inspection / Testing	Level 1	
Methane Level - Soil Sample Result:	Methane Specialists	
Deputy Inspector (s):	Newton Gerhardt / Alex Velazquez	
Methane Engineer (s):	Advanced Construction - ACT	
BS Inspector (s):	Inspector/ Engineer	Date(s)
Staller	Supporting Documents	
PV - CLA Criteria	DBS	DBS Notes
REVENTION	Engineer / DI / DBS	Methane Spec. Cert
1" Gravel Blanket	Engineer / DI / DBS	Methane Spec.
Gas Collection Vent Pipes (Horizontal)	Engineer / DI / DBS	ACT / Notes
Gas Collection Pipes (Vent Risers)	Engineer / DI / DBS	2/12/2003
Methane Membrane System		
Subslab Mechanical Ventilation (L2,3)		
Subsurface Ventilation (L3) Pipes to 50ft		NA
Vent wells (passive)		
DETECTION		NONE -
Under Building	Engineer /	
Sensors below membrane	Engineer /	
Sensors between membrane and slab		
Side Building		
Methane Detectors - lowest level		
Audible & Visual Alarms		
FD Auto - Notification		
MONITORING & MAINTENANCE		
Annual Quarterly Assessment (L1)		
Sampling & Data Collection - Internet		
Annual Methane Compliance (TAFT)		
Notes:	TCO issued in 2003, renew every 6 months / No FD sig. On TCO	to be replaced
	The majority of Lee Group A had no sign-off on TCO by FD	
	No C of O - Need additional sign-off by Fire, DWP, Public Works	
	"Equivalency" performed allowing Lee Homes to not install Active System	
	Deputy reports - Lost - Grading	
	Per DBS - Level 2 methane at Lee Homes A is not under homes, street area only per DBS	
	Lee Homes submitted plans to DBS that did not include active mitigation -	

3X

9/20

3

TO: CITY OF LOS ANGELES,
GOVERNMENT AND AUDIT COMMITTEE;
CITY CONTROLLER, LAURA CHICK
ATTN. ROB WILCOX

JULY 18, 2007

FROM: GRASSROOTS COALITION, PATRICIA MCPHERSON
11924 W WASHINGTON BLVD
LA, CA 90066

Grassroots Coalition (GC) has reviewed the "working papers" provided by Controller Chick's Office and submits the comments herein. GC also concurs with the comments made by KNBC to the Controller's Office regarding the Playa Vista audit.

GC submits the KNBC comments and the following comments to the City of Los Angeles' Government and Audit Committee as a GRIEVANCE filing. GC requests responses to all comments- point by point made by KNBC and GC. GC further requests that GC and these comments be included in any and all City Hearings regarding the Playa Vista audit.

"Objective- To answer the overarching question—Have development activities at Playa Vista appropriately complied with established City regulations made specifically to ensure public safety in regards to methane gas mitigation. "...(audit papers A-5)

It is clear from the working papers of the audit that there is NO ENSURANCE OF PUBLIC SAFETY IN REGARDS TO METHANE GAS MITIGATION. The Controller herself has stated publicly in interviews done by KNBC that she could not vouch for the safety of the site and that the records of the site are mush.

"Scope of Audit: The audit will include all City related oversight activities related to development activities at Playa Vista Phase 1 during the period January 2001 through fieldwork completion." (audit papers A-8-1,2)

The working papers do not include all City related oversight activities related to development activities a Playa Vista Phase 1...

Please review comments made by KNBC regarding this matter. Additionally, the Controller's Office failed to include LA City financing department oversight of the Playa Vista Project- in particular LA City documentation for any and all bonds utilized for Playa Vista and the attending disclosures made to utilize the bonds. For instance, the audit papers reveal virtually no information regarding the critically necessary 50' vent wells and their ability to perform properly. The bond documents' disclosures rely upon properly performing 50' vent wells that would act as both a detection device-as an early warning system and, to vent the aquifer gases to prevent build-up of gases under the

structures. No attention was given in the audit concerning the financial departments oversight to ensure that the disclosures are truthful.

LADBS Testimony

Grassroots Coalition Public Record Act requested and received "working papers" of the Controller's Audit of Playa Vista. After lengthy review of the documents Grassroots' c Working Papers at C-3-1 is an Inter-Departmental Correspondence dated 2/26/07 from LADBS, Chief Engineer Nicolino Delli Quadri to the Controller's Office.

LADBS'- Mr. Delli Quadri, according to his resume, obtained through Public Record Act Requests, has no methane mitigation expertise to provide any authoritative statements regarding the "Physical Project Attributes That Add to Occupant Safety". Mr. Delli Quadri oversteps his expertise in this letter to the Controller's Office when he provides statements of his opinion regarding methane hazards. Eg. "Low methane soil gas pressure was found at the Capri II site, representing a reduced risk that gases may suddenly rush into the homes."

Mr. Delli Quadri provides no authoritative or scientific data for substantiation of his opinion. The Capri II site is located in an area designated as a highest level- Tier 3- for oilfield gas exposure. Thus, his "reduced risk" hypothesis is made contrary to the designation of the site as a highest level gas danger and the hypothesis is made with no scientific support.

Mr. Delli Quadri, while "confirming" (p.2) that, " The engineer of record's (Geokinetics)certification that 'the gas mitigation improvements are functioning as intended and the house(s) can be safely occupied.' LADBS allowed occupancy of the buildings only after all the methane mitigation system components were installed and inspected."

What Mr. Delli Quadri omits from his letter to the Controller is the fact that LAFD oversight was discontinued- contrary to the city council approved 2001 CLA Report and Directives and the city ordinance 91.7104.3.8. Mr. Delli Quadri also omits that of the Capri II homes tested by Inspector Ng, there were numerous failures and dangerous installation problems cited by Inspector Ng. (Audit papers B4 -Oct. 31, 2006 Summary of Meeting)

Mr. Delli Quadri also oversteps his expertise in #4, p. 2, "A thickened floor slab with post-tensioned steel reinforcement, designed to close cracks in concrete, provides an additional barrier between the building interior and any possible methane gas intrusion."

Mr. Delli Quadri cites no scientific authority for validity of this claim. It is alarming that an unsubstantiated claim such as this is made because 1) gases have been observed and documented migrating through concrete at sites of Playa Vista by KNBC, Grassroots Coalition and the developer's own consulting firm Group Delta and, 2) Follow-up documentation of LADBS response to requests for studies to confirm these observations

have yielded a mischaracterization on the part of LADBS. LADBS, in a response to a Playa Vista consultant and at least one development owner, stated that the "annual report" by Taft would be the basis for a response to this issue. LADBS misrepresented Taft's limited role at the Playa Vista site- that being to only report on the detection devices of the vent system and various connected blowers etc. (not the 50' vent well system). LADBS knows that Taft does not perform gas testing emanating through the soils or concrete for its "annual report" and since LADBS requires a license for any gas testing done in this manner (Municipal Code 98.0503- Testing Agency For Methane (Laboratory and Field Testing), According to LADBS' Public Record Act response for licenses for 98.0503, Taft does not have such a license. LADBS response to companies with such a license yields only one company with this license-GeoScience Analytical.

Mr. Delli Quadre provides what appears to be a slight of hand version of the truth that underplays the gas dangers when he states to the Controller's Office, "To date LAFD records do not indicate a single incident of an alarm resulting from an identified methane gas intrusion into a building that was constructed and approved with a methane mitigation system."

Mr. Delli Quadre cites no evidence to validate this conclusory statement. Records obtained by Grassroots through Public Record Act requests to LADBS and LAFD paint a different picture of what is occurring at Playa Vista. For instance, a Kleinfelder report dated June 30, 2003 states on page 4 of 6 that:

"-It was confirmed that methane concentrations at or above 15% LEL triggered a low alarm. The central station was alerted and the building ventilation was activated."

"-It was confirmed that methane concentrations at or above 25% LEL triggered a high alarm. The central station was alerted, the building horn/strobes was activated, and the building ventilation was activated."

"-The system alarm registered the occurrence of 3 alarm conditions in the building sensors during the previous 12 months; 2 low alarms and 1 high alarm. No explanation for alarm conditions (actual or false positives) was provided."

It has been the experience of Grassroots Coalition during visits to Playa Vista during gas alarm incidents, that the LAFD fire trucks that arrive on-scene do not carry gas detection equipment. In fact, during the first Public Methane Gas Task Force Meeting in early 2007 the LAFD representative confirmed that LAFD has no data or information to confirm the methane alarms have been triggered through actual methane intrusion or false positives.

A further note regarding Mr. Delli Quadre- during a fairly recent meeting between himself and Grassroots Coalition representatives, including myself, he stated that Capri I homes was tested for gas by Exploration Technologies Inc. -the city's peer reviewer- in 2001. He stated that in 2001 only low volumes of gas were discovered therefore, today there is no need for the detection devices and there are no detection devices at Capri I. (The Capri I site was part of the audit review)

Mr. Delli Quadre's conclusion regarding the lack of need for detection devices at Capri I contradicts LADBS' own acknowledgement that gas can be highly migratory and transient, thus with the potential for change through time.

Granted LADBS has stated that it has no expertise in the environmental aspects of gas migration (12/3/'99 LADBS-Andrew Adelman letter to Councilman Pacheco- Chair of Housing/ Community Redev. Comm.) and gas mitigation measures (audit testimonies by LADBS) but, LADBS has acknowledged that, "gas can be highly migratory and transient"(Jan. 19, 1999 DBS letter to Playa Capital- Methane Ctrl File-7). Furthermore, Kleinfelder, one of the lead consulting companies employed by Playa Capital, has made similar acknowledgements in a report regarding soil gas conditions and detection devices at Playa Vista. In a methane detection system report dated June 30, 2003 pertaining to Fountain Park Apartments- Kleinfelder states on pg. 5 of 6 under "Limitations" that, "This report should be used only within a reasonable time from its issuance. Land use, site conditions (both on-site and off-site) or other factors may change over time, and additional work may be required with the passage of time."

Inspector Ng's testimony before the auditors (audit B-Memo of TC Conversations) cites his discussion of the "characteristics of methane gas and the fact that it is migratory meaning that it has the capability to move from location to location, including a level 1 area, such as Lee Court Homes 1." (Capri Court Homes 1)

Given these acknowledgements that serve as warnings of potential changes in gas levels and given that the CLA Report and the Playa Vista Phase I Ordinance- 91.7104.3.8 require ALL BUILDINGS in Phase 1 to have gas detection devices, it would appear that LADBS is not only stepping outside its legal boundaries as a 'ministerial' department (having jurisdiction to enforce pre-existing local and state laws) but that LADBS is stepping outside any common sense.

LA BUILDING CODE Sec. 98.0403.1 POWERS OF THE DEPARTMENT AND THE BOARD (audit papers C-32)

50' Vent Wells-

"Further, LADBS agrees with ETI's position that 'Building in Level III areas is contingent upon a functional subsurface venting system....' This subsurface venting system is currently in the progressive research and design stages being conducted by Playa Capital consultants in consultation with ETI." Jan. 31, 2001 LADBS letter, Attachment 11 of the 2001 CLA Report.

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It is also important to note that within the audit "workpapers" but not mentioned, was the Exploration Technologies Inc. report- Still Workin On It (audit working papers C-30) the report acknowledges the failure of the pilot vent well system- (the 50' deep well system) The City's and Playa Capital's legal representation have continually stated that the 'pilot vent well system was successful'. Indeed, it is the City's and Playa Capital's legal briefs that state the success regarding the pilot vent well system that provides the basis for the Appellate Court's determination in ETINA v City of LA, Playa Capital LLC – "The CLA reported that Camp Dresser & McGee Inc., an environmental consultant hired by Playa Capital, implemented a pilot program by installing more than 70 temporary vent wells designed for Level III methane remediation, and that the program was successful.' And, "Petitioners' discussion of the difficulties and uncertainties of methane mitigation fails to show an absence of substantial evidence to support the city's finding." (pgs.21-22)

The ETI summary entitled Still Workin On It was not a part of the SEIR record because despite attempts by plaintiffs to utilize its findings, the City and Playa Capital fought to keep it out of the record on the grounds that it was created post the record's legal time frame to include it. Thus, the Appellate Court (no court) ever reviewed ETI's –Still Workin On It which clearly states the failure of the (experimental) pilot vent well system as well as problems with other parts of the methane mitigation system . This is important not only because the critical and experimental 50' deep vent wells haven't perform as planned but also because the City and Playa Capital continue to state that the 50' vent wells and indeed all of the methane mitigation systems are above scrutiny by the CLA or a SEIR because the Appellate Court impliedly found that the methane mitigation systems worked according to the City's language to that effect

regarding the pilot vent well system.

Grassroots Coalition has Public Record Act requested the performance data for the 50' vent wells along with numerous other questions pertaining to the 50' vent wells and received the response from LADBS that there is no data responsive to the Grassroots' request.

The Playa Vista site was allowed to move ahead due to the conclusion that the "mitigation measures were adequate for the Playa Vista Development site", (Executive Summary- 2001 CLA Report) and because of this conclusion bonds were released and utilized under authorization and approval by the City Council. The findings of the audit along with the variously sourced acknowledgements of lack of data and failure of the 50' vent well system and other required systems, clearly reveal that a full investigation into the safety of the methane mitigation systems, performed independently and outside of both Playa Capital and City influence is warranted.

Deputy Inspector Protocol-

The audit on page 5, bullet 1 states, "DBS inspectors must ensure that systems have been installed according to the stated building plans; however, we noted that DBS relied on non-City engineers, consultants and Deputy Inspectors to assure that the systems were operational. We also noted that the City has no certification program for Deputy Methane Inspectors; instead, DBS required the manufacturers of the methane systems to certify the deputy methane inspectors."

The auditors findings on this topic, placed side by side with the audit's Spreadsheets which contain incomplete data or lack of data reveal that it is impossible to provide the audit's conclusory assurance that, "Based on our review, we found that the required inspections, testing and approvals related to the installation of methane mitigation systems were performed for multi-family dwellings"(pg. 2) or any other dwellings or commercial structures. Therefore any assurance of safety provided by the Phase I site methane mitigation measures having been implemented, tested or operational is not factually based.

Furthermore, DBS acted contrary to City Codes when it allowed Deputy Inspectors to not be in compliance with long standing Deputy Inspector protocol.

While the auditors state that there is no certification program for Deputy Methane Inspectors, what the Controller's Office omits is that the City does have City Code requirements for Special Inspections (1701.1) and, 1701.2 Registered Deputy Inspector wherein, "A committee appointed by the superintendent of building shall examine each applicant as to his or her experience and training for performing the duties of an inspector of the type for which application has been made." And, 1701.3 Duties and Responsibilities of the Registered Deputy Inspector.

3
TO: CITY OF LOS ANGELES,
GOVERNMENT AND AUDIT COMMITTEE;
CITY CONTROLLER, LAURA CHICK
ATTN. ROB WILCOX

JULY 18, 2007

FROM: GRASSROOTS COALITION, PATRICIA MCPHERSON
11924 W WASHINGTON BLVD
LA, CA 90066

Grassroots Coalition (GC) has reviewed the "working papers" provided by Controller Chick's Office and submits the comments herein. GC also concurs with the comments made by KNBC to the Controller's Office regarding the Playa Vista audit.

GC submits the KNBC comments and the following comments to the City of Los Angeles' Government and Audit Committee as a GRIEVANCE filing. GC requests responses to all comments- point by point made by KNBC and GC. GC further requests that GC and these comments be included in any and all City Hearings regarding the Playa Vista audit.

"Objective- To answer the overarching question—Have development activities at Playa Vista appropriately complied with established City regulations made specifically to ensure public safety in regards to methane gas mitigation. "...(audit papers A-5)

It is clear from the working papers of the audit that there is NO ENSURANCE OF PUBLIC SAFETY IN REGARDS TO METHANE GAS MITIGATION. The Controller herself has stated publicly in interviews done by KNBC that she could not vouch for the safety of the site and that the records of the site are mush.

"Scope of Audit: The audit will include all City related oversight activities related to development activities at Playa Vista Phase 1 during the period January 2001 through fieldwork completion." (audit papers A-8-1,2)

The working papers do not include all City related oversight activities related to development activities a Playa Vista Phase 1... Please review comments made by KNBC regarding this matter. Additionally, the Controller's Office failed to include LA City financing department oversight of the Playa Vista Project- in particular LA City documentation for any and all bonds utilized for Playa Vista and the attending disclosures made to utilize the bonds. For instance, the audit papers reveal virtually no information regarding the critically necessary 50' vent wells and their ability to perform properly. The bond documents' disclosures rely upon properly performing 50' vent wells that would act as both a detection device-as an early warning system and, to vent the aquifer gases to prevent build-up of gases under the

structures. No attention was given in the audit concerning the financial departments oversight to ensure that the disclosures are truthful.

LADBS Testimony

Grassroots Coalition Public Record Act requested and received "working papers" of the Controller's Audit of Playa Vista. After lengthy review of the documents Grassroots' c Working Papers at C-3-1 is an Inter-Departmental Correspondence dated 2/26/07 from LADBS, Chief Engineer Nicolino Delli Quadri to the Controller's Office.

LADBS' - Mr. Delli Quadri, according to his resume, obtained through Public Record Act Requests, has no methane mitigation expertise to provide any authoritative statements regarding the "Physical Project Attributes That Add to Occupant Safety". Mr. Delli Quadri oversteps his expertise in this letter to the Controller's Office when he provides statements of his opinion regarding methane hazards. Eg. "Low methane soil gas pressure was found at the Capri II site, representing a reduced risk that gases may suddenly rush into the homes."

Mr. Delli Quadri provides no authoritative or scientific data for substantiation of his opinion. The Capri II site is located in an area designated as a highest level- Tier 3- for oilfield gas exposure. Thus, his "reduced risk" hypothesis is made contrary to the designation of the site as a highest level gas danger and the hypothesis is made with no scientific support.

Mr. Delli Quadri, while "confirming" (p.2) that, " The engineer of record's (Geokinetics)certification that "the gas mitigation improvements are functioning as intended and the house(s) can be safely occupied." LADBS allowed occupancy of the buildings only after all the methane mitigation system components were installed and inspected."

What Mr. Delli Quadri omits from his letter to the Controller is the fact that LAFD oversight was discontinued- contrary to the city council approved 2001 CLA Report and Directives and the city ordinance 91.7104.3.8. Mr. Delli Quadri also omits that of the Capri II homes tested by Inspector Ng, there were numerous failures and dangerous installation problems cited by Inspector Ng. (Audit papers B4 -Oct. 31, 2006 Summary of Meeting)

Mr. Delli Quadri also oversteps his expertise in #4, p. 2, "A thickened floor slab with post-tensioned steel reinforcement, designed to close cracks in concrete, provides an additional barrier between the building interior and any possible methane gas intrusion."

Mr. Delli Quadri cites no scientific authority for validity of this claim. It is alarming that an unsubstantiated claim such as this is made because 1) gases have been observed and documented migrating through concrete at sites of Playa Vista by KNBC, Grassroots Coalition and the developer's own consulting firm Group Delta and, 2) Follow-up documentation of LADBS response to requests for studies to confirm these observations

have yielded a mischaracterization on the part of LADBS. LADBS, in a response to a Playa Vista consultant and at least one development owner, stated that the "annual report" by Taft would be the basis for a response to this issue. LADBS misrepresented Taft's limited role at the Playa Vista site- that being to only report on the detection devices of the vent system and various connected blowers etc. (not the 50' vent well system). LADBS knows that Taft does not perform gas testing emanating through the soils or concrete for its "annual report" and since LADBS requires a license for any gas testing done in this manner (Municipal Code 98.0503- Testing Agency For Methane (Laboratory and Field Testing), According to LADBS' Public Record Act response for licenses for 98.0503, Taft does not have such a license. LADBS response to companies with such a license yields only one company with this license-GeoScience Analytical.

Mr. Delli Quadre provides what appears to be a slight of hand version of the truth that underplays the gas dangers when he states to the Controller's Office, "To date LAFD records do not indicate a single incident of an alarm resulting from an identified methane gas intrusion into a building that was constructed and approved with a methane mitigation system."

Mr. Delli Quadre cites no evidence to validate this conclusory statement. Records obtained by Grassroots through Public Record Act requests to LADBS and LAFD paint a different picture of what is occurring at Playa Vista. For instance, a Kleinfelder report dated June 30, 2003 states on page 4 of 6 that:

"It was confirmed that methane concentrations at or above 15% LEL triggered a low alarm. The central station was alerted and the building ventilation was activated."

"It was confirmed that methane concentrations at or above 25% LEL triggered a high alarm. The central station was alerted, the building horn/strobes was activated, and the building ventilation was activated."

"-The system alarm registered the occurrence of 3 alarm conditions in the building sensors during the previous 12 months; 2 low alarms and 1 high alarm. No explanation for alarm conditions (actual or false positives) was provided."

It has been the experience of Grassroots Coalition during visits to Playa Vista during gas alarm incidents, that the LAFD fire trucks that arrive on-scene do not carry gas detection equipment. In fact, during the first Public Methane Gas Task Force Meeting in early 2007 the LAFD representative confirmed that LAFD has no data or information to confirm the methane alarms have been triggered through actual methane intrusion or false positives.

A further note regarding Mr. Delli Quadre- during a fairly recent meeting between himself and Grassroots Coalition representatives, including myself, he stated that Capri 1 homes was tested for gas by Exploration Technologies Inc. -the city's peer reviewer- in 2001. He stated that in 2001 only low volumes of gas were discovered therefore, today there is no need for the detection devices and there are no detection devices at Capri I. (The Capri I site was part of the audit review)

Mr. Delli Quadre's conclusion regarding the lack of need for detection devices at Capri I contradicts LADBS' own acknowledgement that gas can be highly migratory and transient, thus with the potential for change through time.

Granted LADBS has stated that it has no expertise in the environmental aspects of gas migration (12/3/'99 LADBS-Andrew Adelman letter to Councilman Pacheco- Chair of Housing/ Community Redev. Comm.) and gas mitigation measures (audit testimonies by LADBS) but, LADBS has acknowledged that, "gas can be highly migratory and transient"(Jan. 19, 1999 DBS letter to Playa Capital- Methane Ctrl File-7). Furthermore, Kleinfelder, one of the lead consulting companies employed by Playa Capital, has made similar acknowledgements in a report regarding soil gas conditions and detection devices at Playa Vista. In a methane detection system report dated June 30, 2003 pertaining to Fountain Park Apartments- Kleinfelder states on pg. 5 of 6 under "Limitations" that, "This report should be used only within a reasonable time from its issuance. Land use, site conditions (both on-site and off-site) or other factors may change over time, and additional work may be required with the passage of time."

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No
Methano Public Task
Force

METHANE TASK FORCE MEETING

	NAME	COMPANY	PHONE NUMBER
1	Glenn Tofani	Geo Kinetics	(949) 580-1818
2	Adnan Siddiqui	CA RWQCB, LA	213 576 6812
3	Louis Pardoifi	Geo Science	805 5265522
4	CHRIS CONAHAN	METHANE SPECIALISTS	805 987 5356
5	Andy Kao	Local Enforcement Agency	(213) 998-0873
6	KEVIN LEA	CARLIN ENV.	(714) 508-1111
7	Tom Pontoo	Mar Vista Community Council	(310) 202-5373
8	JOHN CONWAY	TERRA - PETRA	(805) 701-0956
9	HUGH AUERY	TERRA - PETRA	213 458-0494
10	Ken Chiang	DISC	(818) 551 2860
11	Mike Mulhern	Geo / BOC	213 847-0525
12	Kyle H. Gaudin	LADBS	213 4820440
13	Colin Kando	LADBS	213 4820447
14	DAN ROSENBERG	URBAN PARTNERS	213.437.1270
15	George Johnson	Kleinfelder	909-396-0335
16	FRANK LIU	LADBS	213-482-0409
17	BOB LAW	LADBS	213-482-0470
18	Bob Samuelia	DOGERS ^{not present}	714 816 6847
19			
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JAVIER NUÑEZ
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CITY OF LOS ANGELES
CALIFORNIA



ANTONIO R. VILLARAIGOSA
MAYOR

DEPARTMENT OF
BUILDING AND SAFETY
201 NORTH FIGUEROA STREET
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ANDREW A. ADELMAN, P.E.
GENERAL MANAGER

RAY MOND CHAN
EXECUTIVE OFFICER

Collin

Otc 213-482-0447
Cell 213-792-8880

AGENDA OF THE
CITY OF LOS ANGELES METHANE ORDINANCE TASK FORCE
201 NORTH FIGUEROA STREET - 9TH FLOOR CONFERENCE ROOM
TUESDAY, OCTOBER 31, 2006
3:00 p.m.

GUIDELINES FOR TESTIMONY ON ALL SCHEDULED MEETINGS.

The Task Force must necessarily limit the speaking times of those presenting testimony of an agenda item. In all instances, equal time shall be allowed for presentation information to assist with improving the City's Methane Ordinance (Ordinance #175790). Specifically, a period, generally limited to two (2) minutes, shall be allowed for testimony by an individual.

Anyone desiring to speak and/or receive a copy of this Methane Ordinance Task Force's meeting minutes, must complete a sign-in sheet and submit it to the Task Force. Please do not disrupt proceedings once the meeting has commenced. All beepers and cell phones are to be turned off or otherwise set so as to not disturb the proceedings. It should be noted that the Task Force may take brief recesses during the meeting.

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities.

AGENDA OF THE CITY OF LOS ANGELES
METHANE ORDINANCE TASK FORCE MEETING

OCTOBER 31, 2006

1. Welcome
2. Task Force Purpose: To follow the LA City Council (Council File #01-1305 February 2, 2003) instructions regarding instructions to "the Department of Building and Safety to report back annually relative to what is being learned, what is being submitted as analysis occurs, and the levels of improvement needed; and further, INSTRUCT the Department of Building and Safety to create a

Need scientific substantiation

task force, including but not limited to Neighborhood Councils, individuals involved with development, and experts, as needed."

3. City of Los Angeles Methane Ordinance (Ord. #175790) History

4. Methane Map - Methane Zone and Methane Buffer Zone Map
2 maps on (BS) website
a. Sites to be added to the map — *submit in writing by 11/30/06*
b. Sites to be removed from the map
MTA generated data not included?

5. Site Investigation - LADBS Information Bulletin #P/BC 2002-101

a. Reorganize bulletin text
b. New testing methodologies
*— Recommendations — ? New instruments?
— Hand held units used — FID not allowed but better to read levels below 500*

6. Methane Mitigation Requirements - Table 71

a. Reorganize ordinance text
b. Add new mitigation requirements
c. Add new technologies
d. Relax it with new technology
*Combustible gas reading not methane specific - level 2 or 1
wants field analysis without taking it to a lab \$150⁰⁰⁰*

7. Deadline for Written Recommendations on Ordinance 175790: November 30, 2006 submitted to LADBS, Attn: Colin Kumabe, 201 N. Figueroa St., Rm. 880, Los Angeles, CA 90012

8. Public Comments *See DOGGER MAPS FOR boundaries of the oil fields*
Opportunity for members of the public to address the Task Force on items of interest to the public that are within the subject matter of this meeting agenda.

Note: The Task Force will limit the total time allocated for public testimony in accordance with its guidelines described on the first page of this agenda; will determine when that time shall be allotted during the meeting; will establish time limits for each speaker; and will specify time limits to be allocated on any one item. Anyone desiring to speak during the public comments period must complete the public comments questionnaire and submit it to the Task Force prior to the start of the meeting.

⑤ Colin wants a standardized way of testing in writing.
2 approvals — Geotechnical or Methane Specific
Different methods loosely following protocol.
Need methane testing licensing.

File Number
01-1305

Last Changed Date
2/6/2004

Title
METHANE

Initiated By
Galanter Mover 2001 / Bernson

Subject

Motion - Los Angeles is in a region rich in methane deposits, almost all of them unmapped and unmitigated, but government officials in the City and elsewhere have had little research or guidance to determine standards of safety and building requirements with regard to methane. This lack of information and guidelines have proven expensive and dangerous, e.g., the now-abandoned Belmont Learning Complex project.

In 2000, the Budget and Finance Committee requested a report on methane and related issues before further considering the issuance of Mello-Roos bonds for the Playa Vista development. The Chief Legislative Analyst, in coordination with the City Attorney, Office of Administrative and Research Services, and Departments of Building and Safety, Engineering, and Planning, among others, have worked with the most methane-knowledgeable scientists in the action to jointly develop, over the last year:

*A scope and methodology of study applicable to any building site.

*Three sets of mitigation recommendations pegged to the nature and level of methane found on a site.

*Mechanisms by which City departments and other agencies can work together to develop, enforce, and maintain building requirements and mitigations.

The City Council has noted and filed the report detailing the data, analysis, and recommendations, and City agencies will monitor the Playa Vista development so that it conforms to the restrictions, mitigations, and other requirements described in the report.

The City of Los Angeles should ensure an equivalent level of safety on all properties, taking full advantage of the time, effort, data, and expertise that went into this report. The analysis and recommendations should apply to City policies and building codes as a whole.

In addition, the City risks enormous exposure to legal liability if it establishes a precedent, at the Playa Vista site or elsewhere, of requiring or recommending scientific investigation and mitigation of methane above that required by any local, state, or federal regulation or building code, without requiring that higher date and safety standard for other developments.

THEREFORE MOVE that:

*The City's Departments of Building and Safety, Engineering, and Planning, as well as the Chief Legislative Analyst and Office of Administrative and Research Services, report back to Council within 45 days with recommendations to implement uniform safety requirements regarding methane, for all future development throughout the City.

*To develop these recommendations, all departments will use the scope and methodology of research and nature of mitigation described in the final Chief Legislative Analyst report on the Playa Vista site.

REFER TO COUNCIL FILE 99-0385-S4

Date Received
6/19/2001

File History

6-19-01 - This day's Council session

6-19-01 - File to Calendar Clerk for placement on next available Council agenda

6-26-01 - Motion ADOPTED

7-5-01 - File in files

8-24-01 - For ref - Transmittal from Building and Safety relative to report back with recommendations to implement uniform safety requirements regarding methane.

8-27-01 - Ref to Public Safety and Planning and Land Use Management Committees

8-27-01 - File to Public Safety Committee Clerk

9-18-01 - File to Planning and Land Use Management Committee Clerk

10-11-01 - File to Environmental Quality and Waste Management Committee, per Planning and Land Use Management Committee Clerk request

10-17-01 - File to Planning and Land use Management Committee Clerk
 8-27-03 - For ref - Transmittal from the Department of Building and Safety relative to the proposed methane mitigation requirements for potential methane hazard sites throughout the City.

8-28-03 - Ref to Planning and Land Use Management Committee - to Committee Clerk
 9-25-03 - Set for Planning and Land Use Management Committee on October 1, 2003
 10-1-03 - Planning and Land Use Management Committee Disposition - Approved as modified

10-15-03 - Motion ADOPTED *AS AMENDED to APPROVE Planning and Land Use Management Committee report recommendations to:

1. APPROVE the August 22, 2003, report submitted by Department of Building and Safety relative to the proposed methane mitigation requirements of potential methane hazard sites throughout the City.
2. REQUEST the City Attorney to review the proposed amendments to the current requirements of Division 71, Article 1 of Chapter IX of the Los Angeles Municipal Code (LAMC) for legal form and content so that they may be presented to the City Council as amendments to the Los Angeles Municipal Code.
3. REQUEST the City Attorney to work with the Building and Safety Department staff in the preparation of the Ordinance to amend the Los Angeles Municipal Code, *and that the City Attorney return the Ordinance for consideration within 30 days.

*(Miscikowski - Reyes)

10-20-03 - File to Planning and Land Use Management Committee Clerk OK

10-21-03 - File in files

12-26-03 - For ref - Transmittal from Department of Building and Safety relative to staff report for proposed amendments to Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code to establish Citywide methane mitigation requirements and to include more current construction standards to control methane intrusion into buildings.

12-26-03 - Ref to Planning and Land Use Management Committee

12-26-03 - File to Planning and Land Use Management Committee Clerk

1-9-04 - For ref - Transmittal from City Attorney R04-0004 relative to an Ordinance amending Section 91.106.4.1 and Division 71 of Article 1 of Chapter IX of the Los Angeles Municipal Code to establish citywide methane mitigation requirements.

1-9-04 - Ref to Planning and Land Use Management Committee - to Committee Clerk

1-23-04 - Set for Planning and Land Use Management Committee on January 28, 2004

1-28-04 - Planning and Land Use Management Committee Disposition - Approve

2-4-04 - Planning and Land Use Management Committee report ADOPTED *AS AMENDED (see attached motion), subject to the approval of the Mayor to:

1. FIND that this action is categorically exempt from California Environmental Quality Act (CEQA) pursuant to Article II, Section 2(m) of the City's Guidelines.

2. ADOPT the FINDINGS of the Department of Building and Safety.

3. ADOPT the December 23, 2003, Department of Building and Safety report relative to establishing citywide methane mitigation requirements and to include more current construction standards to control methane intrusion into buildings.

4. PRESENT and ADOPT the accompanying ORDINANCE, approved by the City Attorney as to form and legality, relative to the proposed amendments to Section 91.106.4.1 and Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code to establish Citywide methane mitigation requirements - Categorical Exemption APPROVED.

1-4-04 - *Amending Verbal Motion - Miscikowski Mover 2004 / Reyes - HEREBY MOVE that Council AMEND the Planning and Land Use Management Committee Report (Item No. 5, Council File 01-1305) relative to establishing citywide methane mitigation requirements:

INSTRUCT the Department of Building and Safety to report back annually relative to what is being learned, what is being submitted as analysis occurs, and the levels of improvement needed; and further, INSTRUCT the Department of Building and Safety to create a task force, including but not limited to Neighborhood Councils, individuals involved with development, and experts, as needed.

2-6-04 - File to Mayor for signature FORTHWITH

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PUBLIC WORKS

(b)
f/d
OCT 20 1998

MOTION

On September 16, 1998, an oil spill occurred at the Ballona Wetlands. The spill was the result of a faulty collector pipe owned by the Southern California Gas Company. Several agencies, including the City of Los Angeles Fire Department, the Los Angeles County Hazardous Materials Unit, the California Department of Fish and Game, and the U.S. Coast Guard, immediately responded to this emergency, barricading the spill to minimize impacts to the wetland area.

The Ballona Wetlands is a very important natural resource to the City of Los Angeles and must be protected. As part of such a protection effort, it is important to catalogue the infrastructure located under the wetlands, ensure its proper maintenance, and develop appropriate spill prevention and response plans are in place and up-to-date.

I THEREFORE MOVE that the Council direct the Bureau of Engineering, in cooperation with the Fire Department and the Department of Transportation, to identify the petroleum product and natural gas pipelines and other types of underground infrastructures on both public and private property, as well as the owners and operators of the infrastructure, that may pose a spill threat to the Wetlands.

I FURTHER MOVE that Fire Department and the Department of Transportation work with the City Attorney to ensure that the owners and operators over which the City has jurisdiction are in compliance with all applicable City rules and regulations, City franchise permit conditions, and CEQA mitigation requirements.

I FURTHER MOVE that in those areas where the City's jurisdiction and/or authority is limited that the Fire Department and the Department of Transportation, with the assistance of the Environmental Affairs Department, works with the appropriate regulatory agencies to ensure maximum protection of the Wetlands and report back to Council by January 30, 1999.

PRESENTED BY: Ruth Galanter

Ruth Galanter
Councilmember, 6th District

SECONDED BY: Michael Han

October 20, 1998

1c

WHEREAS, modern construction standards were successfully used as methane mitigation systems for many projects in Playa Vista;

WHEREAS, the work group utilized the research and knowledge gained through the development of the Playa Vista methane mitigation systems;

WHEREAS, many of the modern construction standards to mitigate potential hazard of methane gas intrusion into building were incorporated into the Los Angeles Municipal Code as more restrictive provisions than found in the 2001 edition of the California Building Code based on local geological conditions;

NOW, THEREFORE,

**THE PEOPLE OF THE CITY OF LOS ANGELES
DO ORDAIN AS FOLLOWS:**

Section 1. Exception 6 of Section 91.106.4.1 of the Los Angeles Municipal Code is amended to read:

6. The Department shall have the authority to withhold permits on projects located within a Methane Zone or Methane Buffer Zone established under Sections 91.7101 *et seq.* of this Code. Permits may be issued upon submittal of detailed plans that show adequate protection against flammable gas incursion by providing the installation of suitable methane mitigation systems.

Sec. 2. Division 71 of Article 1, Chapter IX of the Los Angeles Municipal Code is amended to read:

**DIVISION 71
METHANE SEEPAGE REGULATIONS**

SEC. 91.7101. PURPOSE.

This division sets forth the minimum requirements of the City of Los Angeles for control of methane intrusion emanating from geologic formations. The requirements do not regulate flammable vapor that may originate in and propagate from other sources, which include, but are not limited to, ruptured hazardous material transmission lines, underground atmospheric tanks, or similar installations.

From: "Norman Kulla" <norman.kulla@lacity.org>
 Subject: **Fwd: meeting Re: groups and methane task force**
 Date: May 1, 2007 6:24:07 PM PDT
 To: "patriciamcpherson" <patriciamcpherson@earthlink.net>, "Councilman Rosendahl" <Councilman.Rosendahl@lacity.org>
 Cc: "Mike Bonin" <mike.bonin@lacity.org>
 Status: U
 Return-Path: <norman.kulla@lacity.org>
 Received: from noehlo.host ([127.0.0.1]) by mx-collie.atl.sa.earthlink.net (EarthLink SMTP Server) with SMTP id 1hJ3zS6RQ3NI36t0; Tue, 1 May 2007 21:24:20 -0400 (EDT)
 Received: from cwmsmtsp.lacity.org ([161.149.240.178]) by mx-collie.atl.sa.earthlink.net (EarthLink SMTP Server) with ESMTMP id 1hJ3zR27v3NI36t0 for <patriciamcpherson@earthlink.net>; Tue, 1 May 2007 21:24:19 -0400 (EDT)
 Received: from unknown (HELO CWGWDGW2.CI.LA.CA.US) ([161.149.252.210]) by cwmsmtsp.lacity.org with ESMTMP; 01 May 2007 18:24:19 -0700
 Received: from GATEWAYS-MTA by CWGWDGW2.CI.LA.CA.US with Novell_GroupWise; Tue, 01 May 2007 18:24:19 -0700
 X-Ip: 161.149.252.210
 X-Ironport-Av: E=Sophos;i="4.14,476,1170662400"; d="scan'208";a="53812705"
 Message-Id: <463785C80200001500340750@CWGWDGW2.CI.LA.CA.US>
 X-Mailer: Novell GroupWise Internet Agent 7.0.1
 References: <46314dc43efc1678235782dbd9c7271b@earthlink.net>
 In-Reply-To: <46314dc43efc1678235782dbd9c7271b@earthlink.net>
 Mime-Version: 1.0
 Content-Type: text/plain; charset=US-ASCII
 Content-Transfer-Encoding: quoted-printable
 Content-Disposition: inline
 X-Eink-Received-Info: spv=0;
 X-Eink-Av: 0
 X-Eink-Info: sbv=0; sbr=0; sbf=00; sbw=000;

See replies in ALL CAPS below to questions presented...Norman

||| patriciamcpherson <patriciamcpherson@earthlink.net> 5/1/2007 2:16 PM >>>

Bill and staff,

1. Are you aware of a recently scheduled Methane Task Force meeting?
 Please call me as I have been made aware of a meeting scheduled, at present, for May 24, '07.

I GAVE NOTICE OF THE SECOND TASK FORCE MEETING TO TOM PONTON, OUR CITIZEN REP. FROM NC ON TASK FORCE, THE DAY WE RECEIVED NOTICE - WHICH WAS Monday, April 30, 2007 - THE MEETING IS SCHEDULED FOR Tuesday, MAY 22, 2007, AT 3 P.M. - NORMAN

2. May I please have a copy of the letter that was sent out to City officials from Councilman Rosendahl's office that regarded the Alfred Baybayans Declaration?
 (I had previously set you the Declaration by fax)
 Have you had any responses?

I AM NOT AWARE OF ANY RESPONSES RECEIVED TO DATE - NORMAN

3. FYI- Capri Court 1 homes still have no methane detection devices installed. The Playa Vista Methane Prevention Detection and Monitoring Program (Ordinance 91. 7104.3.8 Buildings Located in the First Phase Playa Vista Project- approved by the City Council in June 2001) requires ALL BUILDINGS to have detection devices.

(Grassroots Coalition has provided you with briefing notebooks containing the PVMPDMP.)

YOU JUST PHONED. YOU INDICATED THAT CAPRI COURT 1 IS NOT INCLUDED IN ANY BRIEFING NOTEBOOKS YOU PROVIDED BUT THAT PVMPDMP IS. I've looked up the Ordinance and it reads in full as follows:

"91.7104.3.8. Buildings Located in the First Phase Playa Vista Project. The First Phase Playa Vista project, as approved by the City on September 21, 1993 and December 8, 1995, shall comply with the methane mitigation program as required by the Department pursuant to the Methane Prevention, Detection and Monitoring Program approved by the Department on January 31, 2001, in lieu of the requirements of this division. " - NORMAN

GC paid \$210.00 to LADBS on 1/25/2007 to have the above matter heard before the Building and Safety Commission. We have since heard nothing from LADBS.

I am resending this e-mail as I have not heard back from anyone in your office regarding the Public Methane Task Force as ordered by the City Council in 2004.

LADBS has put out a letter stating that a (one) public meeting did occur with the presence of City officials- Rosendahl's staff and Neighborhood Council participants. LADBS's letter totally and deliberately mischaracterized the meeting and its attendees's presence and input.

Norm did get to the meeting- after it was over- and spoke with some of the LADBS persons. Tom Ponton- having been notified late that a meeting would take place- had to attend another meeting elsewhere and thus also arrived late. Tom's notes of the meeting portray a lack of meaningful science at best.

I was asked not to attend by Tom and Norm until they had a chance to see what the meeting climate and scope might entail. Thus, any letter from me responding to the LADBS mischaracterization of the meeting is second hand and useless.

In the aftermath, I have asked Norm to please send a letter to LADBS to set the record straight of what actually occurred. I have asked for a copy of such a letter. To my knowledge no such letter has been generated from Norm or anyone from Councilman Rosendahl's office. Therefore, it appears that Councilman Rosendahl and staff concur with the LADBS letter. Are you going to respond to the LADBS characterization and agree or disagree with it? How will you work to get cooperation from LADBS to perform as ordered by the City Council in 2004?

PATRICIA - BILL SENT A LETTER DATED MARCH 28, 2006 TO THE GENERAL MANAGER OF BUILDING AND SAFETY, OF WHICH YOU HAVE BEEN FURNISHED A COPY, STATING, IN PERTINENT PART:

"What is the status of council-mandated Methane Task Force?

In Council File 01-1305, amended February 6, 2004, the City Council directed the Department of Building & Safety to "create a Task Force, including but not limited to Neighborhood Councils, individuals involved with development, and experts, as needed to provide independent analysis relative to the establishing and continual improvement of citywide methane mitigation requirements.

I understand that more than two years later, DBS has still not formed this task force. If this is true, I urge DBS to cease ignoring the council directive and immediately begin its formation. I further suggest that the Regional Water Quality Control Board, the State Department of Toxic Substances and Control, and interested citizens, be invited to participate."

MR. ADELMAN RESPONDED BY LETTER DATED MAY 24, 2006, OF WHICH YOU HAVE ALSO BEEN FURNISHED A COPY. MR. ADELMAN STATED IN THIS LETTER, IN PERTINENT PART, THAT THERE HAD BEEN TWO TASK FORCE MEETINGS, THE FIRST ON DECEMBER 15, 2004 AND A SECOND ON MARCH 17, 2006. THE 2004 MEETING PRECEDED COUNCIL MEMBER ROSENDAHL'S ELECTION, AND TO MY KNOWLEDGE, NO ONE FROM THE COUNCIL MEMBER'S OFFICE WAS AWARE OF NOR PARTICIPATED IN THE SECOND MEETING ON MARCH 17, 2006. ON THE MORNING OF October 31, 2006 I RECEIVED A PHONE CALL FROM COLIN KUMABE INFORMING ME OF A TASK FORCE MEETING SCHEDULED FOR 3 P.M. THAT DAY OF WHICH I HAD NO PRIOR NOTICE. DUE TO PRIOR COMMITMENTS I WAS UNABLE TO ATTEND BUT DID ARRIVE AFTER THE MEETING WHEN ONLY MR. KUMABE, MR. DELLI QUADRI, AND MR. PONTON (WHO RECEIVED NOTICE ONLY THAT MORNING AND ATTENDED) WERE PRESENT. NORMAN

Begin forwarded message:

From: patriciamcpherson <patriciamcpherson@earthlink.net>
Date: April 3, 2007 10:35:31 AM PDT
To: Norman Kulla <norman.kulla@lacity.org>
Cc: Mike Bonin <mike.bonin@lacity.org>
Subject: Fwd: meeting Re: groups and methane task force
Mime-Version: 1.0 (Apple Message framework v624)
Bcc: Phillip Tate <phillip.tate@lacity.org>
Content-Type: multipart/alternative; boundary=Apple-Mail-1--253963764
Message-Id: <43516d47c038dcabaaa43f8bf5e05a8a@earthlink.net>

Begin forwarded message: Resending this message, requesting a meeting on this issue.
patricia

From: patriciamcpherson <patriciamcpherson@earthlink.net>
Date: March 15, 2007 5:30:11 PM PDT
To: Norman Kulla <norman.kulla@lacity.org>
Cc: Mike Bonin <mike.bonin@lacity.org>
Subject: meeting Re: groups and methane task force
Mime-Version: 1.0 (Apple Message framework v624)
Bcc: billrosendahl@aol.com
Content-Type: text/plain; charset=US-ASCII; format=flowed
Message-Id: <4b23dba85f7de2493f3c72c74a7de477@earthlink.net>
Content-Transfer-Encoding: 7bit

Norm,
Grassroots and several other group reps would like to meet with you ASAP, Mike , Bill and any other of your staff that you think may be helpful, to discuss the Methane Task Force's existence as well as a couple of other key and current issues of work regarding our region. We have a window of opportunity happening right now that has brought a need for this meeting ASAP.

I last spoke with you regarding the insider (cottage industry of methane mitigation installers) meetings that have been occurring with LADBS regarding downscaling the current methane code. Some of the trading of information between them and Colin Kumabe (LADBS) was

provided by Colin via your requests for same from Colin.

I expect a meeting to occur fairly soon (the 20th of this month has been postponed) that Colin will again send out a few public invitations.

I believe when this occurs, the changes to the code will already have been decided. The public invitation simply a PR move of pretense.

Norm- have you been able to send a letter you discussed sending to LADBS that clarifies what actually occurred in the 1st and only meeting that allowed a few of the public? Namely, that what LADBS wrote up as the meeting was not what actually occurred?

It is important to have your office's response to how LADBS mischaracterized the meeting.

PROPOSAL:

In order to make this task force into what the Council ordered, we hope to have your support for actually having a functioning task force that includes the public. We would like your support for our presence to be part of the task force but also for some key people that do have qualifications specific to gases and fluids. Namely,
1) an ex- LADBS official that was with the Dept. for 18 years and who was relied upon by the City since the 1985 Fairfax explosions and fires- to develop methods and protocol to provide safety from the oilfield gases. This person has intimate knowledge of the Playa Vista saga and was present and involved in all of the machinations of LADBS and Playa Vista up until a few years ago. This person would have the ability (including knowledge of how everything is run and done at LADBS since he was senior in his position. He now offers help with being a part of this task force and makes himself available to review and re-review and comment regarding what has occurred at Playa Vista.

2) we would like your support also for Bernard Endres Ph.D. who is a gas migration and hazards expert.

3) we would like also to be able to bring another, licensed petroleum engineer.

4) we would like your support in bringing the most knowledgeable person (hands on) from the Fire Dept. Thus far the Fire Dept. has been excluded.

There is but one person with this background.

We can discuss who and more when we meet or by phone.

Resumes and backgrounds of these people are impressive and they are all concerned individuals.

I have PRA'd the backgrounds of the current officials of LADBS and Public Works/Engineering and have found none with the scientific background for oilfield gas/mitigation. There is a very clear need for oilfield engineering standards to be implemented.

This task force, which has already been ordered into existence, is an opportunity to also bring some of the key DTSC people that have weighed in on these issues in the past, namely from the enforcement unit and cleanup unit.

The Ven Mar neighborhood group is also newly starting to express

concerns and ask questions regarding methane mitigation.

We have people that want in and we would like to work with you towards a safe ending.

Please let me know asap, thanks,
Patricia McPherson, Grassroots Coalition

PATRICIA - YOUR CONCERNS WILL BE SHARED WITH THE TASK FORCE AS PRESENTLY CONSTITUTED AND THE INCLUSION OF AN AGENDA ITEM "REVIEW OF THE PURPOSES AND MEMBERSHIP OF THE TASK FORCE" WILL BE REQUESTED - NORMAN