BORING LOGS

LOGS 7, 8, AND 9, TRACT 8923

17474 REVELLO

BY AAKO

REPORT DATED FEBRUARY 8, 1989

The J. Byer Group, Inc.
1461 E. Chevy Chase Drive • Suite #200 • Glendale, California 91206 • (818) 549-9959 • Fax (818) 543-3747
"Trust the Name You Know"

EXPLORATORY BORING NO. B-1

Project: [illegible] HASSOLD — Site: 7474 REVELLO DRIVE — Date: 22 NOVEMBER 1983 — Rig: 24" RBA
Project number: 7952-G — Elevation: 1845' — Logged By: R. CURTIS / P. KEPPEL — Sheet: 1 of 2

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ϕ	C	BLOWS	SAMPLE	DEPTH	PHOTO	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS ft/min	REMARKS
												Qls (af)	FINE SANDY, CLAYEY, SILT - MEDIUM RED BROWN, MODERATELY MOIST, FIRM, SUBROUND TO SUBANGULAR CRYSTALLINE PEBBLES TO ½ INCH MAXIMUM DIAMETER		
	5'		10.1	112.6			½		5				@5' GRADES TO PALE ORANGE BROWN, ABUNDANT PEBBLES TO 1½ INCH MAXIMUM DIAMETER DECREASING CLAY CONTENT		
	10'		10.4	109.7			½		10		@10' N15W 20S C	Qls (Qsw)	SLIGHTLY SILTY FINE SAND - DARK ORANGE BROWN, SUBDTLY MOIST, MODERATELY DENSE, ROUNDED PEBBLES AND SUBANGULAR BEDROCK FRAGMENTS TO 3 INCHES MAXIMUM DIAMETER. KROTOVENA TO 4 INCHES MAXIMUM DIAMETER.		
												Qls (Qsw)	CLAYEY, SILTY, FINE SAND - ORANGE BROWN, MOIST, MODERATELY DENSE TO DENSE., ABUNDANT ROUNDED PEBBLES TO 1½ INCHES MAXIMUM DIAMETER @13½' INCREASE IN SILT AND FINE TO MEDIUM SAND, DECREASE IN PEBBLES		
									15		@15' E-W 27-31N C				
											@18' N19E 42N B	Qls (Emz)	INTERBEDDED SILTSTONE AND SANDSTONE - OLIVE GRAY (SLT) TO PALE ORANGE BROWN (SS), MOIST, MODERATELY DENSE, HIGHLY JOINTED, TIGHTLY JOINTED, IRON OXIDE STAINING ON JOINT SURFACES, CALICHE INFILLING OF JOINTS, SCATTERED ROOTLETS.		
	20'		18.9	100.0			1		20		@21½' N65W 70S S				
													@24' MOIST TO VERY MOIST, SCATTERED EVAPORITE DEPOSITS		
	25'		22.7						25		@25½ N50W 56S BS		@25½ - 26', RUPTURE SURFACE		
	26'		20.2	97.2											

Project Name: J. HASSON Site: 13574 RANCHO DRIVE Date: 25 NOVEMBER 1980 Contractor: 24" CME

Project Number: 7982-6 Elevation: 1065' Logged By: R. CURTIS / P. KREFFT Sheet 2 of 2

EXPLORATORY BO

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ϕ	C	BLOWS	SAMPLE	DEPTH	GRAPHIC LOG	ATTITUDES	UNIT	DESCRIPTION
											D26' N67W 36S RS	Qls (Emz)	D 26' PLASTIC CLAY – BLUE GRAY, SOFT, MOIST TO VERY MOIST, SCATTERED CARBON DEPOSITS.
											D28' N75E 72N J N 67W 30S J N 15E 70N J	BEDROCK - MARTINEZ FORMATION	INTERBEDDED SILTSTONE AND SANDSTONE - OLIVE GRAY (5Y 3/2) TO PALE BLUE GRAY (5B 6/1). MODERATELY MOIST TO MOIST, MODERATELY DENSE, HIGHLY JOINTED, SLIGHTLY OPEN JOINTS, THINLY INTERBEDDED, IRON OXIDE STAINING THROUGHOUT
	30		10.2	120.9			7/12		30				
											D32' E-W 81N J		D 32' OPEN JOINTS WITH EVAPORITE DEPOSITS INFILLING JOINTS
											D33' N20W 20N B		
											D34' N25W 44S J		D 34' TIGHTLY JOINTED, MODERATELY DENSE TO DENSE
									35				
											D36' N40W 28N B		
											D38' N72W 35N B		
	40'		14.3	113.3			24/5		40				D 39' 18 INCH THICK SANDSTONE BED, DENSE
											D43' N60W 45N B D45' N 81W 48N B		
									45				
											D46' N70W 36N B		
													D 49' MINOR GROUNDWATER SEEP WITHIN SANDSTONE BED
	50		14.8	109.6			13/30'		50				
													END OF BORING T.D. 50'

Proje J. HASSON Site 17414 BEVERLY DRIVE Date 22 NOVEMBER 1982 24 RSA

Project # 7952-6 Elevation 178' Logged By: R. CURTIS 1 of 3

EXPLORATORY BORING 1 B-2

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	f	c	BLOWS	SUMIT	DEPTH	GRAPHIC LOG	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS ft/min	REMARKS
												Qls (af)	CLAYEY, SILTY, FINE SAND - DARK BROWN, DRY TO SLIGHTLY MOIST, FIRM DUE TO DRYNESS, SOME ROOTS, ABUNDANT FRAGMENTS OF CONCRETE, BRICK, TILE, AND WIRE.		
	4'	60	10.0	111.0								Qls (Qsw)			
	5'		9.1	107.1			½		5				CLAYEY, SILTY, VERY FINE SAND - DARK BROWN MOIST, LOOSE TO MODERATELY DENSE AT 5 FEET. SCATTERED ROUNDED PEBBLES TO 2½ INCHES MAXIMUM DIAMETER.		
												Qls (Qsw)	MEDIUM TO COARSE GRAINED SAND WITH ABUNDANT PEBBLES TO 2½ INCHES IN MAXIMUM DIAMETER, SLIGHTLY MOIST. DENSE.		
	10'		41.9	85.0			⅔		10		D10° N50W 64N B	Qls (EmL)	INTERBEDDED SILTSTONE AND FINE GRAINED SANDSTONE - THINLY INTERBEDDED TO LAMINATED. PALE YELLOW BROWN (5 YR), OLIVE BROWN (SLT) TO LOCALLY ORANGE (LIMONITE STAINED) MODERATELY DENSE, SCATTERED OPEN JOINTS, SLIGHTLY MOIST TO MOIST, WEATHERED.		
											D12° N44W 47N B N49W 78S J				
											D14° N50W 58N B N48W 48 J				
	15'		3.7	113.0			½		15						
	20'		11.0	108.4			½		20				D20 JOINTS IN MEDIUM GRAINED SANDSTONE OCD, ORANGE BROWN, MOIST.		
											D23° N45W 11N S				
											D24 N27W 63N B				
	25'		6.5	122.2					25						

EXPLORATORY BORING NO. B-2

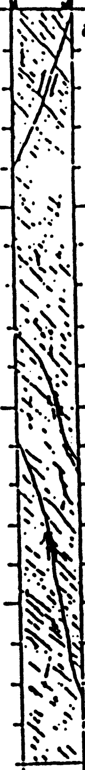
Project Name: J. HASSAN — Site: 17474 REVELLO DRIVE — Date: 21 NOVEMBER 1988 — Equipment: 24" BBA
Project Number: 7952-6 — Elevation: 1178' — Logged By: R. CURTIS — Sheet: 2 of 3

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ϕ	C	BLOWS	SAMPLE	DEPTH	GRAPHIC LOG	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS B/W/M	REMARKS
												Qls (Emz)			
	30'		20.7	101.9					30		@30' N10E 61N 3 @31' N41W 36N B				
													@32' SCATTERED UNWEATHERED BLUE-GREY SILTSTONE AND PALE BLUE SANDSTONE		
											@34' N42W 57N B				
	35'		10.3	109.1					35				@37' GYPSUM FRAGMENTS IN SOFT CLAY GAUGE MATERIAL. MINOR SEEP BELOW CLAY GOUGE. @38' GOUGE ZONE		
											@37½' N84E 44N RS				
									40		@40' N80W 30N B		@40' BLUE GRAY CLAY WITH SLICKENSIDES		
	41'		22.3	102.0							@41½' N86E 24S RS @42' N35E 46N B		@41.5' FAINT STRIATIONS ON RUPTURE SURFACE. RUPTURE SURFACE CONTAINS 2-3 INCHES OF CLAYEY SILT, BLUE GREY, WET, PLASTIC TEXTURE. @43' HIGHLY FRACTURED SILTSTONE AND SANDSTONE		
											@44' N15E 39-41 AS				
	45'		19.6	108.7					45		@46' N50W 60N B	BEDROCK MARTINEZ FORMATION	INTERBEDDED TO LAMINATED SILTSTONE AND SANDSTONE SILTSTONE - SLIGHTLY CLAYEY, MOIST, DENSE, MODERATELY JOINTED SANDSTONE - SILTY, FINE GRAINED, BLUE GREY, MOIST, VERY DENSE, SCATTERED BEDS TO 6 INCHES MAXIMUM THICKNESS		
													@48' MINOR SEEPAGE FROM 6 INCH THICK SANDSTONE BED.		
	50'		10.8	124.0					50						

EXPLORATORY BORING NO. B-2

Project Name: J. HASSON — Site: 17171 REVELLO DRIVE — Date: 21 NOVEMBER 1986 — Equipment: 24" RDA

Project Number: 7952-6 — Elevation: 178± — Logged By: R. CURTIS — Sheet 3 of 3



SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ø	C	BLOWS	DEPTH	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS ft/min	REMARKS
									@50½' N25W 33S F N50W 60N S	BEDROCK MARTINEZ FORMATION (CONT.)	@50-54' 1 INCH TOTAL DISPLACEMENT ALONG FAULT VERY DENSE BEDROCK		
	55'		8.0	123.4				55	@55½' N70W 49N D				
									@58' N33W 33N D				
	60'		8.5	119.6				60	@61' EW 49N D N17W 59N F		@61' MINOR FAULTING, DOWNWARD DISPLACEMENT ON NORTH SIDE OF FAULT		
									@62' N85E 43N D N34W 70N F		@62' MINOR FAULTING, DOWNWARD DISPLACEMENT ON NORTH SIDE OF FAULT. VERY TIGHT SHEAR ZONE.		
									@64' N63W 73N JS N78E 59N B				
	65'		10.1	124.6				65					
								70			END OF BORING DUE TO INCREASED DENSITY TOTAL DEPTH = 69'		

EXPLORATORY BORING NO. B-3

Project Name: J. HASSON — Site: 1476 REVELLO DRIVE — Date: 22 NOVEMBER 1988 — Equipment: 24" RBA
Project Number: 7922-A-1 — Elevation: 1864± — Logged By: R. CURTIS / P. KEPPE — Sheet: 1 of 3

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ϕ	C	BLOWS	SAMPLE	DEPTH	GRAPHIC LOG	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS: B/mm	REMARKS
												Qls (af)	CLAYEY, SILTY, FINE SAND - ORANGE BROWN, MODERATELY MOIST, MODERATE DENSE, SUBANGULAR TO SUBROUNDED PEBBLES TO 1 INCH MAXIMUM DIAMETER, ROOT HAIRS THROUGHOUT, SCATTERED BEDROCK FRAGMENTS		
									5			Qls (Qsw)	SLIGHTLY CLAYEY, SILTY, FINE TO MEDIUM GRAINED SAND - ORANGE BROWN, MODERATELY MOIST, LOOSE TO MODERATELY DENSE, ABUNDANT SUBROUNDED PEBBLES AND COBBLES TO 8 INCHES MAXIMUM DIAMETER, ABUNDANT ROOTS UP TO ½ INCH, SANDSTONE 4 INCHES IN DIAMETER		
											@9'		SANDSTONE FRAGMENTS TO 6 INCHES IN MAXIMUM DIAMETER		
	12'		9.2	101.1			½		10		@12' N49W 46° S	Qls (Emz)	INTERBEDDED SILTSTONE AND SANDSTONE - SANDSTONE - SLIGHTLY SILTY, FINE GRAINED, PALE YELLOW BROWN, MODERATELY MOIST TO MOIST, SLIGHTLY TO MODERATELY DENSE, FRIABLE, MODERATELY CEMENTED, MODERATELY JOINTED, IRON OXIDE STAINING ON JOINT SURFACES, SCATTERED ROOTLETS		
											@13' N27W 60° S		SILTSTONE - PALE ORANGE BROWN, MOIST, THINLY BEDDED.		
									15		@15' N79E 40° S		@14' SANDSTONE BECOMES COARSE GRAINED		
											@17' N30W 70° S		@15' SCATTERED CARBON DEPOSIT		
													@16' HIGHLY FRACTURED SANDSTONE AND SILTSTONE, PALE ORANGE BROWN, MOIST.		
	20'		18.2	110.9			½		20		@21' N44W 83° S		SANDSTONE - FINE GRAINED, PALE YELLOW BROWN, MODERATELY MOIST, MODERATELY DENSE, [illegible] JOINTED, TIGHTLY JOINTED		
											@22' N30W 48° S		@22' 1 INCH THICK CLAYEY SILT BED		
													@23½' HIGHLY DEFORMED SILTSTONE AND SANDSTONE, ABUNDANT POLISHED SURFACES, EVAPORITE DEPOSITS WITHIN OPEN JOINTS		
									25		@25' N30W 15° S		@25' RUPTURE SURFACE, APPROXIMATELY 3-4 INCHES THICK, PLASTIC CLAY, BLUE GRAY, VERY MOIST		

Name: J. HASSON Site: 17414 KAVELLO DRIVE Date: 22 NOVEMBER 1990 Alignment: 124° RDA

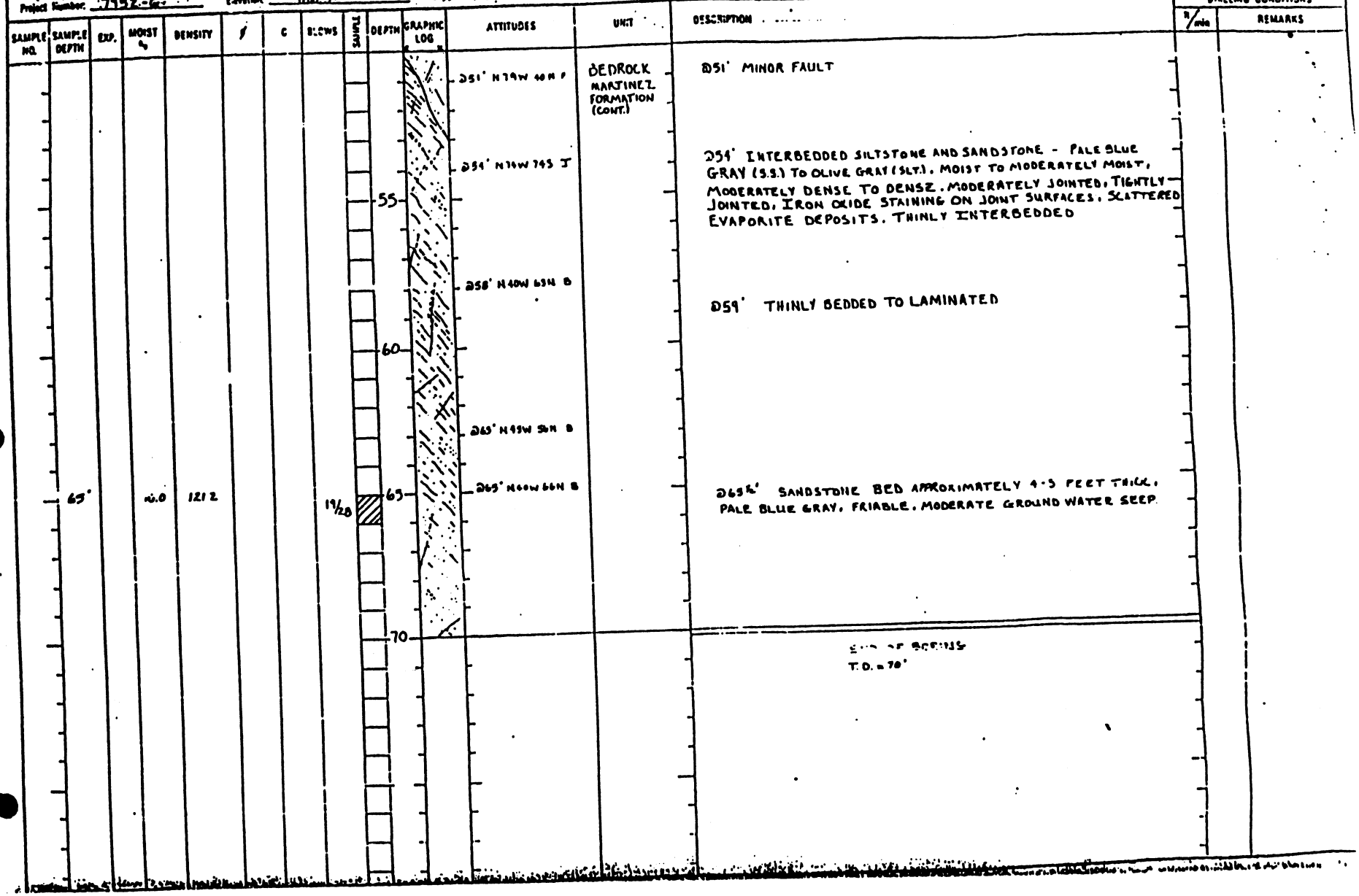
Number: 7992-G Elevation: 186.5 ± Logged By: R. CURTIS / PACOR Sheet: 2 of 3

EXPLORATORY BORING NO. B-3

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ϕ	C	BLOWS	SAMPLE	DEPTH	GRAPHIC LOG	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS B/min	REMARKS
											@26' N20W 12S RS.	Qls (Eml)	@26' SILTY CLAY - BLUE GREY, VERY MOIST, SOFT, SCATTERED EVAPORITE DEPOSITS, MAXIMUM THICKNESS OF BED APPROXIMATELY 6 INCHES		
											@26½' N42E 12S RS				
											@27' N80W 80N F				
											@29 N-19 E30N B	BEDROCK MARTINEZ FORMATION	@27' MINOR FAULT, TRUNCATED BY RUPTURE SURFACE. INTERBEDDED SANDSTONE AND SILTSTONE - YELLOW BROWN, MOIST MODERATELY DENSE, THINLY INTERBEDDED, HIGHLY JOINTED TIGHTLY JOINTED		
	30'		12.7	119.3					30						
											@32' N-S 42E B		INTERBEDDED SANDSTONE AND SILTSTONE - DARK OLIVE GRAY (SLT) PALE OLIVE GRAY (SS.), VERY MOIST, MODERATELY DENSE, VERY THINLY INTERBEDDED, HIGHLY JOINTED, TIGHTLY JOINTED.		
									35		@36' N50E 39N J				
											@38' N60W 44K B				
											@39' N60W 43N B				
	40'		19.9	102.0					40				@40½' VERY DENSE SANDSTONE BEDS APPROXIMATELY 2-4 INCHES THICK		
											@41' N57W 40N B				
											@42' N10W 53N B		@43' BECOMES DENSE TO VERY DENSE		
											@44' N58W 48N B				
									45		@45' N68W 55N B				
											@49' N55W 61N B				
	50'		17.6	109.3					50				@50' SANDSTONE BED APPROXIMATELY 4 FEET THICK WITH MINOR GROUNDWATER SEEPAGE.		

EXPLORATORY BORING NO. B-3

Project Name: J. HANSON — Site: 17974 NEVILLE DRIVE — Date: 22 NOVEMBER 1988 — Equipment: 24" RBA
Project Number: 7952-Geo — Elevation: 186.9' — Logged By: R. CURTIS / P. KEEFE — Sheet: 3 of 3



EXPLORATORY BORING NO. B-1

Name: J. HASSEN Site: 17474 REVELLO DRIVE Date: 23 NOVEMBER 1988 Equipment: 24" RBA

Project Number: 7952-6 Elevation: 202.6E Logged By: R KEEFE Sheet 1 of 2

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ϕ	C	BLOWS	SAMPLE	DEPTH	GRAPHIC LOG	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS ft/min	REMARKS
									0			Qls (af)	CLAYEY, SILTY, FINE SAND - YELLOW BROWN, MOISTURE, MODERATELY DENSE, SCATTERED SUBROUND TO SUBANGULAR CRYSTALLINE PEBBLES TO 1¼ INCHES IN MAXIMUM DIAMETER, SCATTERED SILTSTONE AND SANDSTONE FRAGMENTS TO 3/4" MAXIMUM DIAMETER		
									5			Qls (Qsw)	CLAYEY, SILTY, FINE TO COARSE SAND - ORANGE BROWN, MODERATELY MOIST, MODERATELY DENSE, SOME PEBBLES AND BEDROCK FRAGMENTS TO 3 INCHES MAXIMUM DIAMETER. @8' ABUNDANT COBBLES TO 4 INCHES MAXIMUM DIAMETER		
	10	4	7.3	116.9			2/2		10		@12' N2W12N C				
									15			Qls (Qsw)	CLAYEY, SILTY, VERY FINE SAND - RED BROWN, MOIST, MODERATELY DENSE, SCATTERED PEBBLES UP TO 1 INCH MAXIMUM DIAMETER. SCATTERED ROOTS TO 7/8 INCH MAXIMUM DIAMETER		
													SLIGHTLY SILTY, FINE TO MEDIUM SAND, BROWN, MODERATELY MOIST, MODERATELY DENSE, ABUNDANT PEBBLES SUBROUND TO SUBANGULAR. SCATTERED ROOTLETS @19' ABUNDANT COBBLES TO 8-10 INCHES MAXIMUM DIAMETER. LOOSE SLIGHTLY MOIST		
									20		@19' N8W 30N C				
	21'		7.7	119.3			3/3				@22' N14W 67S J	Qls (Emz)	SANDSTONE - FINE GRAINED, PALE YELLOW BROWN, MODERATELY MOIST, MODERATELY DENSE, FRIABLE, MODERATELY JOINTED, TIGHTLY JOINTED IRON OXIDE STAINING ALONG JOINT SURFACES.		
									25						

EXPLORATORY BORING NO. B-4

Project Name: J. Hassan | Site: 17474 REVELLO DRIVE | Date: 23 NOVEMBER 1988 | Equipment: 24" RBA
Project Number: 7992-6c | Elevation: 202.9± | Logged By: P. KEEFE | Sheet 2 of 2

SAMPLE NO.	SAMPLE DEPTH	EXP.	MOIST %	DENSITY	ϕ	C	BLOWS	SAMPLE	DEPTH	GRAPHIC LOG	ATTITUDES	UNIT	DESCRIPTION	DRILLING CONDITIONS ft/min	REMARKS
												Qls (Emz)			
											D26' N62W/32S B		D26' INTERBEDDED SILTSTONE AND SANDSTONE - PALE ORANGE BROWN AND OLIVE GRAY, MOIST, MODERATELY DENSE TO SLIGHTLY DENSE, SCATTERED CARBON DEPOSITS.		
													D29½' POLISHED SURFACES ON SILT BEDS.		
											D29' N52W 36N B		D29½' SILTY CLAY APPROXIMATELY 2-3 INCHES THICK, BLUE GRAY, PLASTIC RUPTURE SURFACE.		
	30'		12.1	118.4			7/5		30		D31' N55E 11-22S RS.		D31' PLASTIC CLAY, 2-3 INCHES THICK, POLISHED BEDDING SURFACE, FAINT SLICKENSIDES.		
											D31½' N40E 18S RS				
											D33' N42W 50N B	BEDROCK MARTINEZ FORMATION	INTERBEDDED SILTSTONE AND SANDSTONE - PALE GRAY (SLT.) DARK OLIVE BROWN (SS.), VERY MOIST, MODERATELY DENSE, MODERATELY JOINTED TIGHTLY JOINTED, ABUNDANT EVAPORITE DEPOSITS		
											D34' N70W 41N B		D35' SANDSTONE - LIGHT GRAY, MODERATELY MOIST, MODERATELY DENSE TO DENSE, FRIABLE, MODERATELY JOINTED, VERY TIGHTLY JOINTED, SOME JOINTS INFILLED WITH EVAPORITES.		
									35						
											D36' N44W 36N B		D36' INTERBEDDED SILTSTONE AND SANDSTONE - THINLY BEDDED.		
	3'		13.5	113.4			3/5		40		D41' N44W 54N B		D41' MODERATE GROUNDWATER SEEP.		
													D43 DENSE TO VERY DENSE.		
									45		D46' N32W 45N C		D46' MINOR GROUNDWATER SEEP, IRON JAROSITE STAINING ON JOINT SURFACES.		
											D47' N67E 67N 3S				
	50'		15.9	109.9			10/11		50						
													END OF BORING T.D. = 51'		

BORING LOGS

REVELLO DRIVE

CITY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

JUNE 10, 1965

The J. Byer Group, Inc.
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"Trust the Name You Know"

Bucket Auger Hole #4 Completed 5-25-65 24" dia. hole

Depth in feet	Hole Description
0-0.4	Asphalt concrete pavement
0.4-1.0	Medium to dark-brown organic soil with roots
1.0-8.0	Light to dark-brown, soft shale with interbeds of silty argillaceous sandstone attitude @ 8.5' N60W 48N
8.0-9.5	Light-brown to medium brown, fine to coarse grain, friable massive sandstone
9.5-10.0	Fault E-W 80N in sandstone
10.0-22.0	Alternating shale and sandstone, damp @ 18.5, attitude at 21 feet N40W 42N
22.0-35.0	Blue-gray hard platy shale prominent jointing with thin interbeds of sandstone, attitude @ 31' N32W 32N, soft and wet @ 40.5'
40.5-41.0	Fault zone, rolled and contorted shale, fault strike E-W 15N
41.0-64.5	Blue gray hard platy shale with prominent jointing, and light gray interbeds of silty-fine grain argillaceous sandstone, attitude @ 51' N50W 56N

Total Depth 64.5 feet

Bucket Auger Hole #5 Completed 5-26-65 24" dia. hole

Depth in feet	Hole Description
.4	Asphalt concrete pavement
0.4-12.0	Light-brown fine-to coarse-grained argillaceous sandstone with interbeds of dark-brown clay shale
12.0-25.0	Light-brown argillaceous silty sandstone, highly friable and dry
25.0-29.0	Light-brown to medium-brown carbonaceous clay shale
29.0-35.0	Alternating beds of light-brown sandstone as above with interbeds of light-brown carbonaceous clay shale
35.0-42	Fault zone, some gypsum crystals, slickensides on shale partings
42.0-50.0	Medium brown medium-coarse grain indurated massive sandstone
50.0-51.0	Medium-dark gray soft clay shale with slickensides
51.0-53.0	Sandstone as 42.0 to 50.0
53.0-57.5	Light-gray argillaceous massive friable sandstone, damp, 53-56 dark gray silty soft shale

Total Depth 57.5 feet

Bucket Auger Hole #2 (Continued)

Depth in feet	Hole Description
35.9-37.3	Shale, medium yellow-brown, silty, clayey; soft, folded thinly bedded, with intercalated light yellow clayey siltstone, gypsum crystals at 37.3 ft. Note: Attitude at 37.3 ft. N60W 24N, Fault contact at 37.3 ft. Contact trends N40E and dips 40S
37.3-41.1	Sandstone, light yellow-brown, hard, dense, massive
41.1-47.3	Shale, black, clayey, thinly bedded, fractured, interbedded with gray siltstone; folded, axial fold trace strikes N25E. Note: Water seepage at 41.8 to 46 ft. estimated at 1½ pints/hour; seepage from north side of hole
47.3-48.3	Sandstone; light brown, fine grain, hard: attitude N50W 54N
48.3-51.3	Shale; dark gray-black, clayey: attitude N47E 61N Note: Water seepage at 51.3 ft.
51.3-57.3	Sandstone; light gray, massive, medium to coarse grain, slightly friable

Total Depth 57.3 ft.

Bucket Auger Hole #3 Completed 5-25-65 24" dia. hol

Depth in feet	Hole Description
0-0.4	Asphalt concrete
0.4-2.0	Fill; silty, with light brown shale clasts
2.0-4.0	Sandstone; light-brown, massive, argillaceous slightly friable
4.0-8.0	Shale; medium-brown with some clasts of sandstone, attitude at 6.0 ft. N75W 47N
8.0-10.0	Sandstone; light-brown, argillaceous, fine-medium grain, argillaceous, tough, slightly friable
10.0-23.0	Shale; light to medium brown clay shale with silty sandstone interbeds below 14.0, roots at 11.0-14.0, contorted bedding above 14.0, slickensides and gypsum crystals, seepage at 23.0, attitude @ 14.0 N34W 51N
23.0-25.5	Shale, light gray, micaceous, carbonaceous, water seepage @ 25 ft.
25.5-29.0	Shale and argillaceous siltstones; water seepage from fracture and shears.
29.0-41.0	Shale; dark gray with interbeds of sandstone, slickensides @ 30.0, attitude at 33.0 N82E 39N, overturn @ 34, joint @ 35 N71E 71S, moisture on fractures, southerly dip beginning at 35', attitude @ 38 ft. N40W 56S, seepage at 38 ft.
41.0-45.0	Sandstone; gray-green, tight, tough, fine-medium grain
45.0-49.0	Shale; dark gray, soft, sheared @ 45-46', tighter at 48 ft.
49.0-55.0	Sandstone, gray, tight, movement in hole in 24 hours of 1/8" @ 52.5 ft. shear at this location trending N75W 60S, upper block offset to west
55.0-57.0	Shale, dark gray, well jointed
57.0-61.0	Sandstone, seepage at 61 ft.
61.0-64.0	Alternating shale and sandstone, seepage at 61-65 ft.
64.0-74.0	Shale, dark gray, wet

Total Depth 74.0 feet

Bucket Auger Hole #1 Completed 5-22-65 30" dia. hole

Depth in feet	Hole Description
0-0.5	Pavement, concrete
0.5-6.0	Fill; brown clayey with shale clasts
6.0-9.7	Sandstone; brown, coarse grain, slightly conglomeritic
9.7-12.0	Sandstone; brown, silty with dark gray-brown clay shale, attitude @ 12.0 feet N10W 25NE
12.0-17.0	Sandstone; light yellow-brown silty, with clay pods and gypsum
17.0-20.0	Shale and siltstone; gray-brown, thin-bedded clay shale and interbedded light gray siltstone with much disseminated gypsum, attitude @ 20.0 feet N70W 36SW
20.0-29.4	Sandstone; brown, coarse grain, hard, slightly limy, fault @ 29.7 feet N35W 67NE.
29.4-29.7	Fault, conglomeritic-coarse grain sandstone of above against shale bed; hard nodules in shale, possible fault strike N83E, badly sheared and distorted gouge with silty clayey sandstone inclusions
29.7-30.4	Sandstone; brown, firm, coarse grain, attitude at 30.4 feet N85W 33N
30.4-32.0	Shale, dark brown, clay shale with some fractured sandy silty shale, poor indistinct bedding
32.0-46.0	Sandstone; brown, firm, slightly limy, coarse grain, no apparent bedding, fissure 1 inch wide at 33 to 35 feet trending N70E 65S, extends approximately 2 feet into east wall.

Total Depth 46.0 feet

Bucket Auger Hole #2 Completed 5-23-65 30" dia. hole

Depth in feet	Hole Description
0-0.5	Concrete pavement
0.5-2.3	Fill, yellow-brown clay
2.3-5.5	Dark brown soil, clayey, slightly moist, with roots
5.5-9.6	Medium-brown clayey soil with pebbles and cobbles, quite moist
9.6-11.3	Alluvium; medium red-brown; argillaceous, silty sand with abundant sandstone clasts to cobble size.
11.3-11.5	Alluvium; light yellow-brown, argillaceous, silty sand; with few clasts as above
11.5-17.0	Alluvium; dark reddish-brown; medium to coarse sand with argillaceous matrix and abundant clasts to cobble size
17.0-19.8	Alluvium; dark reddish-brown; silty and argillaceous sand with fragments of shale and sandstone
19.8-21.2	Alluvium; deep reddish-brown, highly weathered, argillaceous pebbly sand, moist
21.2-23.9	Alluvium; medium yellow-brown, clayey sand
23.9-26.3	Alluvium; pebbly to coarse sand, damp
26.3-32.5	Alluvium; deeply weathered conglomeritic sand, abundant pebbles and cobbles and rock fragments, some clay, little moisture
32.5-35.9	Shale; medium yellow-brown, silty, clayey, soft, folded, thinly bedded 1/16" to 1/8"

BORING LOGS

BY MAA ENGINEERING CONSULTANTS, INC.

JUNE, 1999

The J. Byer Group, Inc.
1461 E. Chevy Chase Drive • Suite #200 • Glendale, California 91206 • (818) 549-9959 • Fax (818) 543-3747
"Trust the Name You Know"

MAA ENGINEERING CONSULTANTS, INC.

Project Name: Los Liones and Tramonto Drives
Pacific Palisades, California

Project Number: 0534-001

Log of Boring MB-1

Sheet 1 of 2

Borehole Location: See Sketch		Elevation and Datum: N/A	
Borehole Coordinates: N/A		Date Started: 6/24/99	Date Finished: 6/25/99
Drilling Equipment: 24-inch diameter bucket		Total Depth (ft): 32.5	Depth to Groundwater (ft): N/E
Drilling Method: California Modified Sampler		Borehole Diameter: 24 inches	
Driller: Hillside Repair & Drilling, Inc.		Monitoring Well Total Depth (ft): N/A	As-Built in Figure: N/A
Hammer Information: 250-350 lbs., 12-inch drop		Logged By: ML	Checked By: RL

Elevation (feet) / Depth (feet)	Description	Lithology	USCS Classification	Sampler Type	Sample Number	Blows per 12 inches (N-Value)	Dry Density (pcf)	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	% Passing #200 Sieve	Other Tests
0	Silty Clay and Clayey Silt, dark brown, dry, some roots, firm, Fill, graded sand and mottled dark brown, roots, occasional pebbles of sandstone, medium stiff.		CL/ML		B1							
					R1	27 (8)	98.6	17.8				DS
5					B2							
					R2	49 (12)	104.0	7.5				
10	At 9.5 feet, hard rock fragments, pebble to cobble size particles, dense.				R3	50 (13)	103.0	17.0				
15	Occasional calcite boulders.				R4	44 (10)	103.0	23.3				
20	Sandy Clayey Silt, light brown to brown, moist, firm. Occasional presence of fragments of sandstone with basalt, pebble to cobble size, very dense.		ML		R5	33 (9)	102.0	22.7				DS
25	Dark Brown Basalt Bedrock, moderately weathered, contact near flat.		BASALT		R6	50 (13)	102.0	23.2				DS
30												

MAA ENGINEERING CONSULTANTS, INC.

Project Name: Los Liones and Tramonto Drives
Pacific Palisades, California

Project Number: 0534-001

Log of Boring MB-1

Elevation (feet)	Depth (feet)	Description	Lithology	USCS Classification	Sampler Type	Sample Number	Blows per 12 inches (N-Value)	Dry Density (pcf)	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	% Passing #200 Sieve	Other Tests
	30	Dark Brown Basalt Bedrock, moderately weathered.		BASALT		R7	100/8.5"						

Bottom of boring at 32.5 feet.

Groundwater not encountered during drilling.

No caving after hole left open one night at 25 feet depth and completion the next morning.

MAA ENGINEERING CONSULTANTS, INC.

Project Name: Los Liones and Tramonto Drives
Pacific Palisades, California

Project Number: 0534-001

Log of Boring MB-2

Sheet 1 of 1

Borehole Location:	See Sketch	Elevation and Datum: N/A	
Borehole Coordinates:	N/A	Date Started: 6/25/99	Date Finished: 6/25/99
Drilling Equipment:	24-inch diameter bucket	Total Depth (ft): 20.0	Depth to Groundwater (ft): N/A
Drilling Method:	California Modified Sampler	Borehole Diameter: 24 inches	
Driller:	Hillside Repair & Drilling, Inc.	Monitoring Well Total Depth (ft): N/A	As-Built in Figure: N/A
Hammer Information:	250-350 lbs., 12-inch drop	Logged By: ML	Checked By: RL

Elevation (feet) / Depth (feet)	Description	Lithology	USCS Classification	Sampler Type	Sample Number	Blows per 12 inches (N-Value)	Dry Density (pcf)	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	% Passing #200 Sieve	Other Tests
0	Silty Clay/Clayey Silt, slightly rooty at 0-2 feet, 2:1 to 2.5:1 slope, scattered vegetation on surface, dark brown, Fill.		CL/ML		B1							
5	Fragments of sandstone, pebble to cobble size, brown to tan, damp to moist.				R1	25 (7)	98.0	17.3				
10					R2	33 (9)	108.0	16.9				
	Silty Clay and weathered sandstone fragments, yellow brown to tan, damp. No distinct bedding.		CL		R3	72 (17)	98.0	19.2				
15	Basalt intrusion at south side of the hole at 13.5 feet.											
	Basalt, Native Bedrock, fractured; N55 E, 45 SE, dark gray, mottled brown gray, some oxide stains.		BASALT									
20	Bottom of boring at 20 feet.											
	Groundwater not encountered during drilling.											
	No caving.											

BORING LOGS BY CALIFORNIA GEOSYSTEMS

LOS LIONES AND TRAMONTO DRIVE

DECEMBER 21, 1994

The J. Byer Group, Inc.
1461 E. Chevy Chase Drive • Suite #200 • Glendale, California 91206 • (818) 549-9959 • Fax (818) 543-3747
"Trust the Name You Know"

DRILLING METHOD: 24" BUCKET AUGER

SAMPLING METHOD: DRIVE TUBE

WATER LEVEL: SEEPAGE BELOW 31'

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-1

SHEET 1 OF 2

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: GRADED TERRACE, MID SLOPE DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.
						0	B-1	@0-31' (Af) ARTIFICIAL FILL- CLAYEY SILTY SAND WITH ANGULAR FRAGMENTS OF BEDROCK, DARK ORANGE BROWN, MOTTLED BLUE GRAY, MOIST, FIRM TO VERY FIRM. SOME ROUNDED COBBLES AND GRAVEL.
						2		
						4		
						6		
						8		
						10		
						12		
						14		
						16		
						18		
						20		
						22		
						24		
						26		
						28		@28'-31' LAYER OF COARSE GRAINED SAND, ORANGE, WITH POCKETS OF CLAYEY SOIL & ANGULAR TO ROUNDED ROCK FRAGMENTS.
						30		@31' Af/Tt CONTACT N10E/65E, MINOR SEEPAGE AT CONTACT < 1 CUP/HOUR.
						32		@31'-53' (Tt) TOPANGA FORMATION- BEDROCK- SILTSTONE, AND SANDSTONE, DARK BROWN TO BLACK, MASSIVE, NO DISCERNABLE BEDDING.
						34		
						36		
						38		@39'(f)N70W/76SW SEEPAGE FROM FRACTURE ± 1 CUP/HOUR.
						40		

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 12-21-94

GS 94-1115

PLATE 7

DRILLING METHOD: 24" BUCKET AUGER

MPLING METHOD: DRIVE TUBE

WATER LEVEL: SEEPAGE BELOW 31'

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-1

SHEET 2 OF 2

SURFACE CONDITIONS: GRADED TERRACE, MID SLOPE

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.
						40	B-1	
						42		
						44		
						46		
								@47' (f) N70W/78SW
						48		
						50		@50' (f) N85E/45SE
								@50' (f) N35W/54SW
						52		
								T.D. @ 53' TOTAL DEPTH AT 53 FEET. REFUSAL IN VERY HARD BEDROCK.
						54		
						56		(f) = FRACTURE PLANE ORIENTATION
								NO CAVING
						58		NO SLIDE PLANES
						60		LOGGED BY: RG

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 12-21-94

GS 94-1115

PLATE 6

DRILLING METHOD: 24" BUCKET AUGER

SAMPLING METHOD: SPLIT SPOON SAMPLER
KELLY WEIGHT 4,925 Lbs.

WATER LEVEL: MINOR SEEPAGE.

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-2

SHEET 1 OF 2

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.
						0	B-2	@0-6" (Rs) RESIDUAL SOIL- DARK BROWN SILTY SAND WITH ROOTS, MEDIUM MOIST.
						2		@6"-26' (Af) (CL/ML) ARTIFICIAL FILL- SILTY CLAY, LIGHT BROWN, DARK BROWN, RUST, MOTTLED COLOR, MEDIUM
1	5'	6"	1	✓		4		MOISTURE NEAR PLASTIC LIMIT, CLASTS OF METAMORPHOSED SANDSTONE & SHALE PRESENT
						6		< 5%, MOST CLASTS NEAR BASE OF FILL, ROUN, TO SUB-ANGULAR, TYPICALLY 4".
						8		(5,10,35,50)
						10		
						12		
2	15'	5"	2	✓		14		
						16		
						18		
						20		
						22		
						24		
B	25'	8"	4	✓		26		@26' (Af)/(Ti) CONTACT- APPEARS TO HAVE BEEN RIPPED DURING GRADING, TWO HORIZONTAL SURFACES ≈ 1 FEET LONG OBSERVED & CONTACT ORIENTATION MEASURE THERE WAS N-S/19E, REST OF CONTACT COMPOSED OF IRREGULAR TEETH CONTACT EXTENSIVELY.
						28		
						30		
						32		@26'-60' (Ti) INTRUSIVE BASALT-MAFFIC DIKE, WEATHERED INTRUSIVE MAFFIC ROCK; AQUA GRAY, BLACK TO DARK GRAY WHERE ONLY SLIGHTLY WEATHERED, LOW TO NO MOISTURE, HIGH DENSITY, WHERE WEATHERED MEDIUM TO HIGH HARDNESS, NON-WEATHERED ROCKS, VERY HARD
						34		
						36		
						38		DIKE APPEARS TO BE NEAR VERTICAL WEATHERE MATERIAL IS GREENISH GRAY, FOLIATED
						40		MATERIAL, INTERBEDDED MAFFIC DIKES WITH

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 5-8-95

GS 94-1115

PLATE 9

DRILLING METHOD: 24" BUCKET AUGER

SAMPLING METHOD: SPLIT SPOON SAMPLER

WATER LEVEL: MINOR SEEPAGE

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-2

SHEET 2 OF 2

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.
						40		(CONT.) WEATHERED LIGHT GREENISH MATRIX.
						42		
						44		
						46		
						48		
						50		
						52		
						54		
						56		
	57.5'	8"	13	✓				
						58		
						60		@ 60' T.D. TOTAL DEPTH = 60 FEET.

NO CAVING

NO SLIDE PLANES

LOGGED BY: T.C.

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 5-8-95

GS 94-1115

PLATE 10

DRILLING METHOD: 24" BUCKET AUGER

SAMPLING METHOD: SPLIT SPOON SAMPLER
KELLY WEIGHT 4,925 Lbs

WATER LEVEL: NONE ENCOUNTERED

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-3

SHEET 1 OF 1

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.
						0	B-3	@0-30' (Af) ARTIFICIAL FILL- SILTY SANDY CLAY, DARK
								(CL/ML) BROWN, LIGHT BROWN, MEDIUM TO LOW MOIST,
						2		MEDIUM DENSITY, WELL-COMPACTED, FIRM,
								MOTTLED, ORANGE, DARK BROWN, LIGHT BROWN
1	5'	7"	3	✓		4		MIX OF DARKER SILT & LIGHTER CLAY, WELL
								GRADED SAND WITH PREDOMINANTLY MEDIUM
						6		GRAINED CLASTS, MEDIUM TO HIGH COHESION.
								CLASTS: SUB-ANGULAR RED DIABASE, BLACK
						8		SLATE, MAFFIC INTRUSIVE.(20,10,35,35).
						10		
						12		
2	15'	6"	3	✓		14		
						16		
						18		
						20		
						22		
								@26.7'-30' IRREGULAR CONTACT- DARK GRAY TO BLACK
						24		FRAGMENTS OF SLATE COVERED BY RUST BROWN
3	25'	11"	7	✓				WEATHERING, MATRIX CONSISTS OF DARK BROWN
						26		SILTY CLAY, WITH STREAKS OF ORANGE AND
								LIGHT BROWN ALTERATION, LOW TO MODERATE
						28		MOISTURE, MEDIUM DENSITY, MODERATELY FIRM
								@30'-43½'(Tt) TOPANGA FORMATION- SILTSTONE- DARK GRAY,
						30		LOW TO NO MOISTURE, HIGH DENSITY, POORLY
								DEFINED FRACTURING, BEDS TREND EAST-WEST
						32		DIPPING≈75N DEFINED BY FISILITY &FISHSCA
								@33'(f)N0E/80W POORLY DEFINED FRACTURE-MASSIVE BELOW
						34		
								@35'(b)N90E/75S BEDDING DEFINED BY FISHSCALES &
						36		@36'(b)S80E/70SW FRACTURING.
								(f)= FRACTURE PLANE ORIENTATION
						38		(b)= BEDDING PLANE ORIENTATION
								NO CAVING, NO SLIDE PLANES,
						40		@43½' T.D. TOTAL DEPTH AT 43½'- LOGGED BY: T.C.

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 5-8-95

GS 94-1115

PLATE //

DRILLING METHOD: 24" BUCKET AUGER

SAMPLING METHOD: SPLIT SPOON SAMPLE
KELLY WEIGHT 4,925 Lbs

WATER LEVEL: NONE ENCOUNTERED

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-4

SHEET 1 OF 2

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.
						0	B-4	@0-30' (Af) ARTIFICIAL FILL- SILTY SAND AND SILTY
								(ML/SM) CLAY, LIGHT RUSTY BROWN, DARK BROWN,
						2		LOW TO MEDIUM MOISTURE CONTENT, MEDIUM
								TO LOW DENSITY, WELL COMPACTED, FIRM,
						4		PREDOMINANTLY SILTY CLAY, PATCHES OF
								SILT INTERMIXED WITH PATCHES OF CLAY,
						6		MOTTLED APPEARENCE, MEDIUM TO FINE
								GRAINED SAND, BED FROM 10'TO≈17', SILTY
						8		SAND.
								IN-SITU CALCITE THROUGHOUT FILL
1	10'	10"	2	/		10		DARK BROWN PARTICULARLY LOWER REGIONS WITH VEINS
								LIGHT BROWN LATERALLY EXTENSIVE TYPICALLY MM'S THICK
						12		
						14		
						16		
								CALCITE VEINS
						18		
								APLITIC TEXTURE
						20		
								SAND LENSES
						22		
						24		
2	25'	12"	4	/				
						26		
						28		
								@29'CONTACT ARTIFICIAL FILL/WEATHERED SANDSTONE.
						30		S5W/10SE (c) CONTACT IS PREDOMINANTLY SHARP & WELL
								DEFINED.
						32		@30'-34'(Ttsd) APLITIC SANDSTONE;LIGHT GRAY, WHITE, TAN
3	32.5'	12"	28	/				GRADATIONAL WELL INDURATED IN CALCITE MATRIX, PREDO-
						34		CONTACT) MINANTLY SUB-ANGULAR, MEDIUM TO FINE
								GRAINED SAND, CLASTS ARE POORLY LOCALLY
						36		WELL GRADED OVERALL.
								@34'-37'(Ttwslt) WEATHERED SILTSTONE; ANGULAR CLASTS OF
						38		WEATHERED SILTSTONE IN MATRIX OF CLAY &
								DISINTEGRATING SILT, LOW MOISTURE,
						40		UNWEATHERED SILT IS DARK GRAY, WEATHE[illegible]

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 5-9-95

GS 94-1118

PLATE A2

DRILLING METHOD: 24" BUCKET AUGER

SAMPLING METHOD: SPLIT SPOON SAMPLER
KELLY WEIGHT 4,925Lbs

WATER LEVEL: NONE ENCOUNTERED

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-4

SHEET 2 OF 2

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.	
						40	B-4	CONT.	SURFACES ARE ORANGE TO DARK BROWN.
								(Ttslt)	SILTSTONE; DARK GRAY, LOW GRADE
						42		@41'(f)N50W/	METAMORPH, POORLY DEFINED BEDDING,
								85NE	BEDDING DEFINED BY FISH SCALES, LITTLE
4	44'	10"	36 REFUSAL	✓		44			VISIBLE FRACTURING WHERE FRACTURES ARE
									PRESENT CALCITE VEINS < 2mm WIDE HAVE IN
						46		@46' T.D.	FILLED, HACKLE FRACTURING, VERY HARD,
									NO MOISTURE, HIGH DENSITY.
						48			TOTAL DEPTH = 46 FEET.
									NO CAVING,
						50			NO SLIDE PLANES,
						2			LOGGED BY: T.C.
									(f)= FRACTURE PLANE ORIENTATION.
						4			
						6			
						8			
						0			
						2			
						4			
						6			
						8			
						0			
						2			
						4			
						6			
						8			
						0			

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 5-9-95

GS 94-1115

PLATE 15

DRILLING METHOD: 24" BUCKET AUGER

SAMPLING METHOD: SPLIT SPOON SAMPLER 12", KELLY WEIGHT 4,925 Lbs.

WATER LEVEL: NONE ENCOUNTERED

DRILLING CONDITIONS: HARD DRILLING IN BEDROCK

BORING NO. B-5

SHEET 1 OF 1

SAMPLE NO.	SAMPLE DEPTH	RECOVERY	BLOWS PER FOOT	TUBE	BULK	DEPTH IN FEET	SOIL GRAPH	SURFACE CONDITIONS: DESCRIPTION AND REMARKS CLASSIFICATION, MOISTURE, TIGHTNESS, ETC.	
						0	B-5	@ 0-2.3' (Af)	ARTIFICIAL FILL- LIGHT BROWN, TAN, RUST
									ORANGE, BROWN CLAY, SILT AND SAND, MOTTLE
						2			PATCHES OF SILTY CLAY AND SAND MIXED
									TOGETHER, EXTENSIVE ROOTS DOWN TO 2',
						4			SANDY PATCHES, BROWN, REDDISH BROWN,
									COARSE SAND LENSES, COBBLES TYPICALLY
						6			4"-8" PRESENT, LARGER CLASTS ELONGATE
									SLATE FRAGMENTS.
						8		@2.3' CONTACT	SHARP (c)N26E/16SE
								@2.3'-13.3'	(Ttwslt); WEATHERED SILTSTONE- DARK GRAY
						10			BROWN, REDDISH ORANGE, IRREGULAR FRACTURE
									ALONG WEATHERED SURFACES, LOW MOISTURE,
						12			CLASTS ARE MILDLY DAMP, ≈ 5% BROWN CLAY
									FROM DISINTEGRATED SLATE, MEDIUM HIGH
						14			HARDNESS, UNWEATHERED; DARK GRAY, MEDIUM
									TO HIGH DENSITY.
						16		@13.3'-15'	(Ttslt); SILTSTONE- DULL DARK GRAY,
									SLIGHTLY DAMP, NO MOISTURE, NO
						18			DISTINGUISHABLE BEDDING OR FRACTURE,
									HACKLY FRACTURE, THIN CALCITE VEINS
						20			MILIMETERS THICK.
								@15' TD.	TOTAL DEPTH = 15 FEET
						22			NO CAVING
									NO FREE WATER
						24			LOGGED BY: T.C.
						26			
						28			
						30			
						32			
						34			
						36			
						38			
						40			

CALIFORNIA GEOSYSTEMS
ENVIRONMENTAL AND GEOTECHNICAL CONSULTANTS

BORING LOG

SITE: LOS LIONES & TRAMONTO, PACIFIC PALISADES, CA.

DATE LOGGED: 5-10-95

GS 94-1115

PLATE 14

BORINGS LOGS BY GEOSOILS, INC.

LOS LIONES DRIVE AND SUNSET BOULEVARD

REPORT DATED MARCH 22, 1978

W.O. 644-VN

Project: LA MANCHA/SCHURGIN PARTNERSHIP
Los Liones Drive & Sunset Boulevard

Boring B-1 Sheet 1 of 2

Date Excavated 2/6/78

Sample Method: Ring Sampler
2300# Wt., 12" Drop to 20'
1500# Wt., 12" Drop Below 20'

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/ft.	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
							Asphalt Pavement 2½" thick (parking lot)
			1				FILL: Brown, medium dense, medium- to fine-grained, silty sand; slightly moist
			push	10"			@ 2½' mixed with light yellowish brown silt; slightly gravelly
5			1				
							@ 8' mixed with light yellowish brown, clayey silt
10			1				FILL(?): Dark brown, soft, silty CLAY; lightly plastic
							ALLUVIUM(?): Moist (possible Estuarine Deposits?)
							@ 11½' light gray-brown, highly plastic, clayey silt; wet
							Free water @ 15'
15			push (no recovery)				@ 15½' 1± ' layer of light gray, medium to fine, clean SAND; wet
			push (no recovery)				@ 16½' light gray, slightly clayey, fine, silty sand
20							@ 21½' light gray-brown, clayey silt
							@ 23' becomes slightly gravelly: gravel to ½" size, 5±%
							Mixed with fine sand; 10±% sand from 24' to 26'
25			push				
							BURIED TOPSOIL: Black, soft, very fine, sandy silt with organics and roots
30							

Plate A-1

LOG

W.O. 644-VM

Project: LA MANCHA/SCHURGIN PARTNERSHIP
Los Liones Drive & Sunset Boulevard

Boring B-1 Sheet 2 of 2

Date Excavated 2/6/78

Sample Method: Ring Sampler
2300# Wt., 12" Drop to 20'
1500# Wt., 12" Drop Below 20'

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/ft.	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
30			19				BEDROCK (Martinez Formation): Finely brecciated, black SILTSTONE
							@ 32' mixed with angular rock fragments
							Hard drilling from 33'
35							Black, gravelly, clayey silt (sheared bedrock mixed with clay)
			20				
40			23				End Boring @ 40'
							Water @ 15'
							Minor caving from 15½'
45							

Plate A-2

BORING LOG

W.O. 644-VN

Project: LA MANCHA/SCHURGIN PARTNERSHIP
Los Liones Drive & Sunset Boulevard

Boring B-2 Sheet 1 of 1

Date Excavated 2/6/78

Sample Method: Ring Sampler
2300# Wt., 12" Drop to 20'
1500# Wt., 12" Drop Below 20'

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/ft.	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
5			push				FILL: Dark brown, soft to medium dense, sandy silt; slightly moist @ 2½' light tan-brown, gravelly, silty sand Rounded cobbles up to 12" size, 10±% @ 5½' light yellowish brown, slightly gravelly, sandy silt; slightly moist @ 9' mixed with light maroon, silty, fine sand
10			2				NATURAL SLOPE WASH(?): Light reddish brown, medium to coarse sand Slightly silty @ 12½' Mixed with reddish brown clay, 2±' layer
15			1 (push for 6")				Light reddish to greenish, medium- to coarse-grained SAND; slightly silty and moist Very wet @ 18' Free water @ 19'
20							
25							ALLUVIUM: Black, very fine, silty sand; slightly gravelly Hard drilling from 23½' @ 24' more gravelly - rounded cobbles 2 to 2½" size, 20-25% 12" cobble @ 25'
30			8 12				BEDROCK: Green to yellowish brown, gravelly, clayey siltstone End Boring @ 30' Water @ 18½' Minor caving from 20'

Plate A-3

BORING LOG

Geosoils, Inc.

W.O. 644-VN

Project: LA MANCHA/SCHURGIN PARTNERSHIP
Los Liones Drive & Sunset Boulevard

Boring B-3 Sheet 1 of 2

Date Excavated 3/9/78

Sample Method: Ring Sampler
1600# Wt., 12" Drop to 20'
800# Wt., 12" Drop Below 20'

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/ft.	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
							FILL: Brown, medium dense, clayey, sand; moist
							From 2' light brown, gravelly, silty sand
							From 3½' light maroon, very fine sand; slightly silty and slightly moist with occasional roots
5			push				
							From 8' mixed with light green color; fine sand
			push 1				
							NATURAL SLOPEWASH(?): From 12' light yellowish green, medium to fine sand; moist
15			push				
							From 17½' brown, soft, gravelly, sandy clay; very wet
							NOTE: Water seepage first noticed @ 18' after 5 min. free standing water level was raised
20							ALLUVIUM(?): @ 20' dark brown (black), clean, medium to fine sand mixed with rounded cobbles up to 1½" size; hard drilling
			14 for first 6" 7 for other 6"				@ 22' mixed with light yellowish green sand; very gravelly from 23' (caving from 23')
25							@ 24' rounded cobble to 6" size
							From 25' dark brown, sandy, very plastic, firm CLAY mixed with cobbles; hard drilling
			24 (inside)				Cobbles up to 12" size @ 27'; angular and rounded cobbles mixed with highly plastic, firm clay
30			28				

Plate A-4

W.O. 644-VH

Project: LA MANCHA/SCHRUGIN PARTNERSHIP
Los Liones Drive & Sunset Boulevard

Boring B-3 Sheet 2 of 2

Date Excavated 3/9/78

Sample Method: Ring Sampler
1600# Wt., 12" Drop to 20'
800# Wt., 12" Drop Below 20'

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/ft.	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
30							BEDROCK: @ 31' light green, medium firm, clayey SILTSTONE
		//	42				
35							End Boring @ 35' Caving from 22' Free water @ 13'
40							
45							

Plate A-5

T2700 00231

BORING LOG

W.O. 644-VN

Project: LA MANCHA/SCHURGIN PARTNERSHIP
Los Liones Drive & Sunset Boulevard

Boring B-4 Sheet 1 of 2

Date Excavated 3/9/78

Sample Method: Ring Sampler
1600# Wt., 12" Drop to 20'
800# Wt., 12" Drop Below 20'

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/ft.	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
5			4				Asphalt pavement 2" thick (old abandoned road) FILL: Brown, medium stiff, clayey silt; slightly moist TOPSOIL?: From 8' light brown to yellowish, clayey silt mixed with
			3				
15			13				BEDROCK(?): From 12½' light yellowish brown, silty, fine sand mixed with light gray, fine sand From 14' gray, fine, silty sand From 17' dark gray, silty clay with occasional gravel; hard drilling @ 18' From 19' dark gray silt mixed with coarse sand
20			18				From 21' dark gray, sheared, silty clay; slightly moist From 23½' dark gray, fine sand Slightly more moist from 24' @ 25' intermixed, sheared clay and fine sand
25			8				
30			30 (inside)				BEDROCK: Dark gray, firm, interbedded siltstone and sandstone

Plate A-6

W.O. 644-VN

Project: LA MANCHA/SCHURGIN PARTNERSHIP
Los Liones Drive & Sunset Boulevard

Boring B-4 Sheet 2 of 2

Date Excavated 3/9/78

Sample Method: Ring Sampler
1600# Wt., 12" Drop to 20'
800# Wt., 12" Drop Below 20'

Depth (ft.)	Sample: Bulk	Sample: Undisturbed	Sample: Blows/ft.	USCS Symbol	Dry Unit Wt. (pcf)	Moisture (%)	Description of Material
30							
							End Boring @ 32' No caving No groundwater
35							
40							
45							

Plate A-7