

26195365620



County of San Miego

DANIEL J. MERA DESCRIPTION

DEPARTMENT OF ENVIRONMENTAL HEALTH F.C. BOX 85251, SAN CIRCIO, CA 92108-5261 \$16, \$38-222 FAX (\$19, \$38-2277

SITE ASSESSMENT AND MITIGATION DIVISION

MAINTENANCE OF MONITORING WELLS

Proposed Loca	tion of Monitoring Well(s):	Assessor Parcel N Property Address:	inbers: 390-040-51; 391-061-01 391-071-04; 393-17-01			
		Property Owner:	Helix Water District			
Dear Property	Ownter:					
are used for m investigations, monitoring wel	A proposal has been made to install one or more monitoring wells on your property. Monitoring wells are used for monitoring or sampling the conditions of soil or water to gather data for environmental investigations. A boring is used specifically to sample soil and is included in the definition of a monitoring well. This lease is to inform you of the responsibilities for maintenance of monitoring wells installed on your property.					
Responsible Positive and an extraction of the successary actions.	The person who causes to have a monitoring well installed on your property is defined as the "Responsible Party." Section 67.424 of San Diego County Code states that: "Monitoring wells shall be maintained to meet construction or destruction standards. If a monitoring well does not meet construction or destruction standards the responsible party must repair, reconstruct or destroy the monitoring well so it meets the standards. The property owner, if different than the responsible party, must take the necessary actions to repair, reconstruct or destroy the monitoring well so it meets the standards if the responsible party does not complete the necessary actions."					
If you have at Program at (61		ditional information	please contact the Monitoring Well			
		•				
I understand th	e maintenance responsibilities	for monitoring well	s under the San Diego County Code.			
Signstore:	D00.	Fairer	Deta: April 29, 1998			
Print Name:	Donald R. Kaiser, Asst. Cen. 1	er./Chief Engineer	***			
Mail Address:	7811 University Avenue					
•	La Mesa, CA 91941-4927					
•						



GARY ERBECK DIRECTOR

County of San Diego

RICHARD HAAS ASSISTANT DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION P.O. BOX 129261, SAN DIEGO, CA 92112-9261 (619) 338-2222 FAX (619) 338-2377

March 6, 2003

Shepardson Engineering Associates Attn: Bryan Miller-Hicks 10035 Prospect Av., Ste 101 Santee, CA 92071-4398

Dear Mr. Miller-Hicks:

WELL PERMIT #W101054 APN: 393-011-01 ESTABLISHMENT # NONE SITE NAME: EL MONTE GOLF COURSE SITE ADDRESS: 3600 BLK, WILLOW RD., SD 92040

The Site Assessment and Mitigation Division is returning the enclosed 60-day report for the above-referenced site. DEH requires that certain information be provided with each report. The following items were not included:

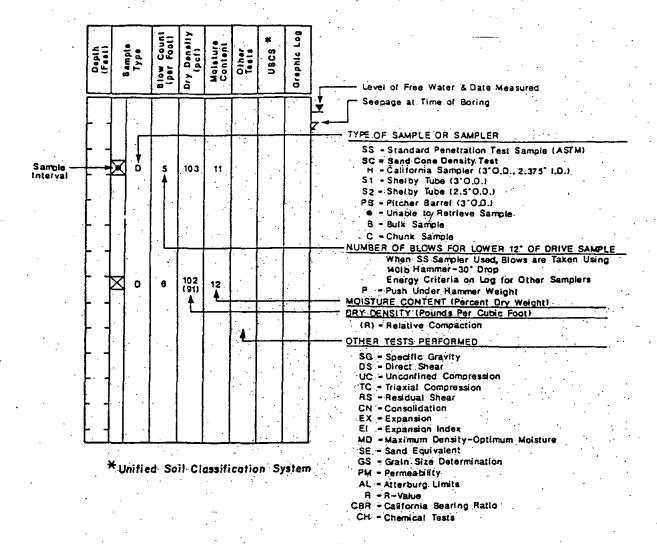
- Submit written documentation indicating the method used to destroy the monitoring well /boring (s) the type of sealing materials, quantities used, and the date the work was started and date it was completed.
 - 2. Submit a site plan indicating the actual location of the monitoring well/boring (s).
 - 3. Submit all soil and/or groundwater sample analytical results.
 - 4. Submit a letter of explanation stating why the surface construction was not completed per the proposed construction or submit a corrected well construction diagram and letter confirming the corrections made to the resubmitted well construction diagram.
 - 5._. Submit a detailed "as built" well construction diagram with the type of casing, screened interval, screen slot size, type of filter pack, depth, location of material used, and type of seals, and quantities of materials used for each monitoring well.
 - Submit a cover letter/monitoring well and or boring logs with signature and official stamp of Registered Geologist, Registered Civil Engineer or Certified Engineering Geologist responsible for the accuracy and completeness of the logs and accompanying data that were submitted.
 - 7. Permit was issued for:
 Submit \$___ for the following additional work:___

Please resubmit your report with the above requested information to this department within fifteen (15) working days. If you have any questions regarding this letter, please contact me at (619) 338-2492.

Sincerely,

Ernesto L. Profeta, Environmental Health Technician Department of Environmental Health Site Assessment and Mitigation Program

KEY TO LOG



NOTES: These final logs represent Shepardson Engineering Associates' interpretation of the subsurface conditions on the date of exploration based on field logs in combination with the results of laboratory examination and tests of representative field samples. Therefore, these logs contain both factual and interpretative information. The logs represent subsurface conditions on the dates and at the locations indicated and are not necessarily representative of subsurface conditions at other times or locations.

The horizontal lines represent the approximate generic and/or lithologic boundary between types of soils and/or rock material. The actual transition may be gradual.

The logs summarize only a portion of the geotechnical report. They should not be reproduced for distribution while separated from the body of the report and the data contained on the logs should only be used in conjunction with the report.

"Refusal" indicates inability to extend excavation practically or economically with the exploration equipment used.



SHEPARDSON Engineering Associates Inc.

Geotechnical Consultants: Engineers-Geologists Date: February, 2003

Project No: 97157-03

Plate

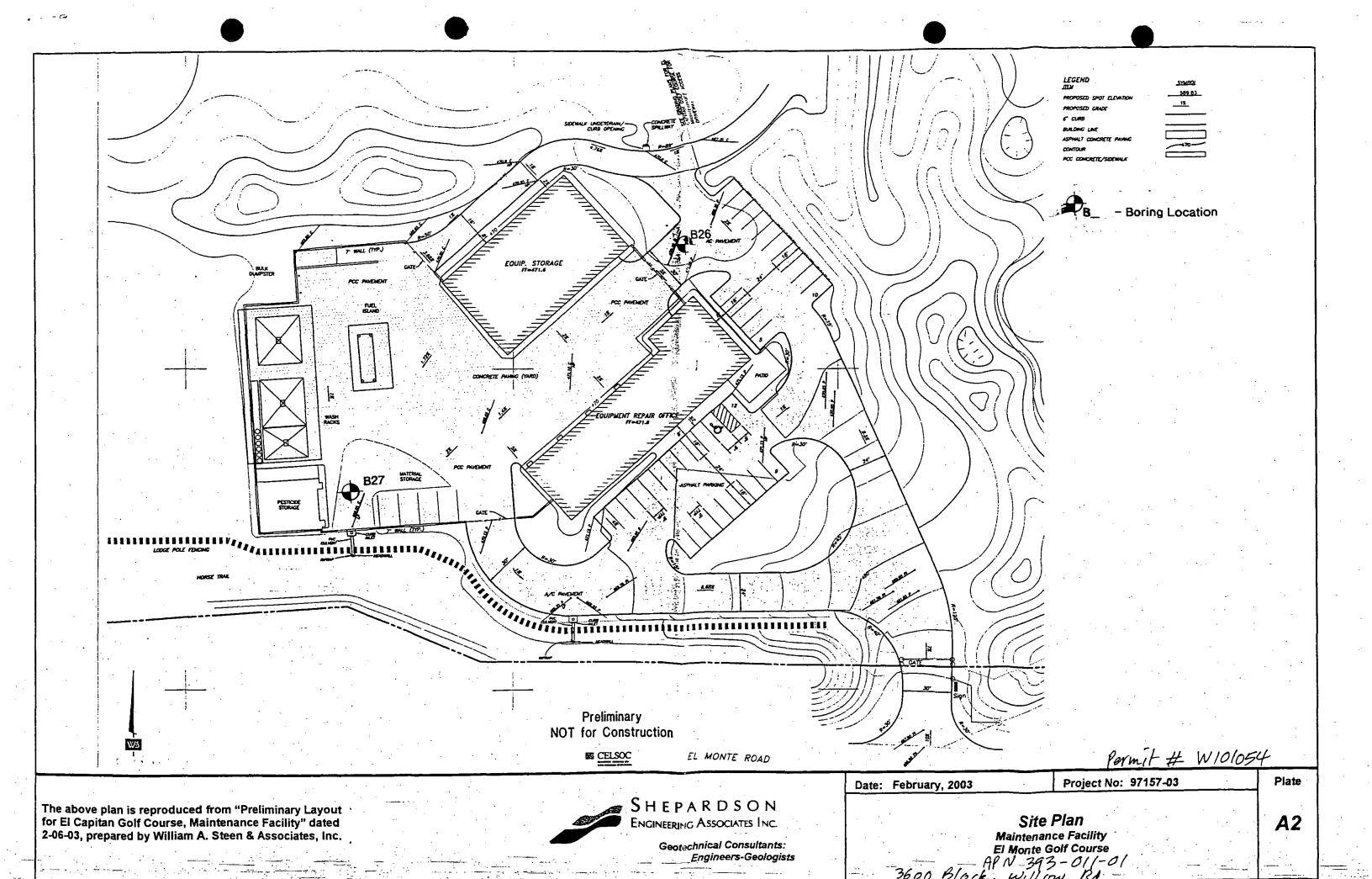
Explanation of Logs
Maintenance Facility
El Monte Golf Course

B 1

		-		LC	og c	F TE	EST BORING NO. B-26
Drilling Date	e(s): _	2/7	7/03	Dril	lling Eq	uipmer	ent B-61 Surface Elevation: ~469'
Logged By:		В	мн	Me	thod/H	ole Siz	ize: Hollow stem auger/8" Bottom Elevation: ~447'
Depth (feet) Sample	Blow Count (foot)	Dry Density (pcf)	Moisture Content (%)		SOSO	Graphic Log	
В				СН	ML		ALLUVIUM (Qal): sandy silt, loose, damp, medium brown
Z H	31			GS	SW		ALLUVIUM (Qal): well-graded, medium to coarse sand, medium dense, damp, yellow gray and yellow brown
4 H	16						:loose
6-6-7	10						.iccse
8-	,						
10 ss	23						:becomes medium dense
- 12-							
14- M SS	30						
- 16-1/							
- 18- 							
20 ss	17						
- 22							End of boring at 22 feet; no groundwater encountered; boring backfilled with bentonite clay chips
- 24-							
26-							
- 28-							
- 30-							
Remarks:		1					
Please refer t			limiteti -	no sha	un on "E	volanatí	ation of Logs"
Please refer t	SHE					i	Date: February, 2003 Project No.: 97157-03
	ENGINEE	RING A	ASSOCI,	ATES I	NC.	-	Log of Test Boring No. B-26
	Geotech Enginee						EL MONTE GOLF COURSE

•		•	LC	o oc	F TE	ST BORING NO. B-27
Drilling Date(s)	· <u> </u>	2/7/03			uipmen	
Logged By:		вмн	Me	thod/H	ole Size	e: Hollow stem auger/8" Bottom Elevation: ~435'
Depth (feet) Sample Type	Blow Count (/foot) Dry Density	Moisture Content (%)	Lab Tests	SOSO	Graphic Log	MATERIAL DESCRIPTION
В			MD	sw		ALLUVIUM (Qal): well-graded sand, medium to coarse-grained, medium
├ ┤ ▮			DS			dense, moist, medium brown to medium gray
2-	32 96	8.6				
	32 50	0.0				
4-			.			
L d H	16	·				
F 6 7 "	"			· .		
1 1				·		
- 8-	} \	1				
}						
10 ss	4			•		
├				·		
12-				İ		
}						
- 14-	.					
T/ ss	26	·				
- 16-X						
- 18-						
<u> </u>	,			' '		:cobble layer, approximately one foot thick
20 1 08	25					couble layer, approximately one root tribe.
ss s	23		GS			
- 22-				. }		
- 24-				.		
XLSS	50/6"			SM		DECOMPOSED GRANITE (Kgr): bedrock, silty fine to coarse sand, dense
						to very dense, moist, orange-gray
- 28-	.				[₹
L		·				:groundwater at 28 feet
SS SS	50/2]]				
30-		_				End of boring at 30.2 feet; boring backfilled with bentonite chips
T 1						and or soming at oose hoof soming sections.
Remarks:				····	•	
-			•	• •		·
Please refer to sy	mbols and no	te limitation	ns show	vn on "E	kplanatio	n of Logs"
₽ S	HEPA	ARDS	3 O A	v	Da	ate: February, 2003 Project No.: 97157-03
El	NGINEERING	ASSOCIA	TES II	NC.		Plate
	eotechnica	1 C 1				Log of Test Boring No. B-27
	ngineers-G					EL MONTE GOLF COURSE

31.103





Geotechnical Consultants: Engineers-Geologists

RECEIVED

2003 MAR 13 AM 8 47

D. E. H. MAILROOM 10035 Prospect Ave., Suite 101 Santee, CA 92071-4398 619 / 449-9830 FAX 619 / 449-5824 email@shepardson.com

March 10, 2003

S.E.A. 97157-03

County of San Diego Dept. of Environmental Health Site Assessment and Mitigation Program P.O. Box 129261 San Diego, CA 92112-9261

ATTENTION: Mr. Ernesto Profeta

SUBJECT:

El Monte Golf Course APN 393-011-01

#W101054

Dear Mr. Profeta:

In response to your March 6, 2003 memorandum, we submit the following:

Each boring was destroyed by means of backfilling with Wyo-Ben brand Enviroplug medium bentonite. B-26 (22 feet deep) required approximately eleven 50-lb. bags. Boring B-27 (30 ft.) used approximately 17 50-lb. bags. In each case the clay was brought to within one foot of surface, hydrated with water, and capped with native sand. Work began and ended on February 7, 2003.

If there are any questions, please contact me.

Respectfully submitted,

SHEPARDSON ENGINEERING ASSOCIATES, INC.

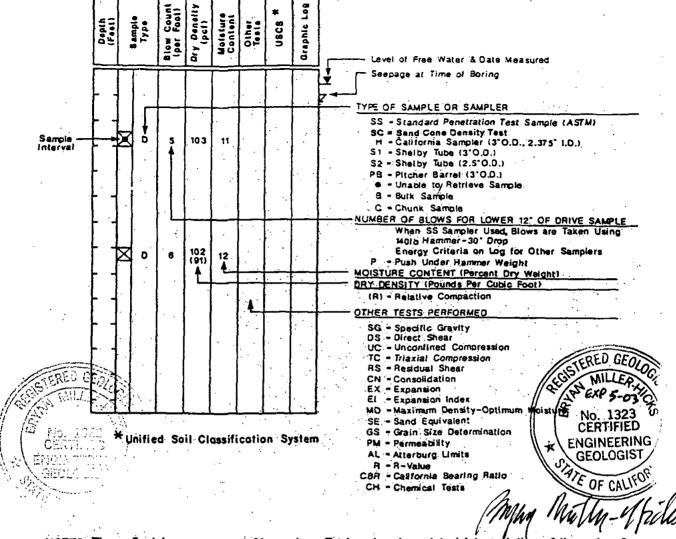
Bryan Millef-Hicks, CEG 1323

Project Geologist

cc: (1) Addressee

Enclosures: Explanation of Logs

Boring Logs Site Plan



NOTES: These final logs represent Shepardson Engineering Associates' interpretation of the subsurface conditions on the date of exploration based on field logs in combination with the results of laboratory examination and tests of representative field samples. Therefore, these logs contain both factual and interpretative information. The logs represent subsurface conditions on the dates and at the locations indicated and are not necessarily representative of subsurface conditions at other times or locations.

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SHEPARDSON Engineering Associates Inc.

Geotechnical Consultants: Engineers-Geologists Date: February, 2003

Project No: 97157-03

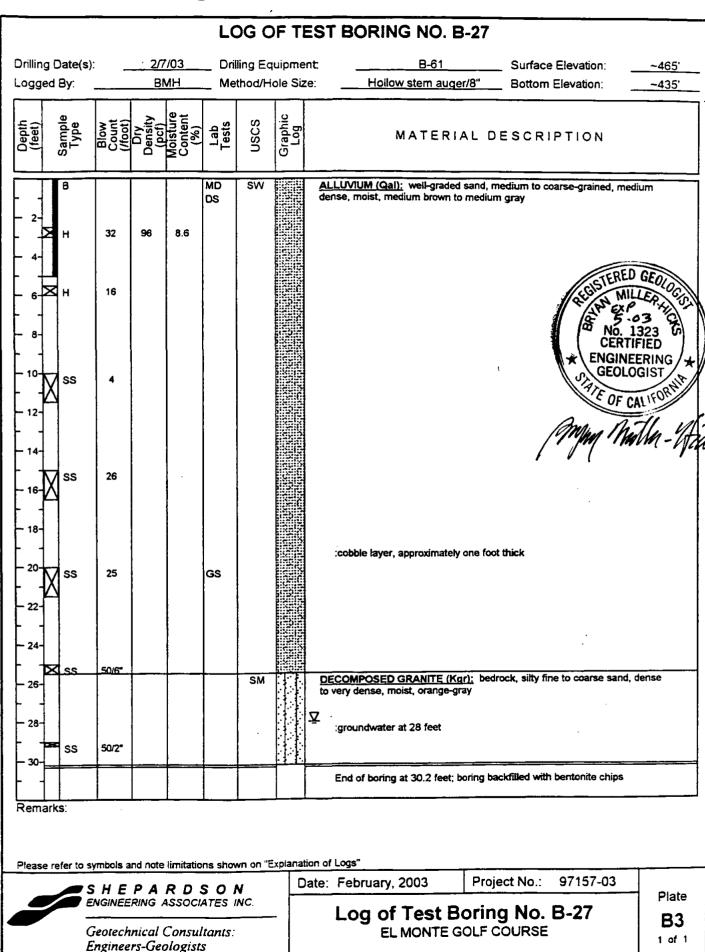
Plate

Explanation of Logs
Maintenance Facility
El Monte Golf Course

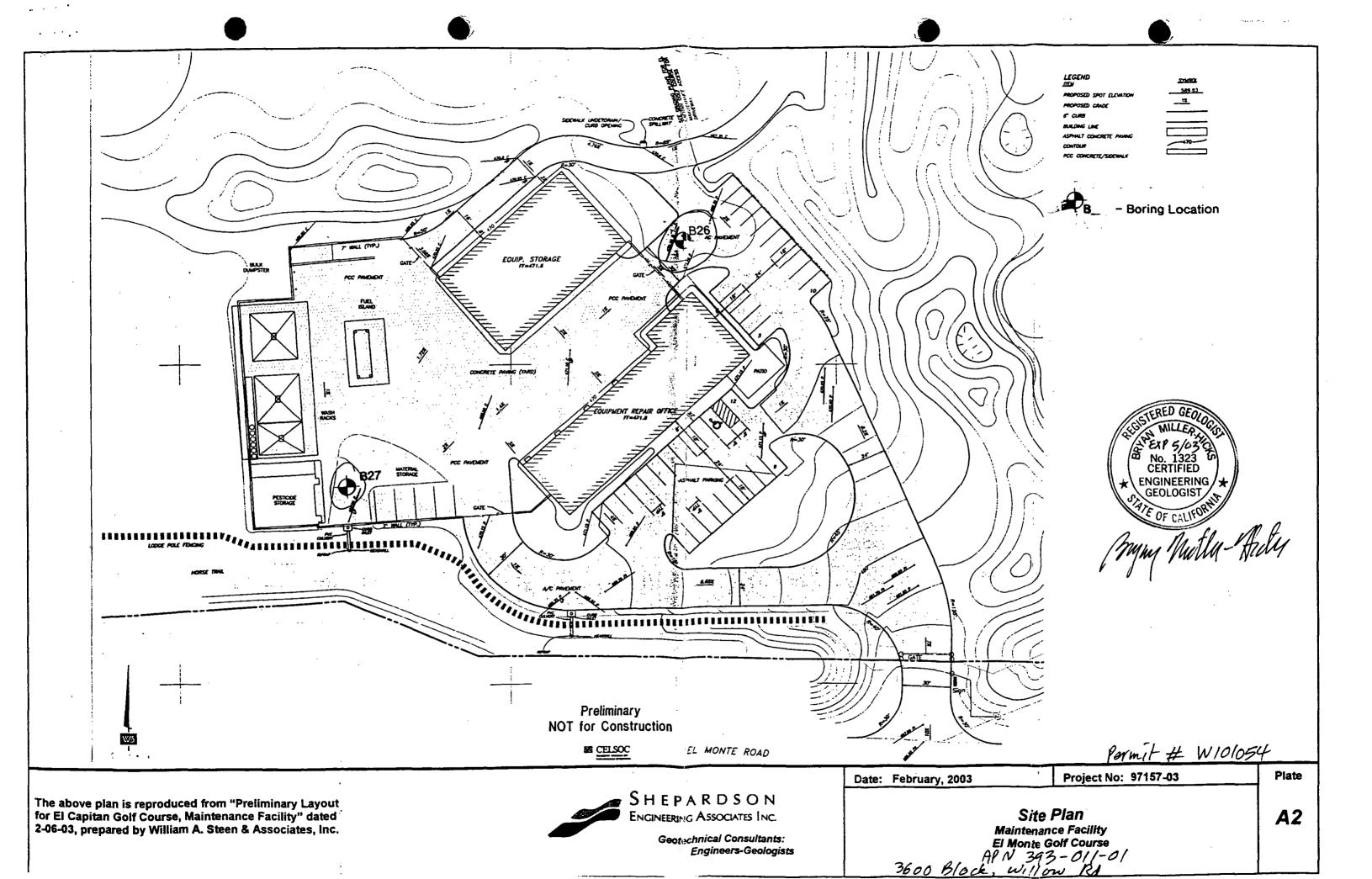
B 1

-	-	,	-	LC	G C	F TE	ST BORING NO. B-26		
Drilling Date	(s): _		7/03	_	_	uipmer		Surface Elevation:	<u>~469'</u>
Logged By:		B	MH	_ Me	thod/H	ole Size	e: <u>Hollow stem auger/8"</u>	Bottom Elevation:	-447'
Depth (feet) Sample Type	Blow	Dry Density (pcf)	Moisture Content (%)	Lab Tests	SOSO	Graphic Log	MATERIAL	DESCRIPTION	
В				СН	ML		ALLUVIUM (Qal): sandy silt, loose, d	amp, medium brown	
2 X H	31			GS	sw		ALLUVIUM (Qal); well-graded, mediundamp, yellow gray and yellow brown	m to coarse sand, medium dens	se,
6 × H	16						:loose		
10 ss	23						:becomes medium dense		
- 16-X SS	30				,				
20 ss	17							·	
- 24- - 26- - 28- - 30- - Remarks:							STATE OF	D GEOLOGIST 1323 CALIFORN CALI	dilled with
Please refer to								ject No.: 97157-03	
	SHEPARDSON ENGINEERING ASSOCIATES INC. Geotechnical Consultants: Engineers-Geologists					-	Log of Test Borin	ig No. B-26	Plate B2 1 of 1

RI 1 03



BI 1 03





PERMIT # W101054 A.P.N. 393-011-01 EST # NONE

COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION

MONITORING WELL AND BORING CONSTRUCTION AND DESTRUCTION PERMIT

SITE NAME: EL MONTE GOLF COURSE

SITE ADDRESS: 3600 BLOCK, WILLOW RD, SAN DIEGO, CA 92040

PERMIT FOR: 2 BÓRINGS

PERMIT APPROVAL DATE: January 29, 2003

PERMIT EXPIRES ON: May 29, 2003

PERMIT CONDITIONS:

- 1. All borings must be sealed from the bottom of the boring to the ground surface with an approved sealing material as specified in California Well Standards Bulletin 74-90, Part III, Section 19.D. Drill cuttings are not acceptable fill material.
- 2. Placement of any sealing material at a depth greater than 30 feet must be done using the tremie method.
- 3. All wash water must be contained and disposed of properly.
- 4. All water and soil that is placed in drums must be labeled and stored as specified in the SAM Manual in: Section 5, page 7, (5).
- 5. Within 60 days of completing work, submit a well construction report, including all well and/or boring logs and laboratory data to the Well Permit Desk. This report must include all items required by the SAM Manual, Section 5, Pages 6 & 7.
- 6. This office must be given 48 hour notice of any drilling activity on this site and advanced notification of drilling cancellation. Please contact Well Permit Desk at (619) 338-2339.

NOTE: This permit does not constitute approval of a work plan as defined in Section 2722 of Article 11 of C.C.R., Title 23. Work plans are required for all unauthorized release

investigations in San Diego County.

APPROVED BY: find Profeta DATE: 1/29/03

Notified: ky vman 1/29/03 50

PERMIT APPLICATION **GROUNDWATER** AND

RECEIVED

OFFICE USE ONLY PERMIT #W /0/054 SAM CASE Y/N #H NONE DATE RECEIVED: 1/2//

VADOSE MONITORING WELLS ON JAN 21 AM 10 05 D. E. H.

AND EXPLORATORY OR TEST BORINGS

Mailing Address 619-667-6268 ext Contact Person FES 01-28-03 13.26 63387 CASH \$10.00 **B. SITE ASSESSMENT PROJECT IF APPLICABLE #H** C. CONSULTING FIRM SHEAR PSON ENGINEER NG ASSOCIATES Mailing Address 10035 PRUSPECT AV City SANTEE State CA Zip 92071 Registered Professional BRYAN MILLER-HICKS Registration # RG-4/30 3 CEG-1323 Contact Person BRYAN MILLER-HICKS Phone 619-449-9830 D. DRILLING COMPANY Cloure mout Mesa

YPE OF WELLS/ ORINGS TO BE	MAT	TERIALS TO BE USED	e DE	Y OF SAN DIESO PARTMENT OF VIRONMENTAL	NSTRUCTION ter depth 15
CONSTRUCTED (No. 1)	CASING	SEAL '	·	VIII TH	
Groundwater	Туре	Neat Cement	REG OS	-28-03 13126	to
Vadose	Gauge	Cement & B	PAUL	63389	to
Boring 2	Diameter		•	; 	
Other	Well Screen Size _ Filter Pack				to
	(Specify)		9141 1	41,429026	NG DATE 2/4/
UMBER OF WELLS TO	(ST	9200.00 00 .00\$	NG DATE 7 1/
E DESTROYED #	Drilling Method		CHK		TE:
	X Auger	Air Rotor	CASH	\$19,00	*B B. 43
	Mud Rotary	~	09	\$0.50	de completion ction diagram
	Percussion	Other	1		ction diagram
gree to comply with the requirence of Carlos and the State of Carlos SIGNATURE	alifornia pertaining to v	vell/boring construction and de		DATE/_	1d laws of the Cou
ithin 60 days of completion, I sign and construction/or destr	will furnish the Monitouction of the well/borin	oring Well Permit Desk with a ngs in accordance with the per	complete a	nd accurate well/borin	
	my my Mi	11. 11 1		DATE/	100/00

DEH:SAM-9060 (Rev. 01/02)

Page 1 of 5

County of San Diego Department of Environmental Health

1/21 - For sant of \$10-, mill stop by + drap addt. for pur Bryan-miller Hicks.
1/22- Road \$10.00 addt. for EP

F. SHE INFORMATION							
1. ASSESSOR'S PARCEL NUMBER 393-011-01 Site Name El Monte Colf Course Site Address 3600 Block Willow Rd City San Diego Zip							
PROPERTY OWNER Helix Water District Phone Mailing Address 7811 University Av City La Mesa State CA Zip 91941							
NUMBER OF WELLS NOT APPLICABLE TYPE OF WELLS NOT APPLICABLE							
2. ASSESSOR'S PARCEL NUMBER							
Site Name	·····						
Site Address	City	Zip					
PROPERTY OWNER		Phone					
Mailing Address	City	State Zip					
NUMBER OF WELLS	TYPE OF WELLS	, , , , , , , , , , , , , , , , , , , ,					
3. ASSESSOR'S PARCEL NUMBER							
Site Name							
Site Address							
DD ODDDOWY ON DID		DI.					
PROPERTY OWNER		Phone					
Mailing Address	City	State Zip					
NUMBER OF WELLS	TYPE OF WELLS						
4. ASSESSOR'S PARCEL NUMBER							
Site Name							
Site Address	City	Zip					
PROPERTY OWNER		Phone					
Mailing Address							
NUMBER OF WELLS	TYPE OF WELLS						

G. FEES:

393-011-01

ACTIVITY	FEE SCHEDULE	AMOUNT
Permit for Well Installations Only		
(Groundwater Monitoring Wells	\$150.00 each	(x \$150.00) \$
Vadose, Vapor Extraction Wells)	\$130.00 for each additional well	(x \$130.00) \$
Permit for Borings Only		150.00
(CPT's, Hydropunch, Geoprobes, Temp.	\$150.00 for the first boring	\$ 100.00
Well Points, etc.)	\$40.00 for each additional boring	(x \$ 40.00) \$40.00
Permit for		
Well Destructions Only	\$150.00 for the first destruction	\$
	\$100.00 for each additional destruction	(x \$100.00) \$
Permit for any Combination of Well	The first activity (of any type) will be	
Installations, Borings & Destructions	\$150.00. Additional activities will be as	\$
•	follows:	+
	\$130.00 for each well	(x \$130.00) \$
	\$40.00 for each boring	(x \$ 40.00)
·	\$100.00 for each well destruction	(x \$100.00) \$
	TOTAL COST OF PERMIT	s_\$190.00

H. APPLICATION SUBMITTAL, PLAN APPROVAL, PERMIT ISSUANCE, AND REQUIRED INSPECTIONS

Submit one (1) original and two (2) copies of this application package, including plan drawings with the required fee to the Monitoring Well Permit Clerk, Department of Environmental Health, Site Assessment and Mitigation Program (SAM). 1255 Imperial Avenue, San Diego, CA 92101. Or mail to P. O. Box 129261, San Diego, CA 92112-9261. Checks should be made payable to the County of San Diego.

A permit will be issued by SAM upon review and approval of the application and plans. The required fees must be submitted with the application package. Information in addition to that presented in the application package may be needed in order to obtain final approval. No work is to begin on the proposed project until a permit has been issued. The required inspections cannot be scheduled until a permit is issued.

Once the permit has been issued, it is the responsibility of the permittee to notify SAM at least two (2) working days in advance to schedule each required inspection.

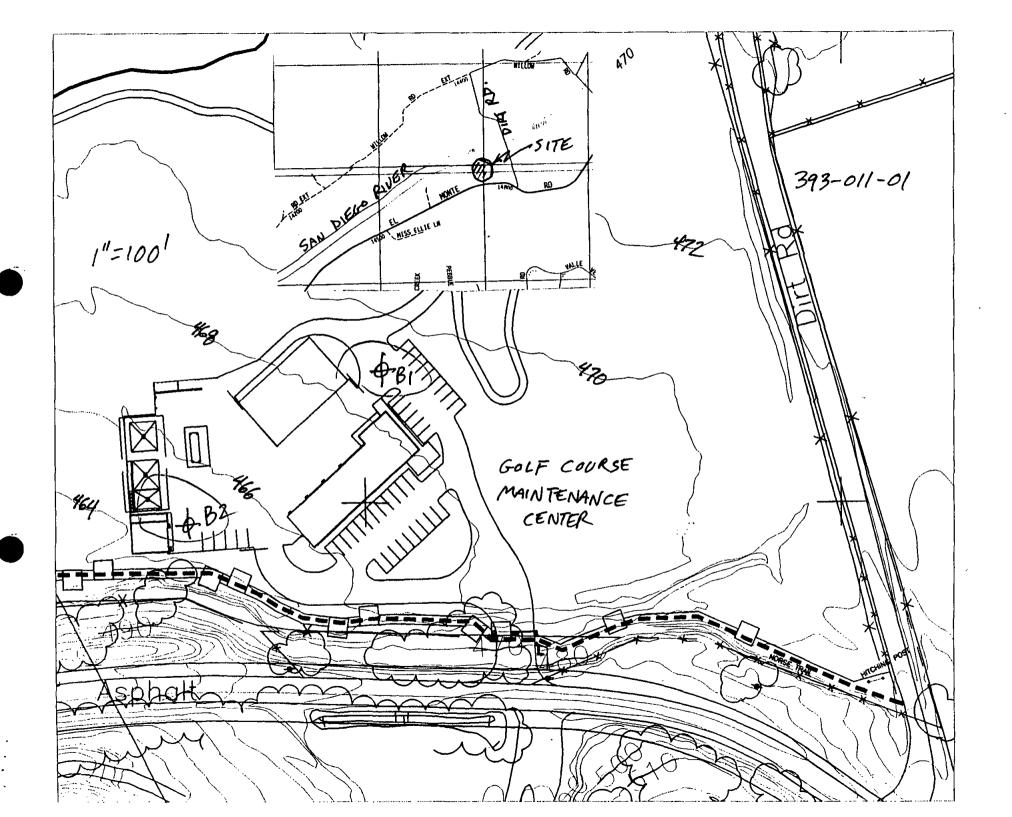
USE ONE APPLICATION PACKAGE FOR A SINGLE SITE PROJECT. A SINGLE PERMIT WILL BE ISSUED FOR A SINGLE SITE PROJECT, EVEN IF WELLS/BORINGS ARE COMPLETED ON MORE THAN ONE PROPERTY. FOR MULTIPLE SITE PROJECT'S, USE SEPARATE APPLICATIONS.

PERMIT APPLICATION FOR GROUND WATER AND VADOSE MONITORING WELLS EXPLORATORY OR TEST BORINGS

- For well destruction, complete only #1 below.
- Well design, logging and construction must be supervised by a Geologist, Engineering Geologist or Civil Engineer who is registered or certified by the State of California.
- Well driller must have an active C-57 License and current \$7,500 bond with the County.
- Provide a plot plan giving location of property lines, existing improvements such as structures, underground tanks, underground utilities, underground piping, and the proposed monitoring and/or observation wells.
- If applicable, provide a signed copy of the Property Owner Responsibility form for each property listed in Section "F".
- If applicable, provide a signed copy of the Property Owner Responsibility form for each property listed in Section "F". Provide encroachment/excavation permit and/or traffic control permit for work to be done in street or public right of way.

1.	If wells are to be destroyed, provide a description of method of destruction. Not APPLICABLE
2.	What is the proposed purpose of the well/boring? To assess foundation conditions for new construction of golf course maintenance center; defermine groundwater terels and lique faction potential at site
	aroundwater terels and lique Laction botential at site
3.	What procedures will be used to prevent the well/boring from providing an avenue to contamination during construction?
	Drilling Equipment will be steam-cleaned prior to and between
	Drilling Equipment will be steam-cleaned prior to and between borings Borings will be backfilled with bentonite chips
4.	What field procedures will be utilized to determine if contamination exists?
	visual, "Smell" test, and OVM Screening
5.	What procedures will be used to determine whether samples will be sent for laboratory testing or archiving?
	NOT APPLICABLE

١.	What constituents will be monitored and tested (Include EPA Laboratory Test Methods to be used)? Not Applicable
•	How will samples be transported and preserved? NOT APPLICABLE
·	What sampling methods will be used? <u>STANDARD PENETRATION</u> TEST
	Are you proposing a variation from the methods and/or procedures presented in the requirements for the construction of Vadose and Ground Water Monitoring Wells (Current SAM Manual Requirements). If yes, specify these variations. Not Applicable
	What procedures will be used to ensure no contamination will be introduced by the drilling equipment? SEE QUESTION 3
l .	What methods will be used to clean sampling equipment? <u>STEAM CLEANING</u>
<u>)</u> .	What cleaning method will be used to clean casing and screen prior to installation?NoT _APPLICABL





County of San Biego

GARY W. ERBECK DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION 1255 IMPERIAL AVE., SAN DIEGO, CA 92101-7483 P.O. BOX 120261, SAN DIEGO, CA 92112-9261 (619) 336-2222 FAX (619) 338-2377 1-800-263-9933 RICHARD HAAS ASSISTANT DIRECTOR

PROPERTY OWNER RESPONSIBILITY AGREEMENT

Proposed Location of Well(s):	Property Address:	El Capitan (El Monte) Golf Course
APN 393-011-01		El Monk + Willow Rd
		San Diego County
Dear Property Owner:		J
This letter is to inform you of the responsibilities for the this letter will expire one year from the date you sign tequire a new Property Owner Responsibility Agreement.		
Please place a check mark next to the activity which appli	es to your property:	
Install one or more monitoring wells		
Destroy one or more monitoring wells		
Drill one or more soil borings		· .
The person who causes to have a monitoring well in "Responsible Party." Section 67.424 of San Diego Construction or destruction standards. If a monitoring we must repair, reconstruct or destroy the monitoring well so Party, must take the necessary actions to repair, reconstru- Party does not complete the necessary actions."	County Code states all does not meet con it meets the standard	that: "Monitoring wells shall be maintained to meet instruction or destruction standards the Responsible Party is. The property owner, if different than the Responsible
A soil boring is used specifically to sample soil and, be definition of a monitoring well even though no mainter SAM Manual and the State of California Well Standards	ance is required. The	nstruction and destruction standards, is included in the nese standards are outlined in the County of San Diego
If you have any questions or would like additional inform	ation, please contact	the Monitoring Well Program at (619) 338-2339.
I understand the maintenance and construction/destruct	ion responsibilities	for monitoring wella and borings under the San Diego
Property Owner Signature:	2	Date: 1/15/03
Print Name: CLARLOS V. Luko	<u> </u>	_ Title: DIRECTOR OF ENLINEERING
Mailing Address: 781 UNIVERSI LA MESA, CA 99	14 492)	Title: DIRECTOR OF ENLINEERING Company: HELIX KLATER DISTRICT
DEH-SAM-9503 (Ray. 7/00)		•
UGITARITA (MIT. 1700)		

Page **B-12**

SAM Manual



Geotechnical Consultants: Engineers-Geologists

2003 AUG 11 AM 11: 00

10035 Prospect Ave., Suite 101 Santee, CA 92071-4398 619/449-9830 FAX 619/449-5824 email@shepardson.com

S.E.A. 97157-03

August 6, 2003

Monitoring Well Permit Desk Site Assessment and Mitigation Program County of San Diego Dept. of Environmental Health PO Box 129261 San Diego CA 92112-9261

Attention: Ms. Marisue Crystal

SUBJECT: Geotechnical Boring Completion Report

El Monte Golf Course/ San Diego River Bridge Project 14999 Willow Rd. near El Monte Rd., Lakeside, CA

DEH Permit #W101349 APN #391-071-04

Dear Ms. Crystal: .

In accordance with the current SAM Manual, Section 5, we submit this report of completion for 3 borings drilled in the San Diego River Channel at the bridge site for the proposed El Monte (aka El Capitan) Golf Course. These borings were drilled, observed and sampled in order to characterize and evaluate alluvial soil conditions, and make recommendations for pier foundations for the proposed bridge.

Boring logs and a site plan are attached as part of this report. Each boring was advanced by means of a hollow stem auger, using bentonite grout to stabilize the sides of each hole and prevent sand from entering the auger. Each hole required approximately 250 lbs of bentonite grout in 150 gallons of water. The grout was pumped into the hole during drilling, and tremied into the remaining open hole after the auger had been pulled.

Respectfully Submitted

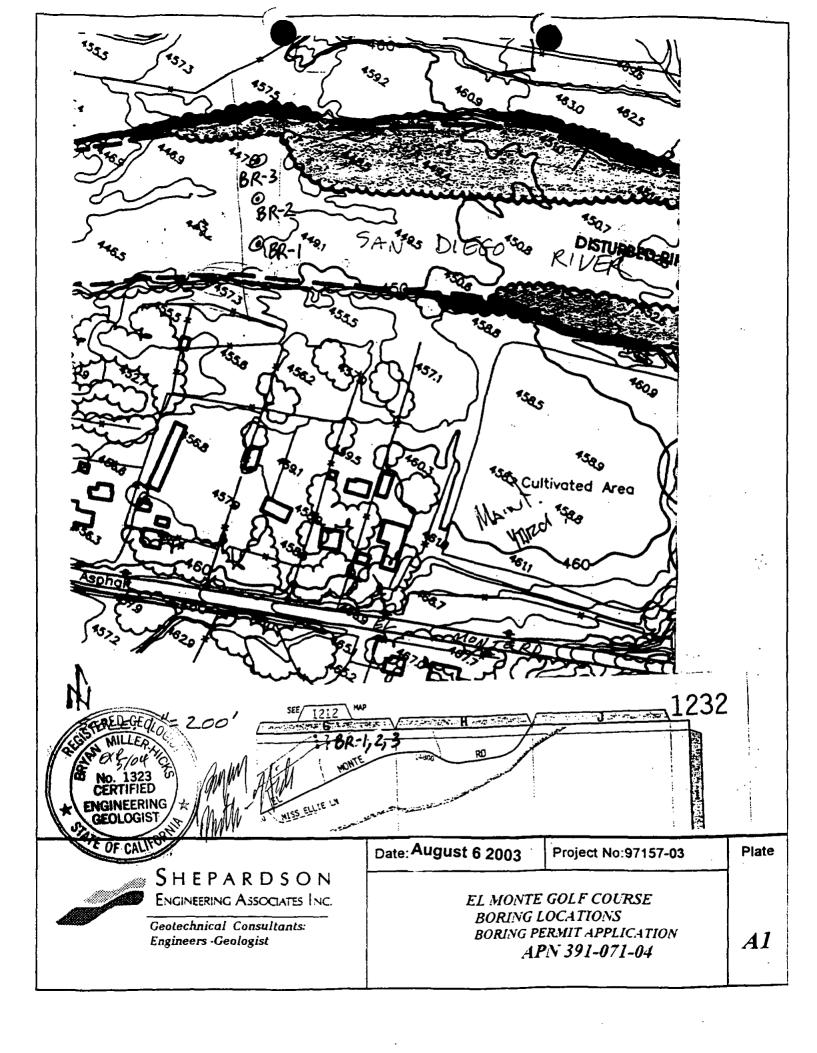
SHEPARDSON ENGINEERING ASSOCIATES, INC.

Bryan Miller-Hicks, CEG 1323

Project/Geologist

cc: (1) Addressee





			LO	G OF	TE	ST BO	RING NO.	BR- 1	··· · · · · · · · · · · · · · · · · ·	
Drilling Date(s)	:	6/10/03	Drill	ing Equ	ipmer	t:	CME550) Surf	ace Elevation:	~447'
Logged By:		вмн	_ Met	thod/Ho	e Size);	Hollow/8"	Botte	om Elevation:	~368'
Depth (feet) Sample Type	Blow Count (/foot)	Density (pcf) Moisture Content (%)	Lab Tests	nscs	Graphic Log	4.	MATER	IAL DESC	RIPTION	
- 2- - 4- - 8- - 10- - 12- - 14- - 18- - 18- - 20- - 22- - 24- - 24- - 28- - 30- - 32- - 34- - 36- SS	19 27		MD	SW SW		interlay Water t	ered fine and coar able encountered of M: silty fine-graine	se sand, abundan during drilling drilli	ay brown; contains post of the state of the	ium
Drive Energy Dat	Wei Droj	ight P	Hydrauli 140 lbs. 30 in.			on of Long"		GEOLOGIS OF CALIF	ilm-Hill	
Please refer to s	_				_T	ite: Augu	st 2003	Project No	.: 97157-03	
	NGINEER Geotechn	P A R D RING ASSOCI ical Consults Geologist	IATES I !tants:				of Test E	Boring No	. BR- 1	Plate B2 1 of 2

	-			LO	G OF	TE	ST BO	RING NO	D. BR-	1		
Drilling Date(s):	: _	6/1	0/03	_ Dril	ling Eq	uipme	nt:	CME	550	Surface	e Elevation:	~447'
_ogged By:		BI	ин	_ Me	thod/H	ole Siz	e:	Hollow	/8"	Bottom	Elevation:	~368'
Cepth (feet) Sample Type	Blow Count (/foot)	Dry Density (pcf)	Moisture Content (%)	Lab Tests	nscs	Graphic Log		MATE	ERIAL	DESCRI	PTION	
- 42- - 44- - V ss	10			SA	sw		ALLUVIUI gray	<u>f</u> well graded,	slightly silty	sand, mediu	m dense, saturat	ed, dark
- 48- 48- 50- 52-					,						·	
- 54- - 56- - 58-	30											
60- 62- 64- 66-X SS	48						-			*	CERTIFII ENGINEER GEOLOGI	ST
- 70- - 72- - 74-	29		ı		SM		DECOMP	OSED GRANI	TF weathe	red dense s		Mhd
76-	35/4"			!								, ,
78 SS	50/2"	-			SM.				very dense	saturated, gr	ay; no sample re	covery
rive Energy Dat	W Di	ammer 7 eight	3	Hydrauli 140 lbs. 30 in.		xnlanati		at 78.5 feet				<u>.</u>
			R D		_		ate: Augu	st, 2003	Pro	ject No.:	97157-03	
El G	NGINEE Feotech	RING A	ASSOCI Consul clogists	ATES I	NC.	-		of Test	Borin	g No. E	3R- 1	Plate B2

					LO	G OF	TE	ST BORING NO. B	R- 2		
Drilling	Date(s)	: _	6/1	1/03	Dril	ling Eq	uipmei	nt: <u>CME550</u>	Surface Elevation:	~447'	
Logge	d By:		BI	<u>ин</u>	_ Me	thod/Ho	ole Siz	e: <u>Hollow/8"</u>	Bottom Elevation:	_~361'	
Depth (feet)	Sample Type	Blow Count (foot)	Dry Density (pcf)	Moisture Content (%)	Lab Tests	nscs	Graphic Log	MATERIA	L DESCRIPTION		
	<u> </u>					sw	¥ ii	ALLUVIUM: well-graded sand,	loose, moist, light gray		
- 2- - 4- - 6- - 8- - 10- - 12- - 14- - 16- - 18- - 20- - 22- - 24-	ss	19			SA	ML_ SW		medium dense, intermittent to ✓ Water table encountered duri	No. 13 CERTIF ENGINEE GEOLOG MMM MM MM MM MM MM MM MM MM	IST S	
26		ļ				SP		ALL LIVIS IM: well-graded sand (inely laminated, alternating 1/8" lamin		
- 28- - 30- - 32- - 34-	ss	40						dark and light colored minerals,	fine to medium-grained		
- 36 38 						ML		ALLUVIUM: silt, with interlayer gray	s of very fine silty sand, soft, saturated	i, dark	
	nergy Dat	D	ammer 1 leight rop	;	Hydrauli 140 lbs. 30 in.		xplanati	ion of Logs"			
							\neg	ate: August, 2003	Project No.: 97157-03		
j	S H E P A R D S O N ENGINEERING ASSOCIATES INC. Geotechnical Consultants: Engineers-Geologists					INC.	-	Log of Test Boring No. BR- 2 EL CAPITAN GOLF COURSE Project No.: 97157-03 Plate B3			

313 03

		LC	OG OF	TE	ST BORING NO. B	R- 2		
Drilling Date(s	s): <u> </u>		rilling Equ			Surface Elevation:	~447'	
Logged By:		BMH N	lethod/Ho	le Size	e: <u>Hollow/8"</u>	Bottom Elevation:	~361'	
Depth (feet) Sample Type	Blow Count (/foot) Dry	Moisture Content (%)	USCS	Graphic Log	MATERIA	AL DESCRIPTION		
- 42- - 44- - 46- - 48	17	SA	SM			m dense, saturated, red brown and gray		
- 50 - 50 - 52 - 54 - 54 - 56 - 58 - 60	20	SA	9		saturated, gray brown			
- 62- - 64- - 66- - 68- - 70- - 72- - 74	27				contains 1/4" thick layers of	STERED GEOLOGIST SESTEMBLE GEOLOGIST MO. 1323 CERTIFIED ENGINEERING GEOLOGIST STEP OF CALIFORN MY THANK		
- 76-			GW		ALLUVIUM: sandy gravels, de	ense, saturated, medfum gray		
- 78- - 78-								
Drive Energy C	Weigh Drop	t 140 li 30 in.	os.	planati	on of Logs"			
		ARDS			ate: August, 2003	Project No.: 97157-03	- 	
	ENGINEERIN	G ASSOCIATES al Consultant	S INC.		Log of Test Boring No. BR- 2 EL CAPITAN GOLF COURSE Plate B3 2 of 3			

					LO	G OF	TE	ST BORI	NG NO. B	R- 2		
Drilling (Date(s):	_	6/1	1/03	Dril	lling Equ	uipme	ent:	CME550	Surfac	e Elevation:	~447'
Logged	Ву:	·	BI	MH	_ Me	thod/Ho	ole Siz	ze:	Hollow/8"_	Botton	n Elevation:	<u>~3</u> 61'
Depth (feet)	Sample Type	Blow Count (/foot)	Dry Density (pcf)	Moisture Content (%)	Lab Tests	sosn	Graphic Log	,.	MATERIA	AL DESCR	IPTION	
						sw-gw		ALLUVIUM:	gravelly sands, de	nse, saturated, g	ay	
82- 84- 86-						SM		GRANITE BE	DROCK: very de	nse, saturated, o	ive gray	
88-									at 85 feet, refusal			
- 88- - 90- - 92- - 94- - 96- - 98- - 100- - 102- - 108- - 110- - 112- - 114- - 116- - 118-								End of boring	A ST	NO. 1323 CERTIFIED ENGINEERING GEOLOGIST OF CALIFORM WWW.		
}												İ
Drive En		V.	ammer /eight rop and note	;	l Hydraul 140 lbs. 30 in. ons shov		xplana	ition of Logs"				
								Date: August	2003	Project No.:	97157-03	
J	S H E P A R D S O N ENGINEERING ASSOCIATES INC. Geotechnical Consultants: Engineers-Geologists					-	Log of Test Boring No. BR- 2 EL CAPITAN GOLF COURSE				Plate B3 3 of 3	

31.3.03

		LOG OF	TEST BOR	ING NO. BR-	. 3	
Drilling Date(s):	6/10/03	Drilling Equip		CME550	Surface Elevation:	~447'
Logged By:	BMH	Method/Hole	e Size:	Hollow/8"	Bottom Elevation:	~362'
Depth (feet) Sample Type	Count (/foot) Dry Dry Density (pcf) Moisture Content	Lab Tests USCS	Policy of the control	MATERIAL	DESCRIPTION	
- 2- - 2- - 4- - 6- - 8- - 10		SW SM-ML		well-graded sand, loos	se, moist, gray	
- 16-X - 18- - 20- - 22- - 24-	24	SA SW	☑saturated, m Water tab	well graded fine to con edium gray le encountered during d water level	ESTER SOUTO	
- 30- - 32- - 34- - 36- SS - 36- Drive Energy Data:	Hammer Type Weight Drop	Hydraulic 140 lbs. 30 in.	lanation of Logs"		No. 1323 CERTIFIED ENGINEERING GEOLOGIST MAN MAN MAN MAN MAN MAN MAN MAN	Hilly
SI	HEPARD	SON	Date: August	t, 2003 P	roject No.: 97157-03	
ENG	otechnical Consumers-Geologis	ciates inc. ————————————————————————————————————	Log of Test Boring No. BR- 3 EL CAPITAN GOLF COURSE			

		LOG OF	F TEST BO	RING NO. BF	₹- 3		
Drilling Date(s):	6/10/03	Drilling Eq	quipment:	CME550	Surface Elevation:	~447'	
Logged By:	BMH_	Method/H	ole Size:	Hollow/8"	Bottom Elevation:	~362'	
Depth (feet) Sample Type Blow	(floot) Dry Density (pcf) Moisture Content (%)	Lab Tests USCS	Graphic Log	MATERIAL	L DESCRIPTION		
- 42- - 44- - 46- - 48- - 50-		SP	ALLUVIU gray brow	M: fine-grained poorly o	graded sand, medium dense, satura	ted,	
- 52 - 54- - 56- - 58- - 60-		SA	ALLUVIU saturated,	M: medium to coarse, v medium gray	well-graded sand, medium dense,		
- 62- - 64- - 66- - 68- 68-				-	· · ·		
- 70 SS 28 - 72 - 74 - 76 SS 31				B. Muth	n-Ardu	-	
78		GW			y, somewhat smaller gravels from 8	2 feet;	
Drive Energy Data: Please refer to symbol	Weight Drop	Hydraulic 140 lbs. 30 in.		turated, gray	· · · · · · · · · · · · · · · · · · ·		
	EPARD		Date: Augu	ust, 2003	Project No.: 97157-03		
ENGIN Geote	echnical Consu neers-Geologist	IATES INC. ————————————————————————————————————	- Log	Log of Test Boring No. BR-3 EL CAPITAN GOLF COURSE Plate B4 2 of 3			

113 03

				•	LO	G OF	TE	ST BORING NO. BR- 3	
Drilling	Date(s):	_	6/1	0/03	_ Dril	ling Eq	uipmer	nt: CME550 Surface Elevation:	~447'
Logge	d By:		B!	мн	_ Me	thod/H	ole Siz	ze: Hollow/8" Bottom Elevation:	~362'
Depth (feet)	Sample Type	Blow Count (/foot)	Dry Density (pcf)	Moisture Content (%)	Lab Tests	nscs	Graphic Log	MATERIAL DESCRIPTION	
- 82- - 84- - 86-						GW SM		ALLUVIUM: sandy gravels, heavy, somewhat smaller gravels from 82 for dense, saturated, gray GRANITE: decomposed to fresh, very dense, saturated, olive gray	eet;
- 88- - 90- - 92- - 94- - 96- - 96- - 102- - 104- - 106- - 106- - 110- - 112- - 116- - 118- - 118-	nergy Data	W Di	ammer eight	:	Hydraul 140 lbs. 30 in.		volanati	End of boring at 86 feet, refusal on bedrock A. Madu - Addu sion of Lorse"	
Please								tion of Logs" Project No : 97157 02	
	S El	H E NGINEE	P A	R D ASSOCI	S O	N INC.	_	Log of Test Boring No. BR- 3	Plate
							EL CAPITAN GOLF COURSE	B4 3 of 3	



PERMIT #W101349 A.P.N. #391-071-04 EST #NONE

COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION

GEOTECHNICAL BORING CONSTRUCTION PERMIT

SITE NAME: EL MONTE GOLF COURSE / SAN DIEGO RIVER BRIDGE PROJECT

SITE ADDRESS: 14999 WILLOW RD NEAR EL MONTE RD., SAN DIEGO, CA 92040

PERMIT FOR: 3 GEOTECHNICAL BORINGS

PERMIT APPROVAL DATE: JUNE 4, 2003
PERMIT EXPIRES ON: OCTOBER 2, 2003

PERMIT CONDITIONS:

NOTE:

- 1. All borings must be sealed from the bottom of the boring to the ground surface with an approved sealing material as specified in California Well Standards Bulletin 74-90, Part III, Section 19.D. **Drill cuttings are not an acceptable fill material.**
- 2. Placement of any sealing material at a depth greater than 30 feet must be done using the tremie method.
- 3. All water and soil resulting from the activities covered by this permit must be managed, stored and disposed of as specified in the SAM Manual in Section 5, E- 4. (http://www.sdcounty.ca.gov/deh/lwg/sam/manual guidelines.html). In addition, drill cuttings must be properly handled and disposed in compliance with the Stormwater Best Management Practices of the local jurisdiction.
- 4. This work is not connected to any known unauthorized release of hazardous substances. Any contamination found in the course of drilling and sampling must be reported to DEH. Within 60 days of completing work, submit a well/boring construction report, including all well and/or boring logs and laboratory data to the Well Permit Desk. This report must include all items required by the SAM Manual, Section 5, Pages 6 & 7.
- 5. This office must be given 48-hour notice of any drilling activity on this site and advanced notification of drilling cancellation. Please contact the Well Permit Desk at 338-2339.

This permit does not constitute approval of a work plan as defined in

				. Work plans are required n San Diego County.
APPROVED	BY:	/ / /	ystel	DATE: 06/04/2003
NOTIFIED: 6/	4/03 V.M.	MARÍSUE CRYSTA	AL	
4/9/00 4	Pexed M	_		

PERMIT APPLICATION **GROUNDWATER** AND

RECEIVED

OFFICE USE ONLY PERMIT #W __ /0/349 SAM CASE YAD #H NONE DATE RECEIVED: 5-23-03

VADOSE MONITORING WELLS 2003 MAY 23 AM 11 2 FEE PAID: \$240. - \$5735 AND EXPLORATORY OR TEST BORINGS

D. E. H.

		00M
A. RESPONSIBLE PARTY	HEYX Water District University Av City La M My Campbell Phone 619-6	Phone 619-667-6268
Mailing Address 7811	University Av City La M	1es a State CA Zin 9/94/
Contact Person 10	Phone C19-6	67-6268 ext
Contact i cison	THE COURT OF THE STATE OF THE S	67 DEOG EXI.
	OJECT IF APPLICABLE #H	
C. CONSULTING FIRM	PARDSON ENGINEERING ASSOCIATES City Sa BRYAN MILLER-HICKS Registration #	0035 Prospect Av
Mailing Address SHEI	PARDSON ENGINEERING City Sa	ntee State A Zip 9207/
Registered Professional	BRYAN MILLER-HICKS Registration #	RG-4130. CEG-1323 (RG, RCE,
CEG)		
	N MILLER-HICKS Phone 619-4	49-9837
). DRILLING COMPANY	Tri-County Drilling, Inc. C57#	547737 Phone 858-271-0099
Mailing Address <u>9631 Ca</u>	andida Street City San Dies	go State <u>CA</u> Zip <u>92126</u>
		REG 06-05-03 10:41 EDNA 78
CONSTRUCTION INFORM	MATION	CHK \$24C
TYPE OF WELLS/	MATERIALS TO BE USED	PROPOSED CONSTRUCTION
BORINGS TO BE		Estimated ground water depth _/2_ ft.
CONSTRUCTED	CASING SEAL	, , , , , , , , , , , , , , , , , , ,
#	Not Applicable	CONCRETE SURFACE
Groundwater	Not Applicable Neat Cement	1
Vadose	Gauge Cement & Bentonite	SEAL to to BENTONITE SEAL 0 to Botton
Boring3	Diameter Sand-Cement	FILTER PACK to
Other	Well Screen Size Bentonite Grout	PERFORATION to
	Filter Pack Other (Specify)	TERFORATION
NUMBER OF WELLS TO BE DESTROYED #		PROPOSED DRILLING DATE 6/3/03
DE DESTROTED #	Drilling Method	PROPOSED DRILLING DATE 4773
	Auger Air Rotor	6/5/03
· · · · · · · · · · · · · · · · · · ·	Mud Rotary	NOTE:
	Percussion Other	Attach a well construction diagram for wells with multiple completion
agree to comply with the require	ments of the current Site Assessment and Mitigation Manual,	
	rnia pertaining to well/boring construction and destruction.	
CONTRACTOR OF CONTRACTOR	She Fetern	DATE 5/21/03
DRILLER'S SIGNATURE	TRI-COUNTY DRILLING	DATE
		10 1 2 21 20 4
Within 60 days of completion. I w	vill furnish the Monitoring Well Permit Desk with a complete ction of the well/borings in accordance with the permit application.	
	Marine Mother Abelia	DATE 5/22/03

F. SITE INFORMATION	5/20/03
1. ASSESSOR'S PARCEL NUMBER 391 Site Name El Monte Colf Cow Site Address El Monte + Willow	-071-04 Se Rds City San Diego zip
PROPERTY OWNER Helix Water Mailing Address 7811 University AVCi	District Phone 619-667-6268 Try La Mesa State CA Zip 91941
NUMBER OF WELLS Not Applicable	TYPE OF WELLS Not Applicable
2. ASSESSOR'S PARCEL NUMBER Site Name	
	CityZip
•	Phone
	ty State Zip
NUMBER OF WELLS	TYPE OF WELLS
Site Name	CityZip
PROPERTY OWNER	PhonetyStateZip
	TYPE OF WELLS
4. ASSESSOR'S PARCEL NUMBER Site Name	
	CityZip
PROPERTY OWNER	Phone
Mailing Address Cir	ty State Zip
NUMBER OF WELLS	TYPE OF WELLS

G. FEES:

5/20/03

ACTIVITY	FEE SCHEDULE	AMOUNT
Permit for Well Installations Only		
(Groundwater Monitoring Wells	\$150.00 each	(x \$150.00) \$
Vadose, Vapor Extraction Wells)	\$130.00 for each additional well	(x \$130.00) \$
Permit for Borings Only	160.00	1/0 00
(CPT's, Hydropunch, Geoprobes, Temp.	\$ 150.00 for the first boring	s 160.00
Well Points, etc.)	\$40.00 for each additional boring	s 160.00 (2 x \$ 40.00) \$ 80.00
Permit for		
Well Destructions Only	\$150.00 for the first destruction	\$
	\$100.00 for each additional destruction	(x \$100.00) \$
Permit for any Combination of Well	The first activity (of any type) will be	
Installations, Borings & Destructions	\$150.00. Additional activities will be as	\$
	follows:	
	\$130.00 for each well	(x \$130.00) \$
	\$40.00 for each boring	(x \$ 40.00)
	\$100.00 for each well destruction	(x \$100.00) \$
	TOTAL COST OF PERMIT	\$ 240.00

H. APPLICATION SUBMITTAL, PLAN APPROVAL, PERMIT ISSUANCE, AND REQUIRED INSPECTIONS

Submit one (1) original and two (2) copies of this application package, including plan drawings with the required fee to the Monitoring Well Permit Clerk, Department of Environmental Health, Site Assessment and Mitigation Program (SAM). 1255 Imperial Avenue, San Diego, CA 92101. Or mail to P. O. Box 129261, San Diego, CA 92112-9261. Checks should be made payable to the County of San Diego.

A permit will be issued by SAM upon review and approval of the application and plans. The required fees must be submitted with the application package. Information in addition to that presented in the application package may be needed in order to obtain final approval. No work is to begin on the proposed project until a permit has been issued. The required inspections cannot be scheduled until a permit is issued.

Once the permit has been issued, it is the responsibility of the permittee to notify SAM at least two (2) working days in advance to schedule each required inspection.

USE ONE APPLICATION PACKAGE FOR A SINGLE SITE PROJECT. A SINGLE PERMIT WILL BE ISSUED FOR A SINGLE SITE PROJECT, EVEN IF WELLS/BORINGS ARE COMPLETED ON MORE THAN ONE PROPERTY. FOR MULTIPLE SITE PROJECT'S, USE SEPARATE APPLICATIONS.

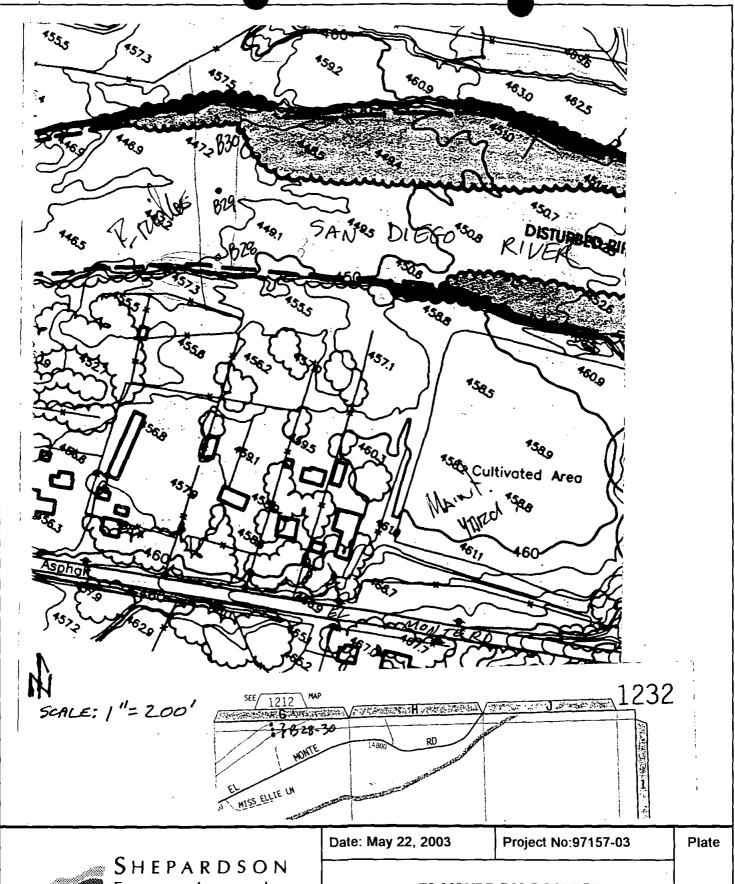
PERMIT APPLICATION FOR GROUND WATER AND VADOSE MONITORING WELLS EXPLORATORY OR TEST BORINGS

- For well destruction, complete only #1 below.
- Well design, logging and construction must be supervised by a Geologist, Engineering Geologist or Civil Engineer who is registered or certified by the State of California.
- Well driller must have an active C-57 License and current \$7,500 bond with the County.
- Provide a plot plan giving location of property lines, existing improvements such as structures, underground tanks, underground utilities, underground piping, and the proposed monitoring and/or observation wells.
- If applicable, provide a signed copy of the Property Owner Responsibility form for each property listed in Section "F".
- If applicable, provide a signed copy of the Property Owner Responsibility form for each property listed in Section "F". Provide encroachment/excavation permit and/or traffic control permit for work to be done in street or public right of way.

1.	If wells are to be destroyed, provide a description of method of destruction. Not Applicable
2.	What is the proposed purpose of the well/boring? To assess foundation conditions for bridge / Roadway across San Diego River; assess liquefaction potential of niver sediments
_	
3.	What procedures will be used to prevent the well/boring from providing an avenue to contamination during construction? Drilling equipment will be skam-cleaned prior to and
	Borings will be backfilled with bentonite grout.
4.	What field procedures will be utilized to determine if contamination exists?
	Visual, "smell" test and over screening
5.	What procedures will be used to determine whether samples will be sent for laboratory testing or archiving?
	- NOT Applicable

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6.	What constituents will be monitored and tested (Include EPA Laboratory Test Methods to be used)? Not applicable
7.	How will samples be transported and preserved? Not applicable
8.	What sampling methods will be used? Standard Penetration Test (SPT)
9.	Are you proposing a variation from the methods and/or procedures presented in the requirements for the construction of Vadose and Ground Water Monitoring Wells (Current SAM Manual Requirements). If yes, specify these variations.
10.	What procedures will be used to ensure no contamination will be introduced by the drilling equipment? See question 3
11.	What methods will be used to clean sampling equipment? Steam cleaning
12.	What cleaning method will be used to clean casing and screen prior to installation? Not applicable





ENGINEERING ASSOCIATES INC.

Geotechnical Consultants: **Engineers** -Geologist

EL MONTE GOLF COURSE BORING LOCATIONS BORING PERMIT APPLICATION APN 391-071-04

A1

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GARY W. FREECK

DIRECTOR

DEH-SAM-9503 (Rev. 7/00)



RECEIVED

2003 MAY 23 AM 11 22

PRETIDENT TO AND THE SERVEN

County of San Diego

DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION 1255 IMPERIAL AVE., SAN DIEGO, CA 92101-7493 P.O. BOX 129261, SAN DIEGO, CA 92112-9281 (619) 338-2222 FAX (619) 338-2377 1-800-253-9938

PROPERTY OWNER RESPONSIBILITY AGREEMENT

5/20/03

TROTERT I OWNER RESIGNS[DID]	III ACACEANENI
Proposed Location of Well(s): Property Address: 391-071-04	El Capitan (El Monte) Golf Course El Monfe + Willow Road Sun Diego County
Dear Property Owner:	
This letter is to inform you of the responsibilities for the proposed drilling act this letter will expire one year from the date you sign this form. Any proprequire a new Property Owner Responsibility Agreement.	
Please place a check mark next to the activity which applies to your property:	
Install one or more monitoring wells	
Destroy one or more monitoring wells	
Drill one or more soil borings	
The person who causes to have a monitoring well installed or an existir "Responsible Party." Section 67.424 of San Diego County Code states construction or destruction standards. It a monitoring well does not meet commust repair, reconstruct or destroy the monitoring well so it meets the standard Party, must take the necessary actions to repair, reconstruct or destroy the monitoring well so it meets the standard Party does not complete the necessary actions."	that: "Monitoring wells shall be magnated to meet intraction or destruction standards the Responsible Party is. The property owner, if different toan the Responsible
A soil boring is used specifically to sample soil and, because there are condefinition of a monitoring well even though no maintenance is required. The SAM Manual and the State of California Well Standards Bulletin 74-90.	
If you have any questions or would like additional information, please contact	the Monitoring Well Program at (619) 338-2339.
I understand the maintenance and construction/destruction responsibilities f	for monitoring wells and borings under the San Diego
	Date: 5/20/03
Print Name:	Company: HELIX WATER DISTRICT
Mailing 1811 UNIVERSITY AUE C LA MESA, CA 91941	Company HELIX WATER DISTRICT



MONITORING WELL COMPLIANCE INSPECTION REPORT

AFN: 390-040-51, 391-061-01, 391- 04-00	
PERMIT# LMON105330	
EST.# NONE	٦
INSPECTION DATE: 09/09/2008	٦

RES	PONSIBLE PARTY: BLACK & VEATCH	SITE NAME: EL MONTE GROUNDWATER BASIN		
ATTN: SHIRLEY STODDEN		SITE ADDRESS: EL MONTE RD. (E OF LAKE		
9820 WILLOW CREEK RD., STE 310		JENNINGS PARK RD.)		
SAN	DIEGO, CA 92131	LAKESIDE, CA 92040		
	CONSULTANT: NINYO & MOORE ATTN: FRANK MORELAND	DRILLER: TRI-COUNTY DRILLING, INC.		
NUM	MBER OF WELLS INSTALLED UNDER THIS PERMIT:	1		
NUM	IBER OF BORINGS DRILLED/PROPERLY DESTROYE	D UNDER THIS PERMIT: 6		
WEI	L IDENTIFICATION Place identification on the following monitoring well(s)	MW-1		
WEI	L COVER Replace one or more missing well cover bolt(s):			
	Replace one or more of the stripped or bent well cover bolts:			
	Repair, clean or replace the bolt receptor(s):			
	Replace the broken or substandard well cover:			
	Replace the deteriorated or missing well cover gasket:			
COI	NCRETE SURFACE SEAL Reconstruct the cracked and/or deteriorated concrete surface seal:			
	Reconstruct the concrete surface seal to the required minimum of 12 inches around the perimeter of the security vault (FLUSH STYLE)			
	Reconstruct the concrete surface seal to the required minimum of 24 inches around the perimeter of the security vault (MONUMENT STYLE)			
WE	Reconstruct the concrete surface seal to drain surface liquids away from the well. LL CASING Extend the well casing to the required 3" above the interior surface seal.			
CAS	SING VS. BOREHOLE SIZE Well does not meet the minimum standard for the ratio of borehole size to casing diameter.			

		Page 2
INN	IER VAULT CONCRETE SURFACE SEAL Reconstruct the failed interior concrete surface seal:	
	Install the missing interior concrete seal	
WE	LL VAULT Reinstall the damaged security vault/well box:	
	Remove the liquid in the well vault.	
	Remove excessive dirt/debris in well vault.	
WE	LL CASING CAP	
	Replace the missing lock for the well casing cap:	(MW-1)
	Replace loose or missing well casing:	
	Replace the slip cap with a locking well casing cap:	
		·
<u>co</u>	MMENTS:	
No	major deficiencles were observed at the time of this	inspection.

Ernie L. Profeta, Environmental Health Technician

Please fix minor deficiencies noted by the inspector

Phone: (619) 338-2492 Fax: (619) 338-2315

Email: ernie.profeta@sdcounty.ca.gov





MW-1



SITE NAME: EL MONTE GROUNDWATER BASIN EL MONTE RD. (EAST OF LAKE JENNINGS PARK RD.), LAKESIDE, CA 92040 PERMIT# LMON105330



PERMIT #LMON105330 A.P.N. #390-040-51, 391-061-01, 391-071-04-00 **EST # NONE**

COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION MONITORING WELL PROGRAM

MONITORING WELL AND BORING CONSTRUCTION AND DESTRUCTION PERMIT

SITE NAME: EL MONTE GROUNDWATER BASIN

SITE ADDRESS: EL MONTE RD. (EAST OF LAKE JENNINGS PARK RD.),

LAKESIDE, CA 92040

PERMIT FOR: ONE GROUNDWATER MONITORING WELL AND SIX BORINGS

PERMIT APPROVAL DATE: DECEMBER 11, 2007

PERMIT EXPIRES ON: APRIL 9, 2008

RESPONSIBLE PARTY: BLACK & VEATCH

PERMIT CONDITIONS:

- Wells must have a minimum 3-foot concrete surface seal. The surface seal shall consist of concrete able to withstand the maximum anticipated load without cracking or deteriorating. The concrete should meet Class A specifications of a minimum 4000-pound compressive strength.
- 2. All borings must be sealed from the bottom of the boring to the ground surface with an approved sealing material as specified in California Well Standards Bulletin 74-90, Part III, Section 19.D. Drill cuttings are not an acceptable fill material.
- 3. All water and soil resulting from the activities covered by this permit must be managed, stored and disposed of as specified in the SAM Manual in Section 5, II. E- 4. (http://www.sdcounty.ca.gov/deh/lwg/sam/manual_quidelines.html). In addition drill cuttings must be properly handled and disposed in compliance with the Stormwater Best Management Practices of the local jurisdiction.
- 4. Within 60 days of completing work, submit a well-construction report, including all well and/or boring logs and laboratory data to the Well Permit Desk. This report must include all items required by the SAM Manual. Section 5. Pages 6 & 7.
- 5. This office must be given 48-hour notice of any drilling activity on this site and advanced notification of drilling cancellation. Please contact the Well Permit Desk at 338-2339.

APPROVED:BYEL OFF CUSIO

while the Charmanato JAMES CL

SDATE::12/11/2007

* 1

NOTIFIED: emailed 12

H. E. A. (1927) 15

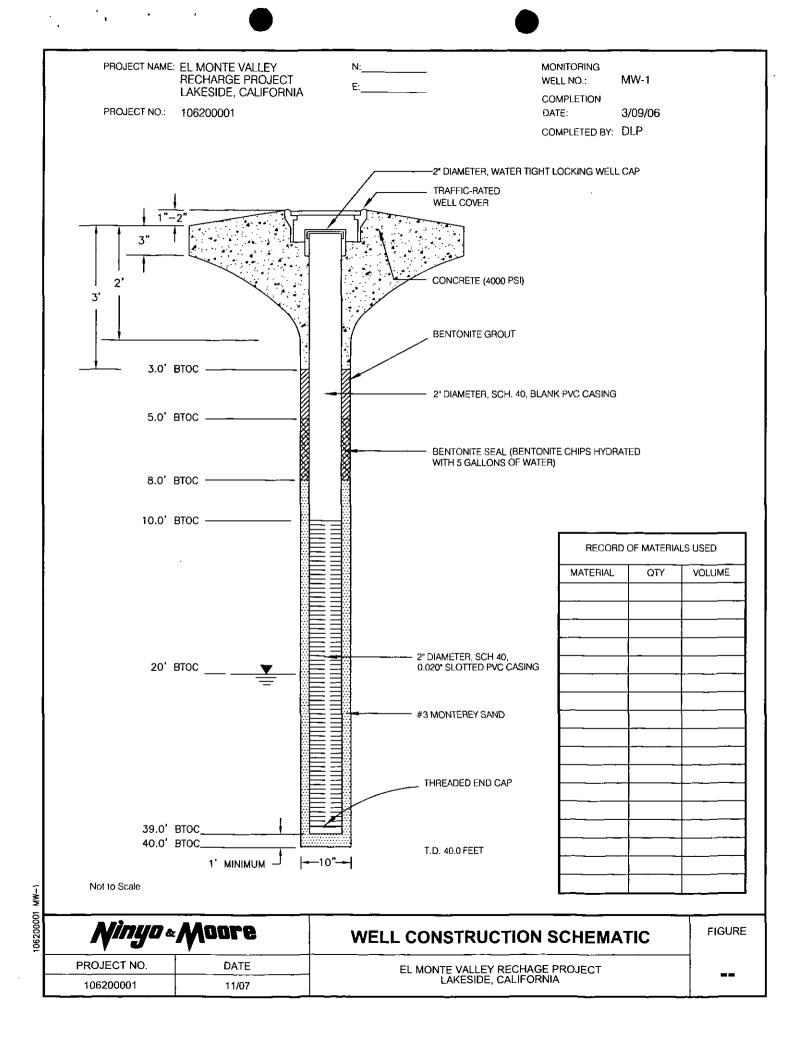
DEH:SAM-9075 (3/05)



PERMIT APPLICATION EC 0 6 2007 GROUNDWATER VIRONMENTAL HEA AND VADOSE MONITORING WELLS AND EXPLORATORY OR TEST BORINGS

	Add 1. info 3786 rock 12/6
	OFFICE USE ONLY PERMIT LMON # 105330
	SAM CASE YND# NONE
LTH	DATE RECEIVED: 12/4/07 FEE PAID: \$150.00
	CHECK # 108 605

A. RESPONSIBLE PARTY Black is VIATUM [The person, persons, or company responsible for the construction, maintenance, and destruction of the proposed borings and/or wells.)					
Mailing Address _00	20 Willow Crun Rd.	Stu310 City San Di.	60 State <u>C</u> A Zip <u>921</u> 31		
Contact Person 5h	icky Stodden	Phone 858 566 1936	Ext Fax		
	PROJECT NUMBER - IF	APPLICABLE # N/A			
C. CONSULTING FIRM		•	_		
Mailing Address <u>57</u> Registered Professio E-mail <u>∤mo</u> vu and Contact Person <u>fva</u>	onal <u>Fra</u> nk Mordan de ninyo and moore.	Corr	50 State <u>C</u> A Zip <u>92123</u> (<u>BG</u>) CB5 Ext. <u>1225</u> Fax <u>858 516 9600</u>		
D. DRILLING COMPAN	Y Tri-County Drilling	C57# 54	17737		
Contact Name Tim D		E-mail timd@tcd	rilling com		
		-			
Mailing Address 963 Phone 858-271-	1 Candida Street -009 _	City San Diego_ Fax 271-0233	State CA Zip 92126		
E. CONSTRUCTION INI	FORMATION				
TYPE OF WELLS/	MATERIAL S	S TO BE USED	PROPOSED CONSTRUCTION		
BORINGS TO BE			i .		
CONSTRUCTED	CASING	SEAL/BORING BACKFILL	Estimated groundwater depth: $\frac{\mathcal{L}}{4.0}$ ft.		
_ #			Estimated depth of boring40 ft.		
Groundwater 1	Not Applicable	☐ Neat Cement	Concrete 0 to 3		
<u></u>		Cement & Bentonito	surface seal		
☐ Vadose	Gauge Diameter2_"	Sand-Cement	· .		
☐ Boring		☐ Bentonite	Annular seal 3 to 5		
Other	Well Screen Size	Other	Bentonite _5_ to 8		
		21/1/	transition seal		
NUMBER OF WELLS	Filter Pack	Borehole diameter 81/4			
TO BE DESTROYED		78.44	Filter Pack 8 10 40		
	Drilling	g Method	Perforation 10 to 40		
□ N <u>A</u>	Auger	☐ Air Rotary	NOTE:		
	Mud Rotary	Other	Attach a well construction diagram		
	Percussion		for wells with multiple completions		
I agree to comply with the requirements of the current Site Assessment and Mitigation Manual, and with all ordinances and					
laws of the County of San Diego and the State of California pertaining to well/boring construction and destruction.					
DRILLER'S SIGNATURE DATE 10.03.07					
			complete and accurate well/boring log. I		
will certify the design and construction or destruction of the well/borings in accordance with the permit application.					
RG/RCE/CEG SIGNATURE Francis O Moreland DATE 11/30/07					





PERMIT APPLICATION NOV 2.0 200 AND VADOSE MONITORING WELLS

AND EXPLORATORY OR T

OFFICE USE ONLY
PERMIT LMON# 105330

SAM CASE YN NONE

DATE RECEIVED: 11/20/07

FEE PAID: #436.00

CHECK# 108389

A. RESPONSIBLE PAI	RTY BLACK & VEAT	CH truction maintenance and destruction	E-mail	
(The person, persons, or company responsible for the construction, maintenance, and destruction of the proposed borings and/or wells.) Mailing Address 9820 willow CREEK POAD City SAN DIEGO State CA Zip9213 Contact Person SHIRLEY STODEN Phone 858 566 1936 Ext. Fax				
B. SITE ASSESSMENT	F PROJECT NUMBER - IF	APPLICABLE #		
C. CONSULTING FIRM	MINYO & MOO	RE		
Registered Professi E-mail FMORELA	HO RUTTIN ROAD onal <u>Frank</u> Morelani ND @ Limyoandmod Luk Moreland	Registration # 2071	SD State <u>CA</u> Zip 9212 3 (RG) CE 6 Ext. 1225 Fax <u>858 576 9606</u>	
D. DRILLING COMPAN	Y Tri-County Drilling	C57# 54	7737	
Contact Name Tim I	Duddie	E-mail timd@tcd	rilling.com	
Mailing Address 963 Phone 858-271	31 Candida Street I-009	City San Diego_ Fax 271-0233	State CA Zip 92126	
E. CONSTRUCTION IN	IFORMATION			
TYPE OF WELLS/	MATERIAL	S TO BE USED	PROPOSED CONSTRUCTION	
BORINGS TO BE CONSTRUCTED	CASING	SEAL/BORING BACKFILL	Estimated groundwater depth: 20 ft. Estimated depth of boring 100 ft.	
# ☐ Groundwater	Gauge	☐ Neat Cement ☐ Cement & Bentonite ☐ Sand-Cement ☐ Bentonite ☐ Other	Concrete 0 to 3 surface seal Annular seal 3' to 7.0 Bentonite 3' to 7.0	
NUMBER OF WELLS TO BE DESTROYED		Borehole diameter 81/4	transition seal Filter Pack to	
		g Method	Perforationto	
		☐ Air Rotary ☐ Other	NOTE:	
	Percussion		Attach a well construction diagram for wells with multiple completions	
I agree to comply with the requirements of the current Site Assessment and Mitigation Manual, and with all ordinances and laws of the County of San Diego and the State of California pertaining to well/boring construction and destruction.				
DRILLER'S SIGNATURE DATE DATE				
Within 60 days of completion, I will furnish the Monitoring Well Permit Desk with a complete and accurate well/boring log. I will certify the design and construction or destruction of the well/borings in accordance with the permit application.				
RG/RCE/CEG SIGNATURE Francis/ March DATE 11-15-07				

F. SITE INFORMATION						
	1. ASSESSOR'S PARCEL NUMBER 3910610100, 3910710400, 3900403100 Site Name EL MONTE GROUNDWATER BASIN					
			92040			
	E POATS City LAN					
PROPERTY OWNER _ Ho	C Water District	(1.5.1/1/	187.5			
Phone <u>(619) 466 - 04</u>	85 Ext City La	Fax (619)936 -	1823			
Mailing Address // // // //	ersily rive. City La	State CA	Zip <u>7/ 7 7 1</u>			
NUMBER OF WELLS	TYPE OF WELLS SOIL B	ORINGS				
2. ASSESSOR'S PARCEL NUMB	ER					
Site Name	City					
Site Address	City	Zip				
PROPERTY OWNER						
Phone	Ext	Fax				
Mailing Address	City	State	Zip			
NUMBER OF WELLS	TYPE OF WELLS		<u>;</u>			
2 ACCESSORS DADOS AUGAD	fp.		;			
	ER		·			
	City					
	Ext					
	City					
	_ TYPE OF WELLS	,				
7. 7						
	ER					
	City					
			٠			
	Ext.					
Mailing Address	City	State				
NUMBER OF WELLS	_ TYPE OF WELLS					

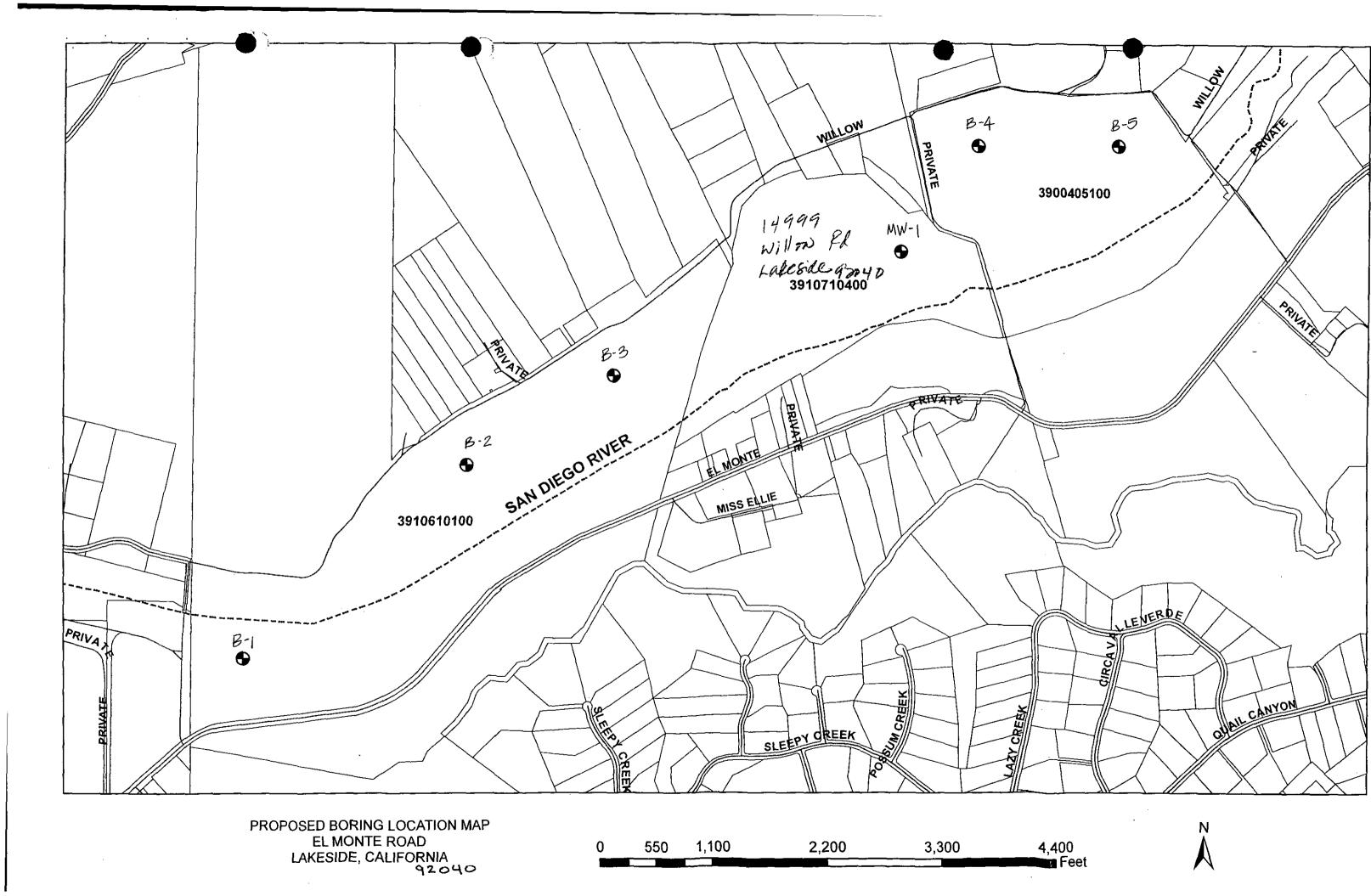
ACTIVITY	FEE SCHEDULE	AMOU	NT	
Permit for Well Installations Only (Groundwater Monitoring Wells, Vadose, Vapor Extraction Wells)	\$186.00 for the first monitoring well	/	\$186.00 \$100.00	
Permit for Well Maintenance Inspection (Valid for three years)	\$100.00 for first well maintenance inspection			
Each Additional New Well	\$160.00 for each additional well installation	x \$160.00		
	\$30.00 for each additional well maintenance inspection	x \$30.00		
Permit for Borings Only (CPT's, Hydropunch, Geoprobes, Temporary Well Points, etc.)	\$186.00 for the first boring \$50.00 for each additional boring	(<u>x</u> \$186.00 (B) x \$50.00	186,00 250,00 300.	
Permit for Well Destructions Only	\$186.00 for the first destruction	x \$186.00 x \$120.00		
Permit for any Combination of Well Installations, Borings, & Destructions (except UST backfill permit)	The first activity will be \$186.00 Additional activities will be as follows:	x \$186.00		
	\$160.00 for each additional well \$100.00 for first well maintenance inspection	x \$160.00 x \$100.00		
	\$ 30.00 for each additional well maintenance inspection	x \$ 30.00		
	\$120.00 for each well destruction \$ 50.00 for each additional boring	x \$120.00 x \$ 50.00		
Permit for Underground Storage Tank Monitoring System in Backfill (i.e. Enhanced Leak Detection)	\$320.00 (Flat Fee)		\$	
	TOTAL COST OF PERMIT		\$ 436	

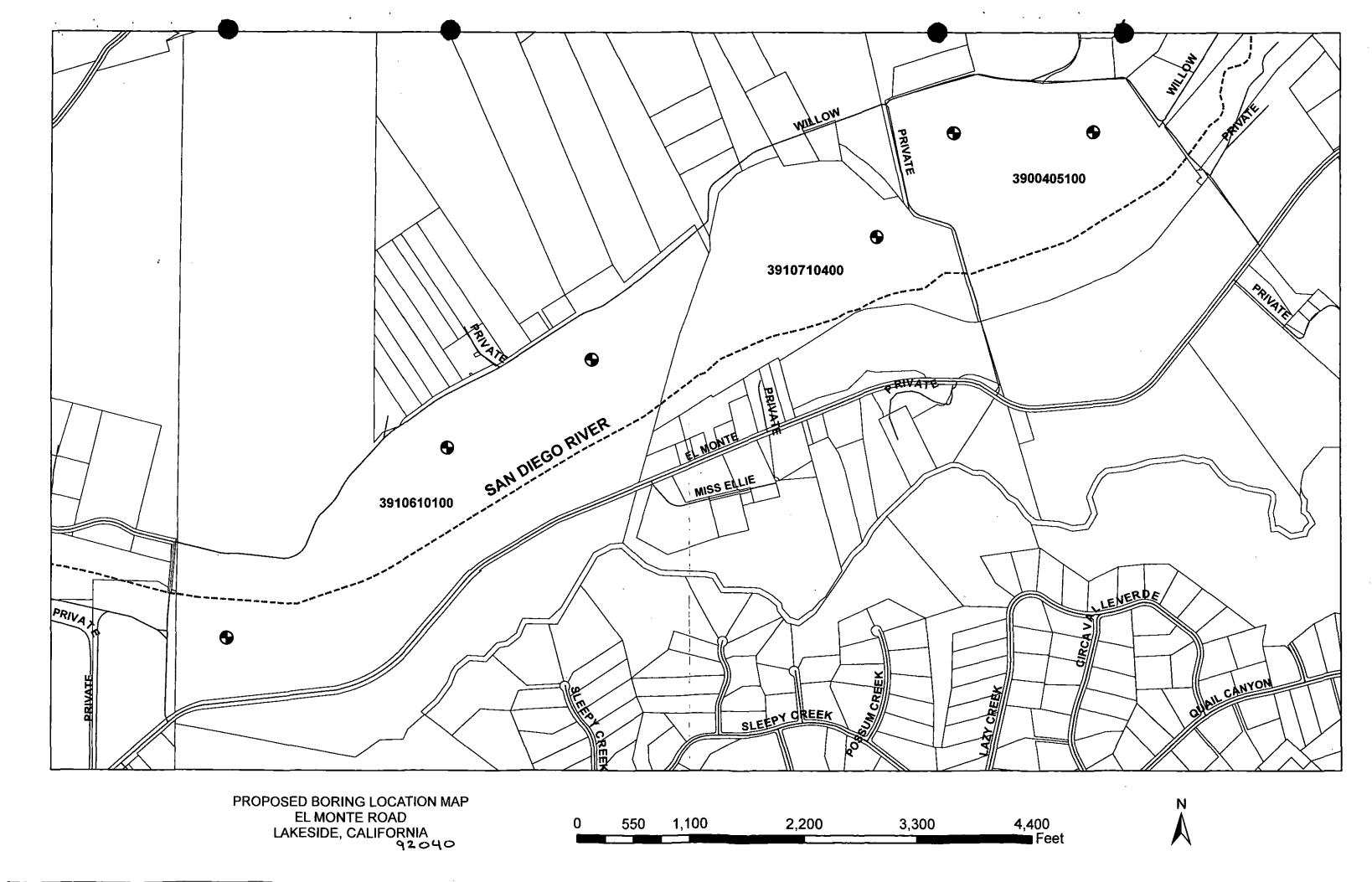
Н.	QU	ESTIONNAIRE: Please answer all applicable questions completely. For well destructions, complete only #1 below and submit any required supportive documentation.
	1.	If wells are to be destroyed, provide a description of method of destruction N/A
	2.	What is the purpose of the well/boring investigation?
		a. Part of an ongoing site assessment case in which DEH or another government regulator is the lead agency.
		b. Part of a Phase I investigation for property ownership transfer or:
	/	c. Geotechnical investigation for proposed construction, land stabilization or:
	•	d. Other:
	3.	What procedures will be used to prevent the well/boring from providing an avenue to contamination during construction? <u>Drilling equipment will be cleaned prior to advancing auger. The borings will be abandoned in accordance with SAM guidelines.</u>
	4.	What field procedures will be utilized to determine if contamination exists? Soil will be visually observed for contamination.
	5.	What procedures will be used to determine whether samples will be sent for laboratory testing or archiving? <u>Visual observations</u>
	6.	What constituents will be monitored and tested (Include EPA Laboratory Test Methods to be used)? N/A An environmental evaluation is not a part of this study.
	7.	How will samples be transported and preserved? N/A See above.
	8.	What sampling methods will be used? California modified and standard penetration test split spoon samplers.
	9.	Are you proposing a variation from the methods and/or procedures presented in the requirements for the construction or destruction of Vadose and Groundwater Monitoring Wells (Current SAM Manual Requirements)? If yes, specify these variations and include a well construction diagram and all required supporting documentation. Refer to the SAM Manual Appendix B for monitoring well guidelines (http://www/sdcounty.ca.gov/deh/lwq/sam/monitoring well.html). : No wells are to be installed in this study.
	10.	Are you proposing a variation in drilling and destruction of soil borings from the methods and/or procedures specified in the current SAM manual? If yes, specify these variations and include a destruction diagram. N/A
	11.	What procedures will be used to ensure that the drilling equipment will introduce no contamination? <u>Drilling equipment will be cleaned prior to drilling</u>

13. What cleaning method will be used to clean casing and screen prior to installation? N/A

12. What methods will be used to clean sampling equipment? N/A

14. A property owner consent agreement is required for all applications, except for onsite, open LOP/SAM site assessment cases, Caltrans properties and military properties. If a consent agreement is required, how has the property owner been notified of the proposed work?
A. The attached Property Owner Consent letter.
B. The attached consent agreement between the responsible party and the property owner with a cover letter signed by the registered professional who signed the permit application.







Transmittal

 5710 Ruffin i	Road, San Diego	o, CA 92123	◆ Phone 858/576-1000	◆ Fax 858/576-9600	+ w	ww.ninyoandmoore.com
To:	Monitoring V	Vell Permit Desk	1 3 - 2	度[[V]] C 0 6 2007	Date:	November 30, 2007
Firm:	County of Sa	ın Diego Depratment of E	nvironmentस सहस्रि	MENTAL HEALTH F	x No:	619 338 2315
Address:	1255 Imperi	al Avenue, San Diego, CA	92101	Telep	hone No:	619 388 2339
From:	Christina Tre	tinjak for Frank Moreland	I	Total I Incl Transn	uding	
Subject:	Request for	modiication to permit		Proje	ct No:	106200001
Urgent	<u></u>	☐ For Approval	☐ For Your Use	☐ Please Repl	<u> </u>	
Original Do	cument:	☐ Will Not Follow	☐ Will Follow	🗌 By U.S. Mail		By Other
	n it may conc	ern:			Geotec	chnical Engineering

We are submitting this request for modification to an already submitted permit. We are changing the scope of work by the addition of one monitoring well. Please find attached a revised permit page 1, a new map showing the location of the proposed well, a new property owner consent form, a proposed well construction diagram, and a check for \$150 for additional permit fees.

We hope this is sufficient information to process this permit application, please call us with any questions.

Thank you.

Christina Tretinjak

- **Engineering Geology**
- Materials Testing and Inspection
- Construction Management
- Engineering Design
- Environmental Engineering
- Environmental Site Assessments
- Regulatory Compliance and Permitting
- Water Quality and Resource Evaluations
- **■** Hazardous Waste Management
- Soil and Groundwater Remediation
- Asbestos and Lead-Based Paint Surveys
- Geophysical Studies
- Mineral Resource Evaluations
- Value Engineering
- **■** Forensic Studies
- Expert Witness Testimony



County of San Diego

GARY W. ERBECK DIRECTOR DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION P.O. 80X 129287, SAN DIEGO, CA 92112-9261 819-338-2222/FAX 818-328-2318/1-800-263-9933

www.sdcounty.ca.gov/deh/lwq

JACK MILLER ASSISTANT DIRECTOR

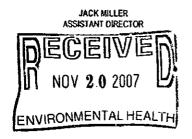
PROPERTY OWNER CONSENT

Propess locations for supstitute work:	Assessor's Parcel Numb	er (APN):
El Monto Rd (E of lake Jennings Puru	rd) 391-071-0400	
laluside, CA 92040		
. Helix Water District	owner of the property/properties listed a	above, give my permission to
Ninyp * Mooro (consu	iting company, contractor) to conduct ti	ne following work at the locations
stated above,		
Install monitoring wells	Destroy monitoring wells	Drillsoll borings
understand that <u>Frank Move and</u> (registered pauthorized signer for <u>Tvi - County</u> of Environmental Health in which they have agree current SAM Manual, all ordinances and laws of the construction and destruction. I have arranged with the construction in the construction and destruction wells destroyed or existing wells destroyed or existing wells destroyed or existing wells destroyed or existing wells destroyed or existing wells destroyed or existing wells destroyed or existing wells destroyed or existing wells.	(drilling company) have submitted a sign of to complete the above-stated work a county of San Diego and the State of Cith the Responsible Party, the person	med application to the Department coording the requirements of the California pertaining to well/boring who causes to have monitoring
Property Owner Signature:	-/	Date: <u>/2/3/07</u>
Print Name: CARLOS LUGO	<i>O</i> Title;	Date: <u> 2/3/07</u> Director of engineering/ Chief en binder
Company: HELIX WATER D	DISTRICT	
Mailing Address: 78 II UNIVERST	TY AVE., LA MESA, CA	1 91941



County of San Diego

GARY W. ERBECK DIRECTOR DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION P.O. BOX 129261, SAN DIEGO, CA 92112-9261 819-338-2222/FAX 619-338-2315/1-889-253-8933 www.sdcounty.ca.gov/deh/lwq



PROPERTY OWNER CONSENT

Proposed locations for subsurface work:				
Property Address:	Asses	sor's Parcel Numb	oer (APN):	
EL MONTE ROAD (SE	HUMBS PACK PO 39	10610100	, 39107	10400
LAKESIDE, CA 920	40 39	0040510	0	
I. HELX WATER DISTRICT	, owner of the proper	rty/properties listed	above, give my	permission to
NINYO & MOORE stated above.				
Install monitoring wells	Destroy mo	onitoring wells	Drill	6 soil borings
I understand that FRANK MORELAND (regauthorized signer for TRI-COUNTY of Environmental Health in which they have current SAM Manual, all ordinances and laconstruction and destruction. I have area wells/borings installed or existing wells designed.	(drilling company) ye agreed to complete the a ws of the County of San Dieg anged with the Responsible stroyed on this property, to e	have submilted a sign above-stated work a go and the State of 0 e Parly, the person ensure proper closur	gned application according the re California pertai who causes to re of the monito	n to the Department equirements of the ining to well/boring o have monitoring wing wells/borings.
Property Owner Signature:	Y./4		_ Date: _///	9/07
Print Name: CARLOS LUG	0	Title:	CHIEF EN	engineekang/
Company: HELIX WATER D				
Mailing Address: 78 11 UNIVER	ISITY AVE. LA M	MESA, CA	91941	

MS.

May 24, 2011 Project No. 106200005

Permit Clerk Site Assessment and Mitigation Division, Environmental Health Services P.O. Box 129261 San Diego, California 92112-9261

Subject:

Boring Construction Report

El Monte Valley Recharge Project

Lakeside, California

Permit No. LMON107648

Dear Sir or Madam:

Ninyo & Moore is submitting the attached documents in fulfillment of the conditions of the referenced boring permit. Ninyo & Moore observed Tri-County Drilling drill 30 borings for this geotechnical evaluation. The borings were backfilled in accordance with state and local guidelines.

The attached documents include copies of the approved boring permit, site location and boring location maps, and boring logs. Please contact the undersigned with any questions regarding this permit.

Respectfully submitted,

NINYO & MOORE

Francis O. Moreland, C.E.G.

Senior Geologist

FOM/

Attachments: Approved Boring Permit

Site Location and Boring Location Maps

Boring Logs

Distribution:

(1) Addressee



PERMIT #LMON107648

A.P.N. #392-050-43; 392-060-29; 392-150-17; 391-061-01; 391-071-04; 393-011-01; 390-040-51

EST #NONE

COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH LAND AND WATER QUALITY DIVISION MONITORING WELL PROGRAM GEOTECHNICAL BORING CONSTRUCTION PERMIT

SITE NAME: EL MONTE VALLEY

SITE ADDRESS: 13950, 14403, 15480 EL MONTE RD., 10815 ASHWOOD ST., 13315,

14999 WILLOW RD., LAKESIDE CA 92040

PERMIT FOR: 30 GEOTECHNICAL BORINGS

PERMIT APPROVAL DATE: FEBRUARY 17, 2011

PERMIT EXPIRES ON: JUNE 17, 2011

RESPONSIBLE PARTY: HELIX WATER DISTRICT

PERMIT CONDITIONS:

- 1. All borings must be sealed from the bottom of the boring to the ground surface with an approved sealing material as specified in California Well Standards Bulletin 74-90. Part III, Section 19.D. Drill cuttings are not an acceptable fill material.
- 2. All borings must be properly destroyed within 24 hours of drilling.
- 3. Placement of any sealing material at a depth greater than 30 feet must be done using the tremie method.
- 4. This work is not connected to any known unauthorized release of hazardous substances. Any contamination found in the course of drilling and sampling must be reported to DEH. All water and soil resulting from the activities covered by this permit must be managed, stored and disposed of as specified in the SAM Manual in Section 5, II, E- 4. (http://www.sdcounty.ca.gov/deh/lwq/sam/manual_guidelines.html). In addition, drill cuttings must be properly handled and disposed in compliance with the Stormwater Best Management Practices of the local jurisdiction.
- 5. Within 60 days of completing work, submit a well/boring construction report, including all well and/or boring logs and laboratory data to the Well Permit Desk. This report must include all items required by the SAM Manual, Section 5. Pages 6 & 7.
- This office must be given 48-hour notice of any drilling activity on this site and 6. advanced notification of drilling cancellation. Please contact the Well Permit Desk at 858) 505-6688.

APPROVED BY: _	Amelia Frena	DATE: 2.17.2011
NOTIFIED:	•	
DEH:SAM-9075 (4/03)		

	·				, ,		T				
	SAMPLES			F)			DATE DRILLED	2/22/11	BORIN	G NO	B-1
eet)	SAM	, TO	(%) =	DRY DENSITY (PCF)	ر ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 423' ± (MSL)		SHEET 1	OF <u>2</u>
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC/ .S.C.§	METHOD OF DRILL	ING 8" Hollow-Stem At	uger (Diedrich	n D-120) (Tri-County	Drilling)
DEF	Bulk	BLO	MOIS	S≺ DE	S	ZLASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip H	(ammer)	DROP	30"
				, g		J	SAMPLED BY N	LOGGED BY DESCRIPTION		REVIEWED BY	GTF
0						sw	ALLUVIUM: Yellowish brown, dr	y to damp, loose, well			D; micaceous.
		-			3 3 3 4 4 4 5						
		-									
		-									
5 -											
		10	3.2	98.4					•		
											,
,											
	\vdash										
											.± .
10 -											
		9					Medium dense; few	silt; scattered fine to c	coarse grave	el.	
		1									
	-										
15 -											
		22					Gray to grayish brow	vn; fewer gravel.			
						•					
		1									
	-	-									
20_	<u></u>	<u> </u>			J					NG LOG	
		M/L	74	<i>10 •</i>	St 📗	DM	ore	EL MONTE VALLI RECHA	EY MINING, R	ECLAMATION, AND C	ROUNDWATER RNIA

PROJECT NO. 106200005

DATE

5/11

FIGURE

-													
•							FR. GEOLOGIST						
35 -							CERTIFIED ENGINEERING GEOLOGIST						
		-					FRANCIS O. MORELAND OF No 2071						
							STERED GEOLO						
-	\prod												
30 -													
,							Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.						
	\prod						2/22/11. Note:						
							Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling on						
		15	7.5	101.7			Total Depth = 26.5 feet.						
25 -													
						-							
						SP	Gray to grayish brown, damp, medium dense, poorly-graded, fine SAND; micaceous.						
	-												
20		12			411111111111111111111111111111111111111	SW	ALLUVIUM: (Continued) Gray to grayish brown, damp, medium dense, well-graded, fine to medium SAND with silt.						
		ł		Ď			SAMPLED BY MJB LOGGED BY MJB REVIEWED BY GTF DESCRIPTION/INTERPRETATION						
DEPT	Bulk	BLOW	MOIST	DRY DENSITY (PCF)	SYA	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"						
DEPTH (feet)	\ds	BLOWS/FOOT	MOISTURE (%)	SITY (P	SYMBOL	FICATIO .C.S.	GROUND ELEVATION 423' ± (MSL) SHEET 2 OF 2 METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)						
	SAMPLES			CF.)		Z	DATE DRILLED BORING NOB-1						

PROJECT NO.

106200005

DATE

5/11

FIGURE

	,				Ţ						
	SAMPLES			Œ			DATE DRILLED	2/24/11	_ BORING	NO	B-2
eet)	SAM	00T	(%) =	DRY DENSITY (PCF)	7	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 438' ± (MSL)		SHEET 1	OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC,	METHOD OF DRILL	ING 8" Hollow-Stem A	uger (Diedrich	D-120) (Tri-County	Drilling)
DEF	Bulk	BLO	MOIS	₹Y DE	S	CLAS! U	DRIVE WEIGHT	140 lbs. (Auto. Trip F	lammer)	DROP	30"
				۵			SAMPLED BY M	BG LOGGED BY DESCRIPTION		REVIEWED BY	
0						SM	ALLUVIUM: Light brown, damp, le	oose, silty fine SANI),		
-							•	·			
							,				
5 -						SP-SM	Grayish brown, damp	, medium dense, poo	rly-graded, n	nedium SAND v	vith silt.
-		15									
-											
10 -							Denous int I		. 1		
		2					Brown, moist, very lo	oose; trace coarse san	ıa.		
-											
-											
15 -		0				SW-SM	Gray, moist, medium	dense, well-graded,	fine to coarse	SAND with sili	
		8									;
-											
		:									
-											
20_							1				
	1				0	AAn	ara .	EL MONTE VALL		IG LOG CLAMATION, AND G	ROINDWATER
		Y //	14		Ý.	M_{II}	ore ·	RECHA	ARGE PROJECT,	LAKESIDE, CALIFO	RNIA
1		▼				▼		PROJECT NO.	DATE	=	FIGURE

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ſ	(0)				T							
	SAMPLES			9			DATE DRILLED	2/24/11	BORING NO	B-2		
et)	SAN	700	(%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 438' ± (MSL)	SHEET	7 <u>2</u> OF <u>5</u>		
DEPTH (feet)		VS/FC	TURE	TISN	SYMBOL	IFICA S.C.S	METHOD OF DRILLI	NG 8" Hollow-Stem Au	ger (Diedrich D-120) (Fri-County Drilling)		
DEP	Bulk	BLOWS/FOOT	MOISTURE (%)	Y DE!	λs	LASS	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	ammer) DRO	P		
	مَ الْكَ	_		DR		O	SAMPLED BY M	BG LOGGED BY		VED BY		
20						SP	ALLUVIUM: (Contin		INTERPRETATION			
		17				JP.	Grayish brown, moist	, medium dense, poor	ly-graded, fine to co	oarse SAND; few gravel.		
-												
-	H											
	H					SP-SM	Grayish brown, moist	, medium dense, poor	ly-graded, fine to m	nedium SAND with silt.		
25 -												
		12										
		12										
	Ш											
	H											
						SM	Light brown, moist, n	nedium dense silty fü	ne to medium SANI			
						SIVI	Light orom, moist, in	ioaiani aonoo, siicy iii	io to modium 52111;	.		
30 -												
		18										
	H											
35 -												
-		25					Fine to coarse, silty s	and.				
	H											
40_							<u> </u>		ROPING I)G		
		Vi	nL	m	&	Μ	ore	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA				
<i>Ninyo & M</i> oore								PROJECT NO.	DATE DATE	FIGURE		

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<u></u>							THE TAXABLE PROPERTY OF THE PR				
	SAMPLES			Œ.			DATE DRILLED	2/24/11	BORING NO.	B-2	
eet)	SAM	WS/FO	(%) =	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 438' ± (MSL)	SHEET	3 OF5	
DEPTH (feet)			MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)				
PEP	Bulk Driven		MOIS	Y DE	S	SLASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) DROP	30"	
				P.		0	SAMPLED BYM	BG LOGGED BY DESCRIPTION	MBG REVIEW	ED BY	
40		8	<u> </u>			SM	ALLUVIUM: (Continuing Light brown, saturate	nued) d, medium dense, silt	y fine to coarse SAN	D.	
45 -		67/10"				SP	Light brown, saturate		·	`	
50 -		18				SW-SM	Light brown, saturate fine gravel.	d, medium dense, we	Il-graded, fine to coar	se SAND with silt; trace	
55 -		25					Dense with fine grave	el.			
					· · · · · · · · ·	A A —		PL MONTH AND THE	BORING LO		
		VII	14	U	St.	\mathbf{M}_{I}	ore	RECHA	EY MINING, RECLAMATIO ARGE PROJECT, LAKESIDE	, CALIFORNIA	
11		▼				V		PROJECT NO.	DATE	FIGURE	

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ſ 	TT		r		Υ								
	SAMPLES			Œ			DATE DRILLED	2/24/11	BORING N	NO	B-2		
et)	SAM	700	(%)	(PCI		NOIL .	GROUND ELEVATION	ON 438' ± (MSL)		SHEET 4	OF <u>5</u>		
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISN	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)						
	Bulk	BLOV	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip F	łammer)	DROP	30"		
				E E		0	SAMPLED BY M	BG LOGGED BY	MBG RE	EVIEWED BY			
60						SW-SM	ALLUVIUM: (Conti	nued)					
		15					Light brown, saturate	d, medium dense, we	ell-graded, fine	to medium SA	ND with silt.		
						SP-SM	Light brown, saturate	Light brown, saturated, dense, poorly-graded, fine SAND with silt.					
65 -							*						
		49 '											
						SW-SM	Gray, saturated, dense, well-graded, fine to medium SAND with silt.						
70 -													
		21											
	H												
							·						
75 -		•											
		23					Dark gray; fine to co	arse sand; trace fine	gravel.				
	II												
	$\left \cdot \right $												
80													
80_	<u>! !</u>				<u> Tritifi</u>				BORING				
		VII.	74	10	Sz /	N_{0}	ore	RECH	ARGE PROJECT, L	AMATION, AND G AKESIDE, CALIFOI	RNIA		
		▼	u	•	-	y -		PROJECT NO.	DATE		FIGURE		

5/11

	1	1	<u> </u>		T 7						
	SAMPLES			Œ		_	DATE DRILLED 2/24/11 BORING NO. B-2				
eet)	SAM	700	(%) =	Y (PC	١	ATION S.	GROUND ELEVATION 438' ± (MSL) SHEET 5 OF 5				
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC/	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)				
DEP	Bulk	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"				
				۵		Ü	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION				
80						SM	ALLUVIUM: (Continued) Brownish black, saturated, medium dense, silty fine SAND.				
		25					browinsh black, saturated, medium dense, sity fine SAND.				
							Gray; very dense; fine to medium sand.				
	+						Gray, very delise, file to medium sand.				
85 -		50/1"					Refusal to further drilling.				
		36/1					Total Depth = 85.5 feet.				
							Groundwater encountered at approximately 41 feet during drilling. Backfilled with approximately 30 cubic feet of bentonite grout shortly after drilling on				
	$\dag \dag$						2/24/11.				
	\vdash						Note: Groundwater, though not encountered at the time of drilling, may rise to a higher level de				
							to seasonal variations in precipitation and several other factors as discussed in the report.				
90 -											
							TERED GEO				
	-	_					FRANCIS O. MORELAND				
							No 2071 CERTIFIED				
							ENGINEERING GEOLOGIST				
		1					FOF CALIFORN				
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	4	AJ	n	ın.	હ	AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER REC'HARGE PROJECT LAKESIDE, CALISORNIA				

PROJECT NO.

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FIGURE

	ol ES			<u></u>			DATE DRILLED	3/11/11	BORING NO.	B-3
et)	SAMPLES	TO	(%)	DRY DENSITY (PCF)		NOIT .	GROUND ELEVATION	ON 440' ± (MSL)	SHEET	1 OF 4
DEPTH (feet)		BLOWS/FOOT	TURE	YEITY	SYMBOL	IFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	nger (Diedrich D-120) (1	ri-County Drilling)
DEP.	Bulk	BLOV	MOISTURE (%)	Y DEI	SY	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) DRO	30"
	مَا		_	DR		ပ	SAMPLED BYM			/ED BY
0	=+-				1	SP	ALLUVIUM:	DESCRIPTION	INTERPRETATION	
_						O.	Gray, moist, loose, po	oorly-graded, fine to r	nedium SAND; trac	e subangular gravel (up to
-										
5										
		6								
-										
-						SM	Brown, moist, mediu	m dense, silty fine SA	ND	
-										
10 -										
		18								
_										
_										
_										
-										
						SW	Oray, moist, toose, w	ell-graded, fine to co	aise Sand.	
15 -		12								
_		14								
-										
-										
20			1		<u> </u>		1		DOBING!	
				m	e. I	AAn	nro			ON, AND GROUNDWATER
<i>Minyo & M</i> oore						AIn	MI E	PROJECT NO.	ARGE PROJECT, LAKESID	E, CALIFORNIA FIGURE

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Ir	T 1		I		T		, , , , , , , , , , , , , , , , , , , ,				
	SAMPLES			F)		_	DATE DRILLED	3/11/11	BORING N	O	B-3
eet)	SAN	700	(%) =	Y (PC	7	ATION S.	GROUND ELEVATION	ON 440' ± (MSL)	SI	HEET2	OF4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC/	METHOD OF DRILL	NG 8" Hollow-Stem A	uger (Diedrich D-1	20) (Tri-County	Drilling)
DEF	Bulk	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip F	Hammer) [DROP	30"
				ō			SAMPLED BYM	BG LOGGED BY	MBG RE	VIEWED BY	
20						SW-SM	ALLUVIUM: (Continuing Light brown, moist, n	nued)) with silt.
		14					2-8		,		
25 -			<u> </u>			ML -	Dark brown, moist, m	nedium dense, fine sa	indy SILT.		
		9									
						Į Į					
						SM	Light brown, moist, r	nedium dense, silty f	ine SAND.		
30 -											
		28									
			-								

						ML	Dark brown, wet, loose, fine sandy SILT.				
35 -		_									
		5									
						}					
			春				Saturated.				
40_									ROPING	106	
		Mi	NL	10	&	M	ore	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA			
		V	J	_	A	A #_		PROJECT NO.	DATE		FIGURE

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gravel. SM Dark brown, saturated, dense, silty fine to medium SAND. Becomes finer. BORING LOG								
Description of the composition o		STIC			(DATE DRILLED 3/11/11 BORING NO. B-3
SAMPLEDRY MISS DESCRIPTIONITER PRETATION 40 SM ALLUVIUM: (Continued) Dark brown, saturated, medium dense, silty fine SAND; trace fine gravel. SP-SM Gray, saturated, medium dense, poorly-graded, fine to medium SAND with silt; few gravel. SP-SM Dark brown, saturated, dense, silty fine to medium SAND. SM Dark brown, saturated, dense, silty fine to medium SAND. SM Dark brown, saturated, dense, silty fine to medium SAND.	eet)	SAM	TOC	(%) :	(PCF	ر	TION.	GROUND ELEVATION 440' ± (MSL) SHEET 3 OF 4
SAMPLEDRY MISS DESCRIPTIONITER PRETATION 40 SM ALLUVIUM: (Continued) Dark brown, saturated, medium dense, silty fine SAND; trace fine gravel. SP-SM Gray, saturated, medium dense, poorly-graded, fine to medium SAND with silt; few gravel. SP-SM Dark brown, saturated, dense, silty fine to medium SAND. SM Dark brown, saturated, dense, silty fine to medium SAND. SM Dark brown, saturated, dense, silty fine to medium SAND.	TH (fe	П	NS/FC	TURE	TISN	MBO	SIFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
SAMPLEDRY MISS DESCRIPTIONITER PRETATION 40 SM ALLUVIUM: (Continued) Dark brown, saturated, medium dense, silty fine SAND; trace fine gravel. SP-SM Gray, saturated, medium dense, poorly-graded, fine to medium SAND with silt; few gravel. SP-SM Dark brown, saturated, dense, silty fine to medium SAND. SM Dark brown, saturated, dense, silty fine to medium SAND. SM Dark brown, saturated, dense, silty fine to medium SAND.	PEP	Bak	BLO	MOIS	Y DE	S). U	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
SM ALLUVIUM (Continued) Dark brown, saturated, medium dense, silty fine SAND; trace fine gravel. SP-SM Gray, saturated, medium dense, poorly-graded, fine to medium SAND with silt; few gravel. SM Dark brown, saturated, dense, silty fine to medium SAND. SM Dark brown, saturated, dense, silty fine to medium SAND. Becomes finer.					ă			
SP-SM Gray, saturated, medium dense, poorly-graded, fine to medium SAND with slit; few gravel. SM Dark brown, saturated, dense, silly fine to medium SAND. Becomes finer.	40						SM	ALLUVIUM: (Continued)
gravel. SM Dark brown, saturated, dense, silty fine to medium SAND. SM Becomes finer.	,	$\ \cdot\ $	9					Jan of the grant and a state of the grant and
gravel. SM Dark brown, saturated, dense, silty fine to medium SAND. SSM Becomes finer.			1					
gravel. SM Dark brown, saturated, dense, silty fine to medium SAND. SSM Becomes finer.								
gravel. SM Dark brown, saturated, dense, silty fine to medium SAND. SSM Becomes finer.								
SM Dark brown, saturated, dense, silty fine to medium SAND. 50 26 Becomes finer.		H	 				SP-SM	Gray, saturated, medium dense, poorly-graded, fine to medium SAND with silt; few fine
Dark brown, saturated, dense, silty fine to medium SAND. Becomes finer.	45 -							gravei.
30 Becomes finer.			26					
30 Becomes finer.								
30 Becomes finer.		$\dagger \dagger$	1					
30 Becomes finer.		\dashv						
30 Becomes finer.		$\downarrow \downarrow$						
55 26 Becomes finer.	£0			 -			SM	Dark brown, saturated, dense, silty fine to medium SAND.
Becomes finer.	30 -		30					
Becomes finer.								
Becomes finer.		H	-					
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Becomes finer.								
Becomes finer.		П						
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DODING LOG		\perp	26					Becomes finer.
DODING LOG								
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DODING LOG		$\ \cdot\ $	-					
BORING LOG	_60_							
EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER PECHAPGE PROJECT LANGSIDE CALIFORNIA			AI		ın.	e. I	AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER

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FIGURE

							
	SAMPLES			F)		-	DATE DRILLED 3/11/11 BORING NO. B-3
eet)	SAM	00T	E (%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION 440' ± (MSL) SHEET 4 OF 4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC, I.S.C.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEF	Bulk	BLO	MOIS	RY DE	S	CLAS	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				۵			SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
60		46				SP	ALLUVIUM: (Continued) Brown, saturated, dense, poorly-graded, fine to medium SAND.
							Total Depth = 61.5 feet.
							Groundwater encountered at approximately 39 feet during drilling. Backfilled with approximately 21 cubic feet of bentonite grout on shortly after drilling on 3/11/11.
							Note:
							Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
65 -							
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							G STANGER
							FRANCIS O. MORELAND No 2071 CERTIFIED
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80	<u></u>				1		BORING LOG
		N/l	M	<i>10 •</i>	Sz 📗	DN	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

106200005

DATE

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FIGURE

	SAMPLES			·			DATE DRILLED	3/11/11 and 3/14/11	BORIN	G NO	B-4
eet)	SAM	701	(%) :	Y (PCF	_	ATION S.	GROUND ELEVATION	ON 442' ± (MSL)		SHEET	1 OF <u>4</u>
E E		IS/F(J.	TIST	SYMBOL	FIC. 3.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	ger (Diedricl	n D-120) (Tri-	-County Drilling)
DEPTH (feet)	Bulk	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	λS	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	ımmer)	DROP	30"
	آمًا			R		O	SAMPLED BYM	BG LOGGED BY	MBG	REVIEWE	D BY
0	+++				113	SP	ALLUVIUM:	DESCRIPTION/	INTERPRE	TATION	
						O,	Light brown, moist, 1	oose, poorly-graded, f	ine to med	ium SAND	,
	H										
	H										
			ļ ·								
5 -											
		7					I agas to madisum day				
	-	,					Loose to medium der	ise.			
	\mathbb{H}										
	H										
10-							,				
'											
		18					Gray; medium dense	; fine to coarse sand.			
	III										
	Ш										
	+H										
,,						SW-SM		t, dense, well graded,	fine to med	dium SANI	with silt; few coarse
15 -							sand.				
	-	25									
	H										
	\Box										
	H										
20											
)	4	artri til				BOR	NG LOC	3
		M		10	&	MO	ore	EL MONTE VALLE RECHA	Y MINING, R		, AND GROUNDWATER
		V	J	_		A 2		PROJECT NO.	DA	TE	FIGURE
L		***						106200005	5/	11	A-12

SAMPLES OT (%) (PCF)	DATE DRILLED 3/11/11 and 3/14/11 BORING NO. B-4
DEPTH (feet) Bulk Driven BLOWS/FOOT MOISTURE (%) DRY DENSITY (PCF) SYMBOL CLASSIFICATION U.S.C.S.	GROUND ELEVATION 442' ± (MSL) SHEET 2 OF 4
DEPTH (feet) Sulk riven BLOWS/FOOT BLOWS/FOOT MOISTURE (%) Y DENSITY (PC SYMBOL LASSIFICATION U.S.C.S.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP Bulk Driven BLO\ MOIS S\ S\ S\ CLASS	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
20 SP-SN	
17	Gray, moist, medium dense, poorly-graded, fine to coarse SAND; with few fine gravel.
25	•
25	
SM	Dark brown, moist, medium dense, silty fine SAND.
30	Said Stown, Moist, median dollar, Ship The State.
9	
	Boring terminated on 3/11/11. Boring resumed on 3/14/11.
	Boring resumed on 3/14/11.
	Dark brown, moist, medium dense, fine sandy SILT.
35 → ₩	
35	Saturated; loose.
	Saturated, 10056.
40	BORING LOG
<i>Minyo & M</i>	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER
/Y73/YI	RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO DATE FIGURE

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SAMPLES SAMPLES OT DATE DRII	LLED3/11/11 and 3/14/11 BORING NO B-4
BLOWS/FOOT MOISTURE (%) MOISTURE (%) RYMBOL CLASSIFICATION U.S.C.S. OOH DEN STANDOL OUT OF THE CONTON OF TH	ELEVATION 442' ± (MSL) SHEET 3 OF 4
DEPTH (feet) Nulk Iven SYMBOL SYMBOL SYMBOL U.S.C.S. OUND CONTROL	OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
BLOWS/FOOT MOISTURE (%) RY DENSITY (PC SYMBOL CLASSIFICATION U.S.C.S. ODH TAM OD OTHER OD OTHER OTHER O	IGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
SAMPLED	
40 SM ATTIVITI	DESCRIPTION/INTERPRETATION
I I RESERVED TO THE PROPERTY OF THE PROPERTY O	M: (Continued) arated, medium SAND.
	rated, medium dense, poorly-graded, fine to coarse SAND with silt.
17	
Rrown sate	irated, medium dense, silty fine to coarse SAND.
SM Brown, satu	mated, medium dense, sitty fine to coarse SAND.
50	
29	
55 SW-SM Brown, satu	urated, medium dense, well-graded, fine to coarse SAND with silt.
	, -
60	
A #3 A A	BORING LOG
<i>Ninyo & M</i> oore	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA
-	PROJECT NO. DATE FIGURE

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	STIC						DATE DRILLED 3/11/11 and 3/14/11 BORING NO. B-4
et)	SAMPLES	TOC	(%)	, (PCF	ا ب	NOIL	GROUND ELEVATION 442' ± (MSL) SHEET 4 OF 4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Balk	BLOV	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	'			۵		0	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
60	T					SP-SM	ALLUVIUM: (Continued) Grayish brown, saturated, very dense, poorly-graded, fine SAND with silt
		77/9"	127				Grayish brown, saturated, very dense, poorly-graded, line SAND with shi
					LIE SINGE		Total Depth = 61.5 feet.
							Groundwater encountered at approximately 35 feet during drilling. Backfilled with approximately 21 cubic feet of bentonite grout shortly after drilling on 3/14/11.
							Note:
	$\ \cdot \ $						Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
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		-					
		_					
							STERED GEOZ
							FRANCIS O. MORELAND
		-					No 2071 CERTIFIED ENGINEERING O
70 -	$\ \cdot\ $	-					GEOLOGIST
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80	LL	<u> </u>				A A —	BORING LOG
	4	MI	74	IO a	&	DN	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

106200005

DATE

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FIGURE

	SAMPLES			(-			DATE DRILLED	3/14/11	BORIN	G NO	B-5
eet)	SAM	701	(%)	DRY DENSITY (PCF)	ب	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 450' ± (MSL)		SHEET	1 OF <u>4</u>
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	USIT	SYMBOL	S.C.S	METHOD OF DRILL	NG 8" Hollow-Stem A	uger (Diedric	h D-120) (Tri-Co	unty Drilling)
DEP	Bulk	BLO	MOIS	Y DE	S	LASS	DRIVE WEIGHT	140 lbs. (Auto. Trip I	Hammer)	_ DROP	30"
				ם		O	SAMPLED BYM	BG LOGGED BY		REVIEWED I	3Y
0						SM	ALLUVIUM:				
							Dark brown, moist, lo	ose, siny fine saint); trace root	s.	
	$\left \cdot \right $										
5							Grayish brown, moist			AIN Service	
		8				SP-SM	Grayish brown, moist	, loose, poorly-graud	ou, ime to ii	icalum SAND	with Sitt.
10 -						SM	Dark brown, moist, lo	oose, silty fine SANI	5.		
		5									
										•	
	-										
15-						SP-SM	Gray, moist, medium sand.	dense, poorly-grade	d, fine to m	edium SAND	with silt; trace coarse
		16					Juliu,				
		•								•	
20									ROP	ING LOG	
		Vi	NL	10	&	Mo	ore	EL MONTE VALI	EY MINING, R		ND GROUNDWATER JEORNIA
		V	U			A 7		PROJECT NO.		TE	FIGURE

5/11

	SES			(-			DATE DRILLED 3/14/11 BORING NO. B-5
ef	SAMPLES	TO	(%)	(PCF		NOI .	GROUND ELEVATION450' ± (MSL)
DEPTH (feet)		BLOWS/FOOT	TURE	YEITY	SYMBOL	IFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLOW	MOISTURE (%)	DRY DENSITY (PCF)	SY	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
			_	R.		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
20						SP	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)
		20				OI.	Gray, moist, medium dense, poorly-graded, fine to medium SAND.
-							
	++						
-	HH						
25 -			<u> </u>		menen	SW-SM	Gray, moist, medium dense, well-graded, fine to coarse SAND with silt; trace angular
		11				DVV-OM	gravel.
	H						· ·
-	H						
30 -						ML	Dark brown, moist, loose to medium dense, fine sandy SILT.
		7					
-							
	++-						
	H					SM	Dark brown, moist, medium dense, silty fine SAND.
35 ~							
		16					
-	H						
							•
-	H						
40							
		. /3	50 W		o -		BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT LAKESIDE, CALIFORNIA
l		7///	777		SZ /		RECHARGE PROJECT LAKESIDE CALIFORNIA

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FIGURE A-17

	SAMPLES			(<u>-</u>			DATE DRILLED 3/14/11 BORING NO. B-5
et)	SAM	TOC	(%)	DRY DENSITY (PCF)	ٰ ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION450' ± (MSL)
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLOV	MOIS	Y DE	S	LASS U.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				R		0	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
40						ML	ALLUVIUM: (Continued) Dark brown, moist, loose, fine sandy SILT.
		6					Dark brown, moist, roose, time sandy sizer.
-							
			青				Saturated.
45 -					.	SM	Dark brown, saturated, medium dense to dense, silty fine SAND.
		20				SIVI	Dark Brown, Saturated, Median dense to dense, sity the Orivo.
-	H						
-							
		•					
50 -						SP-SM	Dark brown, saturated, medium dense, poorly-graded, fine SAND with silt.
		22					
	H						
55						SW-SM	Brown, saturated, dense, well-graded, fine to medium SAND with silt.
		23				OVV-SIVI	Brown, saturated, dense, wen-graded, fine to incultum SAND with Silt.
60_	<u>1 </u>		<u></u>		111111		BORING LOG
		M		10	Se /	$\Delta \Delta D$	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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DATE

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FIGURE

		T	T	T	T 1		
	SAMPLES						DATE DRILLED 3/14/11 BORING NO. B-5
et)	SAM	Į į	(%)	(PCF		NOIT.	GROUND ELEVATION 450' ± (MSL) SHEET 4 OF 4
DEPTH (feet)		BLOWS/FOOT	TURE	LISN	SYMBOL	IFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	λS	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	ا ا			H K		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
60					1151311	SP-SM	DESCRIPTION/INTERPRETATION
-		39				24-2M	ALLUVIUM: (Continued) Dark brown, saturated, medium dense, poorly-graded, fine to medium SAND with silt; trace coarse sand.
	lΓ						Total Depth = 61.5 feet.
-							Groundwater encountered at approximately 43 feet during drilling. Backfilled with approximately 21 cubic feet of bentonite grout shortly after drilling on 3/14/11.
							Note:
-							Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
65 -							
-	$\vdash \vdash$	-					
_							
							STERED GEOLO
							FRANCIS O. MORELAND OF No 2071
-							CERTIFIED ENGINEERING
70 -	H	-					GEOLOGIST
_	Ш	-					OF CALIFORN
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75 -							
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_							
90							
80	<u> </u>	<u> </u>				44-	BORING LOG
	1	M/I		<i>10 &</i>	& /	DN	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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FIGURE

r										
	SAMPLES			(DATE DRILLED	2/25/11	BORING NO.	B-6
et)	SAM	10	(%)	(PCF		NOIT.	GROUND ELEVATIO	N 455' ± (MSL)	SHEET	1OF4
DEPTH (feet)		BLOWS/FOOT	TURE	YISIT	SYMBOL	IFICA S.C.S	METHOD OF DRILLII	NG 8" Hollow-Stem Au	iger (Diedrich D-120) (T	ri-County Drilling)
DEP	Bulk	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	λS	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) DROF	30"
				DR		O	SAMPLED BY ME		MBG REVIEW	ED BY
0	╁┼					SM	ALLUVIUM:		INTERPRETATION	
							Light brown, damp, lo	ose, silty, fine to med	dium SAND.	
	\vdash					sw	Grayish brown, damp,	loose, well-graded,	medium to coarse SA	<u>ND.</u>
	-				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					
5-										
,		9								
		1			***************************************					
	+									
						SM	Brown, moist, loose, s	ilty SAND; trace roo	ots.	
10 -		<u> </u>				SW-SM	Gray, damp, loose, we	ll-graded, fine to me	dium SAND with sil	t.
	$oxed{H}$	12								
	H					SP-SM		moist, medium dens	e, poorly-graded, fin	e to medium SAND with
15 -							silt.			
		13								
	1-									
	+									
20			^							
		A /3	59 #		0	440	ore	EL MONTE VALLE	BORING LO	G DN, AND GROUNDWATER
		T/L	III	IU 4	ŠÝ.	UN	UI-E	RECHA	RGE PROJECT, LAKESIDI	E, CALIFORNIA

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DATE

5/11

FIGURE

Γ							
	SAMPLES			F)		_	DATE DRILLED 2/25/11 BORING NO. B-6
feet)	SAM	00T	MOISTURE (%)	DRY DENSITY (PCF)	占	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 455' ± (MSL) SHEET 2 OF 4
DEPTH (feet)		BLOWS/FOOT	TUR	LISN	SYMBOL	SIFIC .S.C.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEF	Bulk	BLO	MOIS	Y DE	S	UAS	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				ă			SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
20						SW-SM	
-		19					San diown, motor, motor, with granta, the to tours start with and grant
-							
-							
			 	 		SP-SM	Grayish brown, moist, medium dense to dense, poorly-graded, fine to medium SAND with
25 -							silt.
		20					
-	$\dagger \dagger$						
	H						
30 -	1						
		16					Medium dense.
35 -			ᇴ				Saturated.
	$\coprod ig angle ig angle$	10					
	A						
-	H						
	Ш						
40							
40_	<u></u>				euriii		BORING LOG
		N//	TL	111 8	& A	$\pi \Lambda \Pi$	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT LAKESIDE, CALIFORNIA

| RECHARGE PROJECT, LAKESIDE, CALIFORNIA | PROJECT NO. | DATE | FIGURE | 106200005 | 5/11 | A-21 |

	SES			(-			DATE DRILLED	2/25/11	BORING	3 NO	B-6
et)	SAMPLES	TO	(%)	(PCF		NOIT	GROUND ELEVATION			SHEET 3	OF 4
DEPTH (feet)	T	/S/FO	rure	SITY	SYMBOL	IFICA S.C.S.	METHOD OF DRILLIN	IG 8" Hollow-Stem Au	ger (Diedrich	D-120) (Tri-Count	y Drilling)
DEPT	Bulk	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SY	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT			DROP	30"
	غ ا ۵		~	DR		ರ		G LOGGED BY		REVIEWED BY	
40					1111111	2.41	ALLINDIA (C	DESCRIPTION/	INTERPRET	ATION	
		8				ML	ALLUVIUM: (Continu Dark brown, saturated,	loose, fine sandy SI	LT.		
	$\parallel \parallel$	-									
·											
	\vdash										
45 -		2000									
43		50/2"					Very dense.				
	H	-									
					13.5		METAVOLCANIC RO	OCK:			- HI
	$\parallel \parallel$				7.5		Dark brown, saturated,	soft, weathered ME	TAVOLCA	NIC ROCK.	
	-	-			7.0						·
					1						
50 -		50/2"			1757						
	H	-					-				
	Ш				1.2.						
					が必						
	H	-									
		_									
					100 mg						
55 -		50/5"					Light brown and gray.				
-	-	-			以						
					To the second						
-	H	-			The second						
-					版						
					4						
60	<u> </u>				Lu K				BOBII	NG LOG	
	1	Nil	714	10	&	M	ore	EL MONTE VALLE	Y MINING, RE	CLAMATION, AND , LAKESIDE, CALIFO	GROUNDWATER ORNIA
	A	, A	J	_		A		PROJECT NO.	DAT		FIGURE

5/11

	SAMPLES			(-			DATE DRILLED 2/25/11 BORING NO. B-6
et)	SAM	TOC	(%)	DRY DENSITY (PCF)		NOIT .	GROUND ELEVATION 455' ± (MSL) SHEET 4 OF 4
DEPTH (feet)	П	BLOWS/FOOT	MOISTURE (%)	LISI	SYMBOL	IFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLOV	MOIS	Y DE	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
		3		L L		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
60		50/4"			#f5.5		METAVOLCANIC ROCK: (Continued)
		1			-95		Light brown and gray, saturated, soft, weathered METAVOLCANIC ROCK. Total Depth = 60.3 feet.
							Groundwater encountered at approximately 35 feet during drilling.
-	$\ \cdot\ $						Backfilled with approximately 21 cubic feet of bentonite grout shortly after drilling on 2/25/11.
-	$ \downarrow $	_					Note:
							Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
•							
65 -	$\ \cdot\ $						•
		_					
-	\prod	_					TERED GEO
-	H						
							FRANCIS O. MORELAND OF No. 2071
							CERTIFIED ENGINEERING
70 -	П						GEOLOGIST
-	\vdash	_					E OF CALIFORN
-	H	-					
75 -	-						
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-	-	-					
80							BORING LOG
	1	Ali	77 [in a	& /	Mn	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER
	A	7 W		·			RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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FIGURE

		,	, 							
	SAMPLES			(£		_	DATE DRILLED	3/1/11	BORING NO.	B-7
et)	SAM	707	(%)	DRY DENSITY (PCF)	اپ	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 453' ± (MSL)	SHEET	1OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	TISN	SYMBOL	S.C.S	METHOD OF DRILLI	NG 8" Hollow-Stem Au	ger (Diedrich D-120) (Tr	-County Drilling)
DEP	Bulk	BLOV	MOIS	ty DE	S	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) DROP	30"
				, a		O	SAMPLED BY M	BG LOGGED BY	MBG REVIEWE	ED BY
0						SM	ALLUVIUM: Brown, moist, loose,			
-	\vdash						Diown, moist, 10050,	shij ilio to modium c		
-										
-	\vdash					SP	Grayish brown, damp	, medium dense, poor	ly-graded, fine to coa	urse SAND with fine
5							gravel.			
		15								
	H									
	\mathbb{H}									
						SP-SM	Light brown, moist, n roots.	nedium dense, poorly	-graded, fine to medit	um SAND with silt; trace
10 -										
	H	15								
		-								
	$\dag \dag$									
15 -			<u> </u>			SW-SM	Gray to light brown	moist, medium dense	well-graded, fine to	medium SAND with silt.
		11				O V V-01VI				
	1									
	\prod									
	H									
	-									
20										
	<u></u>	A #9			للللندد				BORING LO	
			714	[0 4	&	M_0	ore	EL MONTE VALLI RECHA	EY MINING, RECLAMATIO RGE PROJECT, LAKESIDE	N, AND GROUNDWATER CALIFORNIA
	-	7	The state of the s	•	-	7 -		PROJECT NO.	DATE	FIGURE

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T	T	1			<u> </u>						
	SAMPLES			Œ			DATE DRILLED	3/1/11	BORIN	G NO	B-7
eet)	SAM	Į jo	(%)	DRY DENSITY (PCF)	<u>_</u>	CLASSIFICATION U.S.C.S.	GROUND ELEVATI	ON 453' ± (MSL)		SHEET	2 OF 5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SEICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem At	iger (Diedric	h D-120) (Tri-C	ounty Drilling)
DEP	Bulk	BLO	MOIS	:√ DE	S	J.ASS U.	DRIVE WEIGHT _	140 lbs. (Auto. Trip H	ammer)	_ DROP _	30"
				2		O	SAMPLED BYN	ABG LOGGED BY		REVIEWED	BY
20						SW-SM	ALLUVIUM: (Conti	DESCRIPTION inved)	INTERPRE	TATION	
		18					Gray to light brown,	moist, medium dense,	well-grade	ed, fine to coa	rse SAND with silt.
-	\vdash	-									
		_									
	$\mid \uparrow \mid$										
25 -						,					
		19									
	$\dashv \vdash$,								
,	$\dagger \dagger$										
30 -			└ \ ₩			SP-SM	Gray to light brown	saturated medium de	nse noorly	-graded fine	to medium SAND with
		17				3P-3IVI	silt; micaceous	saturated, medium de	nse, poorry	-gradeu, ime	to medium SAND with
		_									
	H	-									
35 -		<u></u>				ML	Brown saturated me	edium dense, fine sand	₩SII T- m	icaceous	·
		17				IVIL	Drown, saturated, in	ediam dense, ime same	iy Silot, iii	icaccous.	
	-										
	\prod	-									
40_	Ц_									110100	
		AIÌ	77/	in A	z /	AAn	ore	EL MONTE VALLI	EY MINING, R	ING LOG ECLAMATION, A	ND GROUNDWATER
	4	77	J	, 		AIR	WI U	PROJECT NO.		T, LAKESIDE, CA	LIFORNIA FIGURE
<u>L</u>		,						106200005	5/	11	A-25

(F	7		1		T						
	SAMPLES			F)		_	DATE DRILLED	3/1/11	BORING	S NO	B-7
eet)	SAM	DOT	(%) =	DRY DENSITY (PCF)	_	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 453' ± (MSL)		SHEET	3 OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SEC.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	iger (Diedrich	D-120) (Tri-	-County Drilling)
DEP	Bulk	BLO	MOIS	:Y DE	S	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer)	DROP	30"
				R		0	SAMPLED BYM	BG LOGGED BY DESCRIPTION		REVIEWE	D BY
40						ML	ALLUVIUM: (Conti		INTERPRET	AHON	
		25				SP-SM	Brown, saturated, me Brown, saturated, der	dium dense, fine sand	ly SILT; mic	aceous.	vith silt
		!					Diomi, saturated, del	iso, poorty gradou, m	no to interior	11 57 11 12 1	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
-	H										
		,									
-	\vdash										
15											
45 -						SM	Brown, saturate, dens	se, silty fine SAND; n	nicaceous.		
-		22									
-											
						SP	Light brown, saturate	d, medium dense, poo	orly-graded,	fine to coa	arse SAND.
50 -		:									
 											
-	$\ \cdot\ $										
-											
-	H										
55 -					i i i i i i i i i i i i i i i i i i i		- ,-,-,-				
		27				SW-SM	Light brown, saturate	d, dense, well-graded	, fine to coa	rse SAND	with silt.
	7	21									
-	Ш										
											1
-	H									*	
-	Ш										
60					HIII				BORII	NG LOG	
		Vi		10	&	Mn	ore			CLAMATION	, AND GROUNDWATER
		V	J			A 7		PROJECT NO.	DAT		FIGURE

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[T co T		T T				T				
	SAMPLES			(F)			DATE DRILLED	3/1/11	BORING	NO	B-7
eet)	SAN	70T	(%) =	DRY DENSITY (PCF)	٦	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 453' ± (MSL)		SHEET 4	OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SEC.	METHOD OF DRILL	ING 8" Hollow-Stem A	uger (Diedrich D	-120) (Tri-Count	y Drilling)
DEP	Bulk	BLO	MOIS	Y DE	S	LASS	DRIVE WEIGHT	140 lbs. (Auto. Trip I	-lammer)	DROP	30"
				K		O	SAMPLED BYM	BG LOGGED BY		EVIEWED BY	***************************************
60						SM	ALLUVIUM: (Contin		N/INTERPRETA	TION	
		26				Olvi	Reddish brown, satur	ated, dense, silty fine	e to coarse SAN	ND; few grave	l.
_	H										
						ML	Reddish brown, satur	ated, medium dense,	fine sandy SIL	.Т. [—] — —	
-	H										
65 -											
		19									
-		17									
	Ш										
-	$ \cdot $										
	H					*					
70 -						SM	Reddish brown, satur	ated, medium dense,	silty fine to co	arse SAND w	ith fine gravel.
	-/	18									
	H										
75 -											
		23					Dense; no gravel.				
	H										
-	$\left + \right $,
_											
80_									BORING	GLOG	
		Vi	NL	10	&	Mn	ore		EY MINING, RECL ARGE PROJECT, L	AMATION, AND	
		V	J			A Z		PROJECT NO.	DATE		FIGURE

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					1		
	SAMPLES			Œ.		_	DATE DRILLED 3/1/11 BORING NO. B-7
et)	SAM	707	(%) :	DRY DENSITY (PCF)	ارا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 453' ± (MSL) SHEET 5 OF 5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SSIFICA U.S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLOV	MOIS	Y DE	S	LASS U.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
)	_	ž			SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
80						SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)
		89/11"				Olvi	Dark brown, saturated, very dense, silty fine to medium SAND; with fine gravel.
-					ならない		METAVOLCANIC ROCK: Yellow and brown, saturated, soft, weathered METAVOLCANIC ROCK.
-	\vdash						
-	十						
85 -					经验		
		76			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
					1		Total Depth = 86.5 feet.
-		-					Groundwater encountered at approximately 30 feet during drilling.
-							Backfilled with approximately 30 cubic feet of bentonite grout shortly after drilling on 3/1/11.
							Note:
-	\prod	1					Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
90 -	$\vdash \vdash$						
-							ERED GEO
							FRANCIS O. MORELAND (C)
							CERTIFIED .
95 -	-						GEOLOGIST
_							OF CALIFOR
-	-	-					
·							
100		<u> </u>			<u></u>		BORING LOG
		A ji	71	in a	&. I	AAn	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER

106200005

DATE

5/11

FIGURE

	T	1		T						
et) SAMPLES			F)			DATE DRILLED	3/3/11	_ BORIN	IG NO	B-8
SAN	700	(%)	DRY DENSITY (PCF)	ڀ	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 456' ± (MSL)		SHEET _	1 OF <u>4</u>
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem A	uger (Diedric	h D-120) (Tri-C	ounty Drilling)
DEP	BLOV	MOIS	Y DE	SY	LASS U.	DRIVE WEIGHT	140 lbs. (Auto, Trip I	Hammer)	_ DROP _	30"
	٦		DR		O	SAMPLED BYM	BG LOGGED BY		REVIEWED	BY
0		-			SM	ALLUVIUM:	DESCRIPTION	VINTERPRE	TATION	
					J.,	Brown, moist, loose,	silty fine SAND.			
	-									
	<u> </u>					Grav moist modium	donce moorly grade	d finatam	AUM CAND	; trace coarse sand and
					SP	gravel (up to ½ inch)		u, ime w m	edium SAND	, nace coarse sand and
5										
	22									
++	1									
10					SP-SM	Gray, moist, medium	dense, poorly-grade	d, fine to m	edium SAND	with silt.
	12									
	· ·									
	-									
15										
	20					Medium dense to der	nse.			
										•
+-	1									
	-									
20										
	A 13			0			EL MONTE VALL		ING LOG	AND GROUNDWATER
	/ //	13	JU 4	SX	$\mathbf{M}_{\mathbf{n}}$	ore		ARGE PROJEC	T, LAKESIDE, CA	

5/11

	T co T				T				
	SAMPLES			Œ.		-7	DATE DRILLED 3/3/11 BORING NO. B-8		
eet)	SAN	70C	(%) =	Y (PC	7	ATION S.	GROUND ELEVATION 456' ± (MSL) SHEET 2 OF 4		
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	TISN:	SYMBOL	SIFIC.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)		
H	Bulk	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"		
				ă		Ü	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION		
20						SP	ALLUVIUM: (Continued)		
		27					Gray, moist, medium dense, poorly-graded, fine to medium SAND.		
							Reddish brown; fine to coarse sand.		
	H								
			<u> </u>		ERRERE		Brown, wet, dense to very dense, silty fine SAND; with gravel.		
						SM	Brown, wet, dense to very dense, sitty fine SAMD, with graver.		
25-									
		36							
						SW	Gray, moist, very dense, well-graded, fine to coarse SAND with some gravel (up to 1 inch).		
							Reddish brown, wet, dense, fine sandy SILT; micaceous.		
	H					ML	Reddish brown, wet, dense, the sandy Ster, inicaccous.		
30 -									
		29							
	H								
35 -									
		51							
	$\left \cdot \right $								
40									
40					للللاليد	.	BORING LOG		
	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA								

106200005

DATE

5/11

FIGURE

										
et) SAMPLES	2		E C			DATE DRILLED	3/3/11	BORING	6 NO	B-8
Set)	700	(%)	DRY DENSITY (PCF)	ب	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 456' ± (MSL)		SHEET	3 OF 4
DEPTH (feet)	iven CA	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem A	uger (Diedrich	D-120) (Tri-C	ounty Drilling)
DEP BUK	rriven	MOIS	Y DE	S	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	lammer)	DROP _	30"
	۵		P.		0	SAMPLED BY M	BG LOGGED BY DESCRIPTION	MBG	REVIEWED	BY
40		章			ML	ALLUVIUM: (Contin	nued)			
	15					Reddish brown, satur	ated, medium dense,	fine sandy S	ILT.	
	_									
						,				•
45					SM	Grayish brown, satur	ated, dense, silty fine	to coarse SA	ND	
	27									
	-					Trace gravel (up to 1/2	ź inch).			
50										
	55					Reddish brown; silty	fine sand.			
	-									
	_									
55										
33	79/8"									
				() 		METAVOLCANIC I	ROCK:			
	-			100 mg/m		Dark gray, saturated,	soft, weathered MET	IAVOLCAN	IIC ROCK.	•
				1350) C1350						
	-			5						
60				138						
	A //3			- -		ana	EL MONTE VALL		NG LOG	AND GROUNDWATER
	/Y//	14	ju č	X.	$\mathbf{M}_{I_{I}}$	ore	RECHA	ARGE PROJECT	, LAKESIDE, CA	LIFORNIA FIGURE

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<u>A-31</u>

		T ====	ı —	T						
	SAMPLES			F.)			DATE DRILLED	3/3/11	BORING NO.	B-8
eet)	SAM	00T	€ (%)	DRY DENSITY (PCF)	ا بر	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 456' ± (MSL)	SHEET 4	OF 4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC/ LS.C.8	METHOD OF DRILL	ING 8" Hollow-Stem Aug	er (Diedrich D-120) (Tri-Cou	nty Drilling)
DEF	Bulk Driven	BLO	MOIS	3Y DE	S	SLAS! U	DRIVE WEIGHT	140 lbs. (Auto. Trip Har	mmer) DROP	30"
				Ď		Ü	SAMPLED BYM	BG LOGGED BY DESCRIPTION/II	MBG REVIEWED BY	Υ
60	1	50/5"					METAVOLCANIC I Dark gray, saturated,	ROCK: (Continued) soft, weathered META	VOLCANIC ROCK.	
-					,5		Backfilled with appro 3/3/11. Note: Groundwater may ris	tered at approximately oximately 21 cubic feet to a level higher than	40 feet during drilling. t of bentonite grout shorts t that measured in boreho factors as discussed in th	le due to seasonal
65								STEP	RED GEO	
70 – -								CE ENGI	S O. MORELAND No 2071 RTIFIED NEERING LOGIST CALIFORNIA	
_										
_										
75 –										
_	H									
-										
_										
80										
<i>Ninun & M</i> oore								EL MONTE VALVES	BORING LOG	D CDOLINIDWATER
		$\pi I I$	7//	777 (& ▲				Y MINING, RECLAMATION, AND	

106200005

DATE

5/11

FIGURE

et) SAMPLES			Œ			DATE DRILLED	3/2/11	BORING NO.	B-9
eet)	DOT	(%) =	DRY DENSITY (PCF)	٦,	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	N 460' ± (MSL)	SHEE	T <u>I</u> OF <u>4</u>
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	TISN:	SYMBOL	SIFICA S.C.8	METHOD OF DRILLIN	IG 8" Hollow-Stem A	Auger (Diedrich D-120) (Tri-County Drilling)
DEP Bulk Driven	BLO	MOIS	⊰Y DE	S	SLAS! U	DRIVE WEIGHT	140 lbs. (Auto. Trip l	Hammer) DRO	P30"
			۵		Ŭ	SAMPLED BY MB	G LOGGED BY DESCRIPTION	MBG REVIEN	WED BY
0					SP	ALLUVIUM: Brown, moist, loose, s	lty fine to medium	SAND.	
	-								
					SP	Gray, moist, medium d gravel.	ense, poorly-grade	d, fine to medium SA	AND; trace fine to coarse
									•
5									
	18								
					SW-SM	Gray, moist, dense, we	II-graded fine to c	oarse SAND with sil	t
10					344-3141	Gray, moisi, acrise, ma	gradea, re to e		
	22								
15									
	16					Medium dense.			
20						1			
	13			e. 1	AAn	ore			ION, AND GROUNDWATER
	Y "	"3	TU C	×	$\mathbf{A}_{I_{I}}$	ore		HARGE PROJECT, LAKESII	

5/11

	SAMPLES			Ĕ.		7	DATE DRILLED	3/2/11	BORIN	IG NO.]	B-9	
eet)	SAN	D01	E (%)	Y (PC	٦	ATION S.	GROUND ELEVATION	ON 460' ± (MSL)		SHEET _	2	OF	4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC/	METHOD OF DRILL	ING 8" Hollow-Stem A	Auger (Diedric	h D-120) (Tri-	County I	Orilling)	
H	Bulk	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip	Hammer)	_ DROP _		30"	
				P.			SAMPLED BYM	BG LOGGED BY		REVIEWE	BY _		
20						ML	ALLUVIUM: (Continuation Dark brown, wet, loo	nued)					
		6					Dark brown, wei, 100	se, the sandy SiLT;	micaceous,				
	H												
	\square												
25 -													
23-		17				SM	Grayish brown, mois	t, medium dense, silt	y, fine to m	edium SANI	5 . – –		
-		17											
-													
						SW-SM	Yellowish brown, de	nse, well-graded, fin	e to coarse	SAND with	silt.		
30 -													
		24											
-													
-	H												
35 -			└罿✓			SP-SM	Gray to dark brown,	saturated, medium d	ense, poorly	-graded, fine	SANI	with s	i lt;
_		28					micaceous.						
-													
-	H												
-						SW-SM	Gray, saturated, very	dense, well-graded,	fine to coar	se SAND wi	th silt.		
10													
40_	<u></u>				HHILE)				BOR	ING LOG			
		VÌ		10	&	MD	ore	EL MONTE VAL	LEY MINING, R		AND GR		TER
		V	J	_		A		PROJECT NO.		TE		FIGURE	=

5/11

	SAMPLES						DATE DRILLED 3/2/11 BORING NO. B-9
et)	SAM	707	(%) :	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION 460' ± (MSL) SHEET 3 OF 4
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISI	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLOV	MOIS	≀Y DE	S	LASS U.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				P.			SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
40						SW-SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)
		51					Gray, saturated, very dense, well-graded, fine to coarse SAND with silt; trace fine to coarse gravel.
							5
	Ш						
45 -						SM	Reddish brown, saturated, dense, silty fine SAND; micaceous.
	_/	23					
-	H						
50 -							
		59					
-							
-						ML	Reddish brown, saturated, dense, fine sandy SILT.
-							
55 –							
		31					
-							
-	H						
_							
-	H						
60							
	1		72 J	in i	P+ 4	AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO DATE FIGURE
		Y **	"3		×.	AIn	RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO. DATE FIGURE

5/11

	SAMPLES			(DATE DRILLED	3/2/11	BORING NO.	B-9						
set)	SAM	100	(%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 460' ± (MSL)	SHEET	4 OF4						
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILLI	ING 8" Hollow-Stem Aug	er (Diedrich D-120) (Tri	i-County Drilling)						
DEP	Bulk	BLO	MOIS	۲Y DE	S	ZASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip Han	nmer) DROP	30"						
				ä			SAMPLED BY M	BG LOGGED BY	MBG REVIEWE	ED BY						
60						ML	ALLUVIUM: (Contir	nued)								
+	-/	18					Reddish brown, satura	ated, medium dense, fir	ne sandy SIL1.							
1	T															
+	-															
65 —							Proving convented view	To do the control of the	fine to modium C A	AND with silt; some fine to						
		50/6"				SP-SM	coarse gravel.	y dense, poorty-graded	, tine to medium SA	and with siit, some line to						
+	+	,														
	4															
70 —						SM	Brown, saturated, der	nse, silty fine SAND.								
	-1	65					METAVOLCANIC I	ROCK:								
	\square						Yellow and gray, satt	irated, soft, weathered	METAVOLCANIC	ROCK.						
									GISTER	ED GEOLO						
									FRANCIS	O. MORELAND						
+	\dashv								CE ENGI	RTIFIED .						
75					THE STATE OF THE S				TELL GEO	LOGIST						
		53							OF	CALIFOR						
		<u></u>			4/3/		Total Depth = 76.5 fe									
							Backfilled with appro	Groundwater encountered at approximately 35 feet during drilling. Backfilled with approximately 27 cubic feet of bentonite grout shortly after drilling on								
1	\dashv						3/2/11.									
	+						Note: Groundwater may ris	e to a level higher than	that measured in bo	orehole due to seasonal						
80.							variations in precipita	ation and several other	factors as discussed	in the report.						
	1		72 J	in .	er 1	AAn	ore			N, AND GROUNDWATER						
		V **	IJ		~ /	AIn	UI C		GE PROJECT, LAKESIDE, DATE							

5/11

E		
OLES		DATE DRILLED3/9/11 - 3/10/11 BORING NO B-10
et) SAMPLES OOT (%)	SYMBOL CLASSIFICATION U.S.C.S.	GROUND ELEVATION 475' ± (MSL) SHEET 1 OF 4
DEPTH (feet) Sulk iven BLOWS/FOOT	SYMBOL. SSIFICATI	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEPTH (feet) Bulk Driven BLOWS/FOOT MOISTURE (%)	SYMBOL SYMBOL CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	R D	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
	HIEREN CAM	DESCRIPTION/INTERPRETATION
	SM	ALLUVIUM: Grayish brown, moist, loose, silty fine SAND.
5		
6		
10		Medium dense; few coarse sand.
16	sw	Gray, moist, medium dense, well-graded, fine to coarse SAND.
	SM	Brown, moist, medium dense, silty fine SAND.
15		
		Dark brown, moist, medium dense, fine sandy SILT.
		,
20		
Alimi	ne AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER
<i>yany</i>		RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO. DATE FIGURE
7	▼	PROJECT NO. DATE FIGURE

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II .	(s)		I									
	SAMPLES			F)			DATE DRILLED	3/9/11 - 3/10/11	_ BORING	3 NO	B-10	
et)	SAN	707	(%)	r (PC	پ	ATION .	GROUND ELEVATION	ON 475' ± (MSL)		SHEET2	OF 4	
DEPTH (feet)		VS/F(TURE	TISN	SYMBOL	FICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem A	uger (Diedrich	D-120) (Tri-Cou	inty Drilling)	
DEP	Bulk	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SY	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer)	DROP	30"	
	مَا	_		R.		ō	SAMPLED BY M	BG LOGGED BY	MBG	REVIEWED B	Y	
20					1000	ML	ALLUVIUM: (Contin	DESCRIPTION	/INTERPRET	TATION		
		7				IVIL	Dark brown, moist, lo	oose to medium dense	, fine sandy	SILT.		
]												
	Ш											
-			<u> </u>			SM	Light brown, moist, n	nedium dense, silty fi	ne SAND.			
	H	•										
25 -												
		29										
						ı						
	Н											
30 -												
		21					Dense; trace medium	to coarse sand.				
							Poring terminated on	2/0/11				
							Boring terminated on Boring resumed on 3	/10/11.			•	
	Ш											
35 -			<u> </u>			SW-SM	Light brown, moist, r	nedium dense well-o	raded fine	to madium SA	ND with eilt little	
		16				344-3141	coarse sand.	mediam dense, wen g	raded, ime i	o mediam or	HD with shi, little	
-	$\left \cdot \right $											
-						SM	Grayish brown, mois	t, medium dense, silty	fine to coa	rse SAND.		
40_		*******				<u> </u>						
		- #3) 			A A _				NG LOG		
		VII	74	10 8	&	\mathbf{M}_{I}	ore	RECH/	ARGE PROJECT	, LAKESIDE, CAL		
		V	u			V -		PROJECT NO.	DAT	TE	FIGURE	

5/11

(T			_	ı					
٠	SAMPLES			F)		_	DATE DRILLED	3/9/11 - 3/10/11	BORING	3 NO.	B-10
eet)	SAM	00 T00	E (%)	DRY DENSITY (PCF)	~	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 475' ± (MSL)		SHEET	3 OF <u>4</u>
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC.	METHOD OF DRILL	ING 8" Hollow-Stem A	uger (Diedrich	D-120) (Tri-Cou	anty Drilling)
GEF	Bulk	BLO	MOIS	Y DE	S	LASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip I	Hammer)	DROP	30"
				P.			SAMPLED BYM	BG LOGGED BY		REVIEWED E	3Y
40						SM	ALLUVIUM: (Continuous Grayish brown to dar	nued)			
-		15						,		,	
		-									
						,					
-											
-	\vdash		후				Brown, saturated, me	dium dense to dense	e, silty fine to	medium SAN	ND; trace coarse sand.
45 -											
	1	20									
-											
	-										
										٠	
	\parallel	-									
50 ~						SW-SM	Brown, saturated, dei	ise well-graded find	e to medium	SAND with si	TF
		26				200-200	Brown, saturated, der	ise, weni-graded, ini	c to medium	SAIND WILL SI	it.
		4									
	+										
						SM	Dark brown, saturate	d, very dense, silty fi	ine SAND; tr	race gravel (up	to 174 inches).
55 -		50/3"									
		30/3									
-											
-											
60_	<u>LL</u>				<u>tillilli</u>				BORII	NG LOG	
	1	Mi	771	IN a	& A	AAn	ore		EY MINING, RE		D GROUNDWATER
	4	7 ~~	J			A 7.		PROJECT NO.	DAT		FIGURE

5/11

	,												
	S												
eet)	SAM	00 T0	(%) =	DRY DENSITY (PCF)	卢	CLASSIFICATION U.S.C.S.	GROUND ELEVATI	ON 475' ± (MSL)	SHEET 4	OF 4			
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	:NSIT	SYMBOL	SIFIC, I.S.C.	METHOD OF DRILL	ING 8" Hollow-Stem Au	uger (Diedrich D-120) (Tri-Cour	nty Drilling)			
H H	Bulk	BLO	MOIS	3Y DE	S	CLAS; U	DRIVE WEIGHT _	140 lbs. (Auto. Trip H	ammer) DROP	30"			
				ă		Ü	SAMPLED BY N	BG LOGGED BY	MBG REVIEWED BY	Y			
60						SM	ALLUVIUM: (Conti						
		34					Dark brown, saturate	u, very dense, smy m	it sand.				
					EEEEEE		Total Depth = 61.5 f						
-	П								y 44 feet during drilling. et of bentonite grout shortl	v after drilling on			
	\vdash	-					3/10/11.	•		,			
							Note:						
									an that measured in borehour factors as discussed in the				
65 -	H	-											
		_					,						
	$ \uparrow $												
	$\dashv +$	1											
70 -	$\dagger \dagger$	1							STEREDGEOR				
		-							FRANCIS O. MORELAND				
								(• (CERTIFIED				
	\prod	1						187	ENGINEERING GEOLOGIST				
	╫	-						×	COE CALIFORN				
		_											
75 -	$\dagger \dagger$												
	-	-											
	H	-											
on													
80	<u></u>				<u> </u>		BORING LOG						
	1	NII.	7//	M	& A	$\mathbf{N}\mathbf{N}$	nre	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER					

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DATE

5/11

FIGURE

[
et) SAMPLES			(-			DATE DRILLED 3/9/11 BORING NO. B-11
SAM	100	(%)	(PCF		TION	GROUND ELEVATION _ 490' ± (MSL)
DEPTH (feet)	VS/FC	rure	VSITY	SYMBOL	IFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	λS	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
			DR		Ö	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
				111133	SP-SM	DESCRIPTION/INTERPRETATION
					OF-OW	Light brown, damp, loose, poorly-graded, fine SAND with silt.
5						
	10					Medium dense.
 	*					
10						Dark brown, moist, loose sand.
	5					
					sw	Light brown, moist, medium dense, well-graded, fine to medium SAND.
15						
	16					
20						
	n #3				A A A	BORING LOG
	V//			& /	DN	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

106200005

DATE

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FIGURE

			,				
	SAMPLES	Ļ	(%)	PCF)		NO	DATE DRILLED 3/9/11 BORING NO. B-11 GROUND ELEVATION 490' ± (MSL) SHEET 2 OF 4
H (feet	\mathbb{H}	3/FOC	URE (SITY (SYMBOL	ICATI C.S.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEPTH (feet)	Bulk Driven	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYN	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	<u>α</u> Δ	ш	2	DR		ರ	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
20						SW-SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)
-		18				OVV OIII	Light brown, moist, medium dense, well-graded, fine to medium SAND with silt.
-							·
-			<u> </u>			SM	Light brown, moist, medium dense, silty fine to medium SAND.
_							
25 -							
		22					Dense.
-							
-							
30 -							
		26					Medium dense; trace coarse sand.
-							
-							
35 -							
-		22					Dense.
_							
-							
40	<u> </u>						BORING LOG
		VI	M	10	St /	D N	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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DATE

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FIGURE

	,		,			r		
	SAMPLES			9		_	DATE DRILLED 3/9/11 BORING NO. B-11	-
et)	SAM	TOC	(%)	DRY DENSITY (PCF)		TION :	GROUND ELEVATION490' ± (MSL) SHEET3 OF4	
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISI	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)	
DEP	Bulk Driven	BLOV	MOIS	:Y DE	S	LASS U.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"	
				뭐		0	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY	
40						SP-SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)	
		22					Light brown, moist, dense, poorly-graded, fine to medium SAND with silt; trace co sand.	arse
45 -								
		58						
			 -				Saturated.	
			-				Saturated.	
	H					SM	Dark brown, saturated, dense, silty fine SAND.	
50-								
		21						
		·····				SP-SM	Dark brown, saturated, medium dense, poorly-graded, fine SAND with silt.	
55 -								
		17						
	H							
60								
		2 2)		الماسلون		BORING LOG	
		N//	M	10 d	&	DN	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATE RECHARGE PROJECT, LAKESIDE, CALIFORNIA	R

106200005

DATE

5/11

FIGURE

	SAMPLES			(:			DATE DRILLED	3/9/11	BORING NO.	B-11
et)	SAM	700	(%):	DRY DENSITY (PCF)	ן ן	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 490' ± (MSL)	SHEET4	OF4
DEPTH (feet)	П	BLOWS/FOOT	MOISTURE (%)	LISN	SYMBOL	SIFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Aug	ger (Diedrich D-120) (Tri-Cou	nty Drilling)
DEP	Bulk	BLO	MOIS	YY DE	S	SLASS	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	mmer) DROP	30"
				ă		O	SAMPLED BYM	BG LOGGED BY DESCRIPTION/I	MBG REVIEWED B	Υ
60						SP-SM	ALLUVIUM: (Continuated ver	nued)	I, fine SAND with silt.	
-		74					Diowii, saturatou, voi	y delise, poorty gradet	, , , , , , , , , , , , , , , , , , , ,	
					muni		Total Depth = 61.5 fe	eet.		
-	\vdash	-					Groundwater encoun	tered at approximately	47 feet during drilling.	
							Backfilled with appro	eximately 21 cubic fee	t of bentonite grout short	ly after drilling on
-	\vdash						3/9/11.			
							Note:	- 4 11 hink an skan		
									that measured in boreho factors as discussed in the	
65 ~	\Box	1								
-	\Vdash									
-	$\dagger \dagger$	1							REDCA	
-	\vdash	-						(SET)	a colo	
70 -			,					1 1	NO 2071	
,,								\co\	CERTIFIED .	
-	\prod	-						(File)	GEOLOGIST	
_	\vdash							0	FCALIFORM	
-										
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75 –	$\parallel \parallel$									
-	-	-								
-	H	-								
-	-	-								
80										
		<u> </u>			_	44-		EL MONTE VALLE	BORING LOG	D GROUNDWATES
	1			JU d	<u>ک</u> ا	VV	ore		Y MINING, RECLAMATION, AN RGE PROJECT, LAKESIDE, CALI	

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FIGURE

	SAMPLES				(-			DATE DRILLED	2/22/11	BORIN	IG NO	B-12	
eet)	SAM	5	5	(%)	DRY DENSITY (PCF)	_	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 421' ± (MSL)		SHEET	OF	5
DEPTH (feet)		iven iven	NOV.	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem	Auger (Diedric	th D-120) (Tri-Cou	inty Drilling)	
PER	Bulk	Liven 2	S C	MOIS	3√ DE	S	ZLASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip	Hammer)	_ DROP	30"	
					Ä		O	SAMPLED BYN	LOGGED E	BY MJB ON/INTERPRE	REVIEWED E	Υ	***************************************
0	H						sw	ALLUVIUM:				1-1 6	
-	$ \cdot $	_						Gray to grayish brow SAND; micaceous.	n, damp to moist, i	oose to mear	um dense, wen	-graded, im	e to coarse
				1					•				
	$\parallel \parallel$												
	$\left \cdot \right $	_						•	,				
5 -													-
,													
,	$\ \cdot\ $	1						Few silt.	•				
-		-						·					
		_											
•							ř						
10 -	H	-											
•					ı								
	H	-											
	\parallel	-											
15													
-	$\ \cdot\ $	-											
-													
	\parallel									•			
20										ROP	ING LOG		
<i>Ninyo & M</i> oore									LLEY MINING, F	RECLAMATION, AN T, LAKESIDE, CALI		TER	

106200005

DATE

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FIGURE

	SAMPLES			Œ			DATE DRILLED		2/22/11	BORIN	IG NO	B-12
et)	SAM	ТОТ	(%) :	DRY DENSITY (PCF)	بر	CLASSIFICATION U.S.C.S.	GROUND ELEVA	TION	421' ± (MSL)		SHEET	OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRI	LLING	8" Hollow-Stem A	uger (Diedric	ch D-120) (Tri	-County Drilling)
DEP	Bulk	BLO	MOIS	Y DE	S	LASS	DRIVE WEIGHT	1.	40 lbs. (Auto. Trip H	lammer)	_ DROP	30"
				<u></u>			SAMPLED BY	МЈВ	LOGGED BY		REVIEWE	D BY
20						SW-SM	ALLUVIUM: (Con	ntinued)			o coarse SAND with silt;
-			Ť				micaceous.	O WII, III	·	iso, won-gi	udea, mie i	o course of the with sitt,
║.												
1									,			
25 -												
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30 -												,
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			-									
35 -												
			「売へ			SP-SM			aturated, medium	dense, po	orly-graded,	fine to medium SAND
-							with silt; micaceou	us.				
40_	<u> </u>		<u> </u>	L	1111111		<u> </u>			BOR	ING LO	3
		Vi	nu	10	&	M	ore			EY MINING, I	RECLAMATION CT, LAKESIDE,	, AND GROUNDWATER
	_	V	U	7	-	7			PROJECT NO. 106200005	D,	ATE /11	FIGURE A-46

	T (0	1								
	PLE			<u> </u>			DATE DRILLED	2/22/11	BORING NO.	B-12
9	SAMPLES	P	(%)	, (PC		NOIE .	GROUND ELEVATION	ON 421' ± (MSL)	SHEET 3	OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	NG 8" Hollow-Stem A	Auger (Diedrich D-120) (Tri-Coun	ty Drilling)
DEP	Bulk	SLOW	LSION	OE	SY	ASSI U.\$	DRIVE WEIGHT	140 lbs. (Auto. Trip l	Hammer) DROP	30"
	غ اها	5	_	DR		ರ		JB LOGGED BY		•
40	\parallel				16833	CD CM	4	DESCRIPTION	N/INTERPRETATION	
						SP-SM	ALLUVIUM: (Conting Gray to grayish brown with silt; micaceous.	n, saturated, medium	dense, poorly-graded, fine	to medium SAND
							·			
	$\dagger \dagger$	-								
	$\parallel \parallel$									
45 ~	$\ \cdot\ $	-								
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	-	-								
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	-	1								
(0										
60)		<u> 1111311</u>				BORING LOG	
<i>Ninyo & M</i> oore						OM	ore	EL MONTE VALI RECH	LEY MINING, RECLAMATION, AND IARGE PROJECT, LAKESIDE, CALIFO	GROUNDWATER ORNIA

106200005

DATE

5/11

FIGURE

			· · · · · · · · · · · · · · · · · · ·								
	SAMPLES			F)			DATE DRILLED	2/22/11	BORIN	G NO	B-12
eet)	SAM	700	(%) =	DRY DENSITY (PCF)	٦	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 421' ± (MSL)		SHEET	4 OF <u>5</u>
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SEC.S	METHOD OF DRILLI	NG 8" Hollow-Stem Au	iger (Diedrich	n D-120) (Tri-Co	anty Drilling)
DEP	Bulk	BLOV	MOIS	Y DE	S	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer)	DROP	30"
				R		O	SAMPLED BY M	LOGGED BY DESCRIPTION		REVIEWED E	3Y
60		79/10"				SP	ALLUVIUM: (Conting Gray to grayish brown	nued) n, saturated, very den	se, poorly-g	graded, mediur	n SAND; micaceous.
-											
				·							
65 -						SM	Dark gray, saturated,	loose, silty fine to me	edium SAN	D; micaceous.	THE PERSON NAMED AND PARTY PARTY PARTY.
		11									
,							Very dense; silty fine	sand; few fine to coa	arse gravel.		
70 -										•	
		79/10"					Gray; silty fine to coa	arse sand; some fine t	o coarse gr	avel.	
									_		
75 -		50/2"									
		3012					GRANITIC ROCK: Gray, saturated, soft,	weathered GRANITI	C ROCK		
							Gray, Saturated, 301t,	weathered Greater 11	e Rock.		
•					· 经分						
	H										
					は新						
80_					132						
		9							BORI	NG LOG	
		V//	ΠU	10 d	&	N_0	ore	RECHA	EY MINING, R	ECLAMATION, AN	ID GROUNDWATER IFORNIA
		7	U		-	7		PROJECT NO.	DA	TE	FIGURE

5/11

[S									
	SAMPLES			E)		Ž	DATE DRILLED	2/22/11		
feet)	SA	BLOWS/FOOT	MOISTURE (%)	F	7	ATIO S.	GROUND ELEVATION	ON 421' ± (MSL)	SHEET _	5 OF <u>5</u>
DEPTH (feet)		WS/F	STUR	LISNE	SYMBOL	SIFIC I.S.C.	METHOD OF DRILLI	NG 8" Hollow-Stem Aug	er (Diedrich D-120) (Tri-C	ounty Drilling)
DEF	Bulk	BLO	MOK	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip Har	mmer) DROP	30"
				ă		5	SAMPLED BYM		MJB REVIEWED	BY
80	1	50/5"					GRANITIC ROCK: (Continued)		
		30/3			45		Gray, saturated, soft, Total Depth = 80.9 fe	weathered GRANITIC et.	ROCK.	
								ed at approximately 37	feet during drilling an	d measured at
	\prod						Backfilled with appro		of bentonite grout sho	rtly after drilling on
	\dashv						2/22/11.			
							Note: Groundwater may rise	e to a level higher than	that measured in bore	hole due to seasonal
									factors as discussed in	
85 -	$\parallel \parallel$	1								
	$oxed{+}$	-								
	+	1						STEIN	D GEOL	!
	-	-						FRANCIS	O. MORELAND	
								· CE	0 2071 RTIFIED	
90 -	\prod	1						\alpha\ ENGI	NEERING LOGIST	·
	-								CALIFORN	
										!
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95 -										
93"										
	\parallel									
	-									
-										
100										
		_ //3	50 5				ore	EL MONTE VALVES	BORING LOG	ND CROLLING WATER
		N/L	IU	TU 4	S		r mining, reclamation, a GE PROJECT, LAKESIDE, CA			

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FIGURE

	7			 		
et) SAMPLES			F)		***	DATE DRILLED 2/22/11 BORING NO. B-13
eet)	700	(%) =	Y (PC	اہر	ATION 3.	GROUND ELEVATION 429' ± (MSL) SHEET 1 OF 2
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP1	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	1		P.		J	SAMPLED BY MJB LOGGED BY MJB REVIEWED BY DESCRIPTION/INTERPRETATION
0					SW	ALLUVIUM:
_						Yellowish brown, dry to damp, loose to medium dense, well-graded, fine to coarse SAND; micaceous.
-						
-	-					
5						
	20	3.9	82.6			Medium dense.
+-	20	3.5	02.0			
	-					
				77744111		
10				X - 47 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
	22					
-						
1.5						
15	12					Tenno cilt
] 12					Trace silt.
	1					
				44484		
	1					
20						DODING LOG
	AJI		n.	e l	M	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA
	7 48 5 5 6	7 SI (SI	' '	/		RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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FIGURE

40_						44-	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT LAKESIDE, CALIFORNIA
35 -							OFCALIFORN
		4					CERTIFIED ENGINEERING GEOLOGIST
							FRANCIS O. MORELAND OF No 2071
30 -							TERED GE
3.0							Note: Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.
							Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling on 2/22/11.
							Total Depth = 26.5 feet. Groundwater not encountered.
25 -		20				SW-SM	Gray to grayish brown, damp, medium dense, well-graded, fine to coarse SAND with silt; micaceous.
		,					
20		20	6.6	112.6		SW ML	ALLUVIUM: (Continued) Yellowish brown, damp, medium dense, well-graded, fine to coarse SAND; trace silt; micaceous. Brown, damp, medium dense, fine sandy SILT; scattered medium sand; micaceous.
20				PO			SAMPLED BY MJB LOGGED BY MJB REVIEWED BY DESCRIPTION/INTERPRETATION
DEPTH (feet)	Bulk	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling) DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
(feet)	SAN	FOOT	RE (%)	пу (РС	ğ	CATION	GROUND ELEVATION 429' ± (MSL) SHEET 2 OF 2
	SAMPLES			F)			DATE DRILLED 2/22/11 BORING NO. B-13

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DATE

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FIGURE

	SAMPLES			(-			DATE DRILLED
et)	SAM		(%) :	DRY DENSITY (PCF)	ارا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 431' ± (MSL) SHEET 1 OF 2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
PEP	Bulk	BLO	MOIS	:Y DE	S	LASS	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				l h		O	SAMPLED BY MJB LOGGED BY MJB REVIEWED BY DESCRIPTION/INTERPRETATION
0	╁					SW	ALLUVIUM:
						0,.	Grayish and yellowish brown, damp, loose, well-graded, fine to medium SAND; trace silt; micaceous.
							nuce sit, intercous.
	$\dagger \dagger$						
	\sqcup						
	II	1					·
5 -							
		11 -	10.6	91.1			
	H						
	igert	4					
	\prod						·
10 -	╁						
		7					Loose to medium dense; well-graded, fine to coarse SAND; fewer silt.
		-					
		-			4		
	-	_					
15 -							
		17	3.2	103.3			Dry to damp; medium dense.
							·
	\vdash	-					
20	Ц				<u> </u>		BORING LOG
	1	Mil	NU	10	&	OM	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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FIGURE

	V.	? [T	T			
	SAMPI ES			F. (F.		z	DATE DRILLED 2/23/11 BORING NO. B-14
(eet)	AS	00 TO	MOISTURE (%)	DRY DENSITY (PCF)	7	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 431' ± (MSL) SHEET 2 OF 2
DEPTH (feet)		BLOWS/FOOT	TUR	TISN	SYMBOL	SFIC.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
범	Bak	BLO	MOIS	.y DE	S	LASS U	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				RO		O	SAMPLED BY MJB LOGGED BY MJB REVIEWED BY
20						SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)
		7				Own	Dark brown, damp to moist, loose to medium dense, silty fine SAND; micaceous.
·							
	H	-					
			<u> </u>				
						SW	Grayish brown, dry to damp, medium dense, well-graded, fine to coarse SAND; micaceous.
	$\ \cdot\ $	-					
25 -							
		28	4.1	100.7			
	H	_					Total Depth = 26.5 feet. Groundwater not encountered.
							Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling on 2/23/11.
	H						Note: Groundwater, though not encountered at the time of drilling, may rise to a higher level
30-							due to seasonal variations in precipitation and several other factors as discussed in the report.
	П						
	H	_					
							TERED GEO
		-					FRANCIS O. MORELAND (C)
35 -							CERTIFIED ENGINEERING GEOLOGIST
							de Cologia I
							A COMPA
	H	-					
	- -	-					
40_							
	_	A 1/2			<u> </u>	44-	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER
		/VII		TU (ダ /	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA	

DATE

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FIGURE

A-53

PROJECT NO.

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	SAMPLES			F)			DATE DRILLED	2/23/11	BORIN	G NO	B-15
eet)	SAN	100 TO0	(%) =	DRY DENSITY (PCF)	۲ ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	N 436' ± (MSL)		SHEET 1	OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC/ S.C.S	METHOD OF DRILLI	NG 8" Hollow-Stem A	uger (Diedric	h D-120) (Tri-County	/ Drilling)
DEP	Balk	BLO	MOIS	Y DE	S	SLASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip I	Hammer)	DROP	30"
		3		ä		O	SAMPLED BYM	B LOGGED BY		REVIEWED BY	
0		+				ML	ALLUVIUM:				1
-		-					Dark brown, damp, lo sand; micaceous.	ose to medium dens	e, fine sand	y SIL i; scattered	medium to coarse
-							,				
		_									•
5 -	П										
-	$\ \cdot\ $	1									
		4									
	\prod										
	+	-									
10-										······································	
						SM	Dark brown, damp, for sand; micaceous.	ose to medium dens	se, siny fine	SAND; scattered	medium to coarse
	$\ \cdot\ $										
	\prod										
15 -	\parallel	-									
											,
	H	1									
20	<u>L_L</u>				<u>titifff</u>				BOR	ING LOG	
<i>Ninyo & M</i> oore						DM	ore		EY MINING, R	ECLAMATION, AND C	

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FIGURE

	[m]				T				To all the same of	Washington Washington	
	SAMPLES			Ĕ		7	DATE DRILLED _	2/23/11	BORIN	IG NO	B-15
eet)	SAN	T00	E (%)	Y (PC	ابرا	ATIOI S.	GROUND ELEVAT	10N 436' ± (MSL)	-	SHEET2	OF5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	ENSIT	SYMBOL	SIFIC, I.S.C.(METHOD OF DRIL	LING 8" Hollow-Sten	1 Auger (Diedric	h D-120) (Tri-Cou	nty Drilling)
DEF	Bulk	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT _	140 lbs. (Auto, Tri	p Hammer)	_ DROP	30"
				۵		•	SAMPLED BY	MJB LOGGED I	BY MJB ON/INTERPRE	REVIEWED B	Υ
20	Ħ					SM	ALLUVIUM: (Cont	tinued)			ed medium to coarse
							sand; micaceous.	loose to medium de	aise, siny nine	SAND, Scatter	ed medium to coarse
25 -								C.,			
£3 -							Few medium to coa	rse sand; fewer silt.			
	H										
		l									
•											
30 -											
		,									
,											
	H										
								,			
35 -	H	l									
	H										
40											
		- J3				i A —		ET MODERN OF	BOR	ING LOG	D Cholara
		N/L		IU d	₽	$oldsymbol{U}$	ore			ECLAMATION, AN T, LAKESIDE, CALI	D GROUNDWATER FORNIA

106200005

DATE

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FIGURE

			J								
	SAMPLES			Œ			DATE DRILLED	2/23/11	_ BORING N	NO	B-15
et)	SAM	700	(%)	/ (PC	ر ا	TION.	GROUND ELEVATION	ON .436' ± (MSL)		SHEET 3	OF 5
DEPTH (feet)		BLOWS/FOOT	TURE	LISI	SYMBOL	IFICA S.C.S	METHOD OF DRILLI	NG 8" Hollow-Stem Au	iger (Diedrich D-	-120) (Tri-County	y Drilling)
DEP	Bulk	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	SY	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer)	DROP	30"
	امّا			S.		ਹ	SAMPLED BY M	JB LOGGED BY	млв R	EVIEWED BY	
40	\dashv					SM	ALLUVIÚM: (Contin	DESCRIPTION	/INTERPRETA	TION	
						Civi	Brown, damp, mediur	n dense, silty fine SA	ND; some me	dium to coarse	e sand; micaceous.
-											
-											
-	\Box										
-											
45			└罿৴			SW	Grayish brown, satura	ted, medium dense to	dense, well-g	graded, fine to	coarse SAND;
_							micaceous.				
-											
-					***************************************						
-											
50 -											
-											
-	\vdash								•		
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55 -											
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-	H										
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		:									
60_					I				BORING	G I OG	
		Vi	714	10	&	$M_{\rm D}$	ore	EL MONTE VALLE RECHA		AMATION, AND	
		V	J			AZ		PROJECT NO.	DATE		FIGURE

5/11

(T	T	T		ī	7					
	SAMPLES			[(-		_	DATE DRILLED	2/23/11	BORIN	G NO	B-15
eet)	SAN	50	(%) =	Y (PC	ڀ	ATION.	GROUND ELEVATION	ON 436' ± (MSL)		SHEET	4 OF5
DEP.TH (feet)		BLOWS/FOOT	MOISTURE (%)	LISN	SYMBOL	SIFIC/	METHOD OF DRILL	ING 8" Hollow-Stem A	Auger (Diedrich	n D-120) (Tr	i-County Drilling)
E	Bulk	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip l	Hammer)	DROP	30"
				ă			SAMPLED BYN	LOGGED BY DESCRIPTION		REVIEWE	ED BY
60	1					SW-SM	ALLUVIUM: (Contin	nued)			San to access S A NID with
		20					silt; micaceous.	atea, meatum dense	to dense, we	n-graded,	fine to coarse SAND with
	H										
65 -											
		51					Dense.				
70 -											:
	$oxed{\parallel}$	21									
	-										
75 -											
		39					Medium dense.				
80						SW+GW	Gray to grayish brow GRAVEL; micaceou	n, saturated, very de s.	nse, well-gra	aded, fine t	o coarse SAND and
		n #3								NG LO	
		Y //	74	10 8	&	N_{0}	ore	RECH	ARGE PROJECT	Γ, LAKESIDE,	
		7			_	y		PROJECT NO.	DA	ΤĒ	FIGURE

5/11

	Τω		T	l .	T								
	SAMPLES			Û,		7	DATE DRILLED 2/23/11 BORING NO. B-15						
eet)	SAN		(%)	Y (PC	ر	ATION.	GROUND ELEVATION 436' ± (MSL) SHEET 5 OF 5						
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)						
DEP	Bulk	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"						
		اد		R		O	SAMPLED BY MJB LOGGED BY MJB REVIEWED BY						
80	\vdash				91.00	SW+GW	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)						
		38				SVV+GVV	Gray to grayish brown, saturated, very dense, well-graded, fine to coarse SAND and GRAVEL; micaceous.						
	H	 		 -	2.30	SP	Gray to grayish brown, saturated, very dense, poorly-graded, medium SAND; scattered						
	\sqcup						gravel; micaceous.						
85 -													
95		50/4"		-									
	\prod	-											
	$\vdash \vdash$	-											
90 -		50/4"				GP-GM	Gray, saturated, very dense, poorly-graded, fine to coarse GRAVEL with silt; some cobbles.						
	H						Refusal to further drilling. Total Depth = 91.0 feet.						
							Groundwater encountered at approximately 45 feet during drilling. Backfilled with approximately 32 cubic feet of bentonite grout shortly after drilling on 2/23/11.						
	H												
	-						Note: Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.						
95 -													
							STERED GEOL						
							FRANCIS O. MORELAND						
	╁						No 2071 CERTIFIED						
		-					ENGINEERING GEOLOGIST						
							OF CALIFORN						
	T	1					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
100				<u> </u>			BORING LOG						
ALITHOUGH AND EL MONTE VALLEY MIN							EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER PECHAPGE PROJECT LAYESTIE CALLEONIA						
1		, was		, —			RECHARGE PROJECT, LAKESIDE, CALIFORNIA						

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DATE

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FIGURE

I	T	T		1 1		T			
et) SAMPLES			F)		-	DATE DRILLED	3/14/11	BORING NO.	B-16
eet)	100	E (%)	DRY DENSITY (PCF)	٦	CLASSIFICATION U.S.C.S.	GROUND ELEVATIO	N 444' ± (MSL)	SHEET	1 OF <u>3</u>
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC,	METHOD OF DRILLI	NG 8" Hollow-Stem Au	nger (Diedrich D-120) (Tr	i-County Drilling)
Bulk Driven	BLO	MOIS	ZY DE	S	CLAS! U	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) DROP	30"
			۵			SAMPLED BY MI	BG LOGGED BY DESCRIPTION	MBG REVIEWE	ED BY
0					SM	ALLUVIUM: Brown, moist, loose, s	silty fine SAND.		
							•		
	-								
	_					Dark brown; medium	dense.		
5							,		
	8								
	-								
	-								
	-								
10									
	15								
15					SP	Gray, moist, Toose, po	oorly-graded, fine SA	ND; some medium sa	ind; trace coarse sand.
	4								
									•
	1								
20									
	A #3	Fo F		<u> </u>	446		FL MONTE VALUE	BORING LO	
	7//	14	JU	Ý	$\mathbf{M}_{I_{I}}$	ore		ARGE PROJECT, LAKESIDE DATE	
	7				7		106200005	5/11	A-59

	PLES			(5)			DATE DRILLED	3/14/11	BORING NO.	B-16
et)	SAMPLES	TOC	(%)	DRY DENSITY (PCF)		NOIL	GROUND ELEVATION	ON 444' ± (MSL)	SHEET	2 OF <u>3</u>
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	VSITY	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLI	NG 8" Hollow-Stem A	uger (Diedrich D-120) (Tri-C	County Drilling)
DEP	Bulk	BLOV	MOIS	Y DE	λS	LASS	DRIVE WEIGHT	140 lbs. (Auto. Trip I	- Hammer) DROP	30"
				<u> </u>		U	SAMPLED BYM) BY
20						SP-SM	ALLUVIUM: (Contir	nued)	MINTERPRETATION	
		12					Gray, damp, medium	dense, fine sandy SII	LT; trace medium sand.	
25 -			T -			SM	Brown to gray, moist,	medium dense, silty	fine SAND.	
	+I	9								
						SP	Gray, moist, medium	dense, poorly-graded	d, fine SAND.	
30 -							,			
		16								
	H									
	Ш									
						SM	Gray to brown, moist	, medium dense, silty	fine SAND.	
35 -										
		9								
-										
-							METAVOLCANIC F	OCK,		
40_							Yellow, moist, soft, w	reathered METAVO	LCANIC ROCK.	
		. /3		ın	0	44~	ore	EL MONTE VALL	BORING LOG EY MINING, RECLAMATION,	AND GROUNDWATER
		∇II	777	TU d	Ý 🖊		UI E		ET MINING, RECLAMATION, ARGE PROJECT, LAKESIDE, C.	

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DATE

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FIGURE

	SAMPLES			<u>E</u>			DATE DRILLED 3/14/11 BORING NO. B-16
eet)	SAM	70	(%)	(PC	ابا	TION :	GROUND ELEVATION 444' ± (MSL) SHEET 3 OF 3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISN	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
		3		<u> </u>		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
40					1,615		METAVOLCANIC ROCK: (Continued)
		55					Yellow, moist, soft, weathered METAVOLCANIC ROCK.
						!	·
	$\dagger \dagger$						
	\coprod	1					
	\prod						
45 -		50/2"			337		Refusal to further drilling. Total Depth = 45.2 feet.
							Total Depth = 45.2 feet. Groundwater not encountered.
							Backfilled with approximately 16 cubic feet of bentonite grout shortly after drilling on 3/14/11.
	$\dagger \dagger$						
	\sqcup	_					Note: Groundwater, though not encountered at the time of drilling, may rise to a higher level d
						ı	to seasonal variations in precipitation and several other factors as discussed in the report.
	\prod					ı	
50 -	╁┼					ı	
							TERED GEO
						ı	G STANGE OF THE
	$\dagger \dagger$,	FRANCIS O. MORELAND ON CERTIFIED
	\dashv	-					ENGINEERING GEOLOGIST
							THE CE SHEET
55 -	$\parallel \parallel$						
	-						
	H						
	-	-					
60							
<i>Ninyo & M</i> oore						44-	BORING LOG
	1	M//		JU (\$£	W	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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FIGURE

et) SAMPLES		(F)			DATE DRILLED						
SAN	(%)	Y (PC	٦	ATION.	GROUND ELEVATION 443' ± (MSL) SHEET 1 OF 2						
DEPTH (feet) ulk iven SA RI OWS/FOOT	MOISTURE (%)	LISN	SYMBOL	SIFICA S.C.8	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)						
Bulk Driven	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"						
		K		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION						
0				SM	ALLUVIUM: Grayish brown, damp, loose to medium dense, silty SAND.						
					orayish brown, dainp, roose to median dense, only states						
· - -	_			sw	Gray, dry to damp, loose, well-graded, fine to coarse SAND.						
5											
9	3.8	100.0									
	+			SM	Light brown, moist, medium dense, silty, fine to coarse SAND; trace roots.						
10					·						
14	1 15.2	97.4									
-											
15											
12	1 15.2	97.4			Brown.						
20			ЩЩ		BORING LOG						
M	ini	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT LAKESIDE, CALIFORNIA									

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FIGURE

	_	T			1								
	SAMPLES						DATE DRILLED 2/25/11 BORING NO. B	-17					
eet)	SAM	700	(%)	(PC	بد	VTION.	GROUND ELEVATION 443' ± (MSL) SHEET 2	OF <u>2</u>					
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County D	rilling)					
DEP	Bulk	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP	30"					
)		P.		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION						
20						SM	ALLUVIUM: (Continued)						
		8					Brown, moist, medium dense, silty fine to coarse SAND.						
	+												
	-					SW	Gray, dry to damp, medium dense, well-graded, fine to medium SAND.	Annual Market region to the Annual Annual Comment					
25 -													
23		22	3.2	101.0									
			7,2	107.0		SM	Brown, moist, medium dense, silty SAND.						
	$\dashv +$						Total Depth = 26.5 feet. Groundwater not encountered.						
		_					Backfilled with approximately 9 cubic feet of bentonite grout shortly after 2/25/11.	er drilling on					
							Note:						
	\prod						Groundwater, though not encountered at the time of drilling, may rise to to seasonal variations in precipitation and several other factors as discuss						
30 -	+							·					
							ETERED GEO						
							FRANCIS O. MORELAND						
	\prod						No 2071 CERTIFIED						
	+						ENGINEERING GEOLOGIST						
35 -	-						E OF CALIFORN						
	+												
	\parallel	-											
40_													
		A J3	F 2 F		0 1	44-	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GRO RECHARGE PROJECT, LAKESIDE, CALIFORN	DUNDWATER					
	4	77//	7 <i>75!</i>	1U 4	X /		RECHARGE PROJECT, LAKESIDE, CALIFORN	TA					

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FIGURE

<u>A-63</u>

DEPTH (feet) Bulk Driven SAMPLES	BLOWS/FOOT MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED 2/23/11 BORING NO. B-18 GROUND ELEVATION 446' ± (MSL) SHEET 1 OF 2 METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling) DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30" SAMPLED BY MJB LOGGED BY MJB REVIEWED BY DESCRIPTION/INTERPRETATION
5	8 4.5	112.0		SM	ALLUVIUM: Dark brown, damp, loose, silty fine SAND; few clay; micaceous. Gray to grayish brown, dry to damp, loose to medium dense, well-graded, fine to coarse
15	18 1.7	105.6			Medium dense. BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT LAKESINE CALLEDONIA

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FIGURE

	S				T						
	SAMPLES			E)		2	DATE DRILLED	2/23/11	BORING NO.	B-18	
feet)	-SAI	.00T	MOISTURE (%)	DRY DENSITY (PCF)	占	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 446' ± (MSL)	SHEET	2 OF 2	
DEPTH (feet)		BLOWS/FOOT	STUR	LISNE	SYMBOL	SIFIC I.S.C.	METHOD OF DRILLI	NG 8" Hollow-Stem Auge	er (Diedrich D-120) (Tri	County Drilling)	
B	Bulk	вго	MOK		S	CLAS	DRIVE WEIGHT	140 lbs. (Auto. Trip Han	nmer) DROP	30"	
							SAMPLED BY M	LOGGED BY	MJB REVIEWE	D BY	
20						sw	ALLUVIUM: (Contir	nued)			
-		13					Gray to grayish brown SAND; micaceous.	n, damp, medium dense	e, well-graded, fine	o coarse, medium	
-											
-											
-											
25 -											
-		31									
-							Total Depth = 26.5 fe Groundwater not ence				
Backfilled with approximately 9 cubic feet of bentonite grout short 2/23/11.										ortly after drilling on	
-											
-	Note: Groundwater, though not en								time of drilling, ma	y rise to a higher level of	
30 -							to seasonal variations	in precipitation and se	veral other factors a	s discussed in the report	
30											
-											
-	-							EREDG	~		
								GSTEILE	(G)		
								FRANCIS O. MOR No 2071	ELAND S		
-	H							CERTIFIED ENGINEERIN	g /*/		
GEOLOGIST GEOLOGIST											
								OFOAL	FU:		
-											
-				-							
40								BORING LOG			
	<i>Ninyo & M</i> oore						ore		MINING, RECLAMATION GE PROJECT, LAKESIDE,	, AND GROUNDWATER	

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FIGURE

	ES						
	SAMPLES	-	(9)	CF)		N O	DATE DRILLED 3/10/11 - 3/11/11 BORING NO. B-19
(feet)	S	/F00.	IRE (9	ı) YTI	BOL	ICATI(C.S.	GROUND ELEVATION 444' ± (MSL) SHEET I OF 3
DEPTH (feet)	₹ e	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling) DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	Bulk	函	Ď	DRY		5	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
0	-					CIAL	DESCRIPTION/INTERPRETATION
						SW	ALLUVIUM: Light brown, moist, loose, well-graded, fine to coarse SAND.
-							
	H						
5 -							
		20					Medium dense; trace gravel (up to ½ inch).
	\prod						
	H	1					
10 -						SW-SM	Gray, moist, medium dense, well-graded, fine to medium SAND with silt.
		10					
	H	1					
15 -							
		18					Silty fine sand; trace subangular gravel (up to ¾ inch).
							, , , , , , , , , , , , , , , , , , ,
	++						
	\coprod						
20_			i				BORING LOG
		MÀ		[0	&	DN	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

| RECHARGE PROJECT, LAKESIDE, CALIFORNIA | PROJECT NO. | DATE | FIGURE | 106200005 | 5/11 | A-66

	SAMPLES						DATE DRILLED3/10/11 - 3/11/11 BORING NOB-19
et)	SAMI	100	(%)	DRY DENSITY (PCF)		NOIL	GROUND ELEVATION 444' ± (MSL) SHEET 2 OF 3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk Driven	BLOV	MOIS	₹Y DE	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				딮			SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
20						SM	ALLUVIUM: (Continued)
_		7					Dark brown, moist, loose to medium dense, silty fine SAND.
-							·
-						SW-SM	Grayish brown, moist, medium dense, well-graded, fine to medium SAND with silt.
25 -						OVV-OIVI	
23		27					
-		21					
-							Boring terminated on 3/10/11. Boring resumed on 3/11/11.
							Bornig resumed on 5/11/11.
-						SM	Grayish brown, moist, loose, silty fine to medium SAND.
30 -							
		4					
-	H						
-	$\left \cdot \right $						
35 -			<u>~₩</u> _/			SP	Grayish brown, saturated, medium dense, poorly-graded, fine to medium SAND.
-	-	17					
-							
-	H						
40_							
		Vi		n	e 1	AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO. DATE FIGURE
		V "	3		^_	AIn	RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO. DATE FIGURE

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								war-re-			
	PLES			(.			DATE DRILLED	3/10/11 - 3/11/11	BORING NO.	B-19	
et)	SAMPLES	TO	(%)	DRY DENSITY (PCF)		NOIT.	GROUND ELEVATION	ON 444' ± (MSL)	SHEET	3 OF	3
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	TISN	SYMBOL	IFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Aug	er (Diedrich D-120) (Tri	-County Drilling)	
DEP	Driven	BLOV	MOIS	Y DE	λS	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip Har	mmer) DROP	30"	
				ద		O	SAMPLED BY M	BG LOGGED BY	MBG REVIEWE	D BY	
40						SP	ALLUVIIM: (Conti		NTERPRETATION		
-						SP	ALLUVIUM: (Continuate Sand.	nued) d, medium dense, poor	ly-graded, fine to me	dium SAND; litt	tle coarse
45 -					ELLELE		Dark brown saturate	d, medium dense, silty	fine SAND		
50		9				SM	Loose.	FRANCIS NO. CEP ENGIN GEO	O. MORELAND O. 2071 STIFFED VEERING LOGIST CALIFORNIA		
55											
1 +	1	21					Dense.				
1 1	П						Pafigal on arough an	d aabblas			
T	1	50/1"ſ			ELEBEEE		Refusal on gravel and Total Depth = 57.1 fe	eet.			
∦ ∤	4						Groundwater encoun	tered at approximately oximately 20 cubic feet	35 feet during drilling of bentonite grout	ig. shortly after drill	ling or
							3/11/11.		•		•
60								nay rise to a level higher precipitation and seve			
		. #3							BORING LOC		
<i>Minyo & M</i> oore							ore	EL MONTE VALLEY RECHAR	MINING, RECLAMATION GE PROJECT, LAKESIDE,	I, AND GROUNDWA CALIFORNIA	TÉR
	_	7	U			7 -		PROJECT NO.	DATE	FIGURE	

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[F	T (0	T	Ţ	I							
	SAMPLES			íc.			DATE DRILLED	3/10/11	BORING I	NO	B-20
et)	SAM	10	(%)	(PC		NOIT.	GROUND ELEVATION	N 445' ± (MSL)		SHEET 1	OF2
DEPTH (feet)	П	IS/FC	URE	TIS	SYMBOL	FICA S.C.S	METHOD OF DRILLI	NG 8" Hollow-Stem	Auger (Diedrich D	-120) (Tri-Coun	nty Drilling)
DEP	Bulk	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SY	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip	Hammer)	DROP	30"
	خ ا ۵	5	_	Ŗ.		ರ		3G LOGGED B		EVIEWED BY	ſ
0	-				EEEEEEE	SM	ALLUVIUM:		N/INTERPRETA		
						SIVI ,	Light brown, moist, lo	ose, silty fine to m	edium SAND.		
-											
	-										
	\vdash	-									
5											
		10	7.0	95.3			Silty fine to coarse sa	nd			
-				32.5			Sity fine to course su				
-	H	-									
		1									
	\vdash	_									•
10 -											
		6									
	\vdash										
-											
	\vdash										
15 -											
		22	6.2	101.4			Medium dense; silty t	ina cand			
-		22	0.2	101.4			iviedidili delise, siity i	ine sanu.			
-											
											1
	-										
20_											
		A #3	50 #					FL MONTE VAL	BORING LEY MINING, RECI		GROUNDWATER
		7//	14	ju d	Ý	M_{II}	ore		HARGE PROJECT, L		

5/11

10				T 7									
et) SAMPLES			Ĺ,		7	DATE DRILLED 3/10/11 BORING NO. B-20							
eet)	DOT	(%) ≘	Y (PC	_	ATION S.	GROUND ELEVATION 445' ± (MSL) SHEET 2 OF 2							
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)							
DEP Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"							
			מֿ		9	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION							
20					SM	ALLUVIUM: (Continued)							
	21					Light brown, moist, dense, silty fine SAND.							
					,	•							
			_		ML	Dark brown, moist, loose, fine sandy SILT; some fine to medium sand.							
25													
	12												
						Total Depth = 26.5 feet.							
						Groundwater not encountered.							
	!					Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling on 3/10/11.							
						Note:							
						Groundwater, though not encountered at the time of drilling, may rise to a higher level due to seasonal variations in precipitation and several other factors as discussed in the report.							
30													
						ERFDO							
						GSTEREDGEO							
						FRANCIS O. MORELAND OF NO 2071							
						CERTIFIED ENGINEERING							
35						GEOLOGIST							
						CALIFOR							
40													
<i>Ninuo & M</i> oore						BORING LOG							
1 1	M/l	7/1	IN E	&	$\mathbf{N}\mathbf{N}$	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER							

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FIGURE

DEPTH (feet) Bulk SAMPLES	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	DATE DRILLED GROUND ELEVATION METHOD OF DRILLI DRIVE WEIGHT SAMPLED BYMI	ON 450' ± (MSL) NG 8" Hollow-Stem A 140 lbs. (Auto. Trip F	MBG REVIEWED	1 OF 2 unty Drilling)
10					SM	ALLUVIUM: Brown, moist, loose, s Trace coarse sand; tra Trace gravel (up to 3/4) Silty fine to medium s	silty fine SAND.	BORING LOG	
								EY MINING, RECLAMATION, A ARGE PROJECT, LAKESIDE, CAI	

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FIGURE

i=			·				7			
	SAMPLES			.F)		7	DATE DRILLED	3/10/11	BORING NO	B-21
eet)	SAN	00 TO	E (%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 450' ± (MSL)	SHEET	2 OF
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	INSIT	SYMBOL	SIFIC.	METHOD OF DRILLI	NG 8" Hollow-Stem Au	iger (Diedrich D-120) (Tr	i-County Drilling)
E	Bulk	BLO	MOIS	3Y DE	S) LAS	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) DROP	30"
				Ď		Ü	SAMPLED BY M	BG LOGGED BY DESCRIPTION	MBG REVIEWE	ED BY
20						SM	ALLUVIUM: (Conting Brown, moist, loose to	nued) o medium dense, silty	fine SAND: trace ro	ots.
	\vdash									
	Ц									
							METAVOLCANIC F Gray, dry, soft, weath	<u>(OCK</u> : ered METAVOLCA)	NIC ROCK.	
	$\dag \uparrow$	1					-			
	<u> </u>	-								
25 -	T	1								
	-	-								·
				,						
	+	1								
30 -		50/4"					Refusal to further dril Total Depth = 30.3 fe	lling.		· · · · · · · · · · · · · · · · · · ·
	-	-					Groundwater not enc	ountered.		
							Backfilled with appro	eximately 10 cubic fe	et of bentonite grout	shortly after drilling on
							Note:			
	\vdash	-					Groundwater, though			ay rise to a higher level du
							to seasonal variations	in precipitation and	several other factors	as discussed in the report.
								PRED	GE	,
35 -	H							SETET.		
		1						FRANCIS O. M No 207	ORELAND C	
								CERTIFI ENGINEER	ED 1.1	
								GEOLOG	ist ST	
	-	-						VEO E CA	IFO'S	
				,						
40									BORING LO	3
		Mi	n	10	&	$\mathbf{M}_{\mathbf{D}}$	ore		EY MINING, RECLAMATIO RGE PROJECT, LAKESIDE	N, AND GROUNDWATER
<i>Minyo & M</i> oore					A s_		PROJECT NO.	DATE	FIGURE	

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	S		T		П							
	SAMPLES			Ě		7	DATE DRILLED _	2/24	4/11	BORING	3 NO	B-22
eet)	SAM	70T	(%) =	Y (PC	ارا	YTIO!	GROUND ELEVAT	ION 454' ±	(MSL)		SHEET	1 OF2
DEPTH (feet)		BLOWS/FOOT	TURI	NSIT	SYMBOL	S.C.S	METHOD OF DRIL	LING 8" H	ollow-Stem Auge	r (Diedrich	D-120) (Tri-Co	unty Drilling)
DEP	Bulk	BLO	MOISTURE (%)	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT _	140 lbs.	(Auto. Trip Ham	mer)	DROP	30"
				, g		O	SAMPLED BY		OGGED BY _		REVIEWED 6	3Y
0						SM	ALLUVIUM:	DE	SCRIPTION/IN	TERPRE	<u> </u>	
						OW	Brown, moist, loose	e, silty, fine	to medium SA	ND.		
			 			SW	Gray, moist, mediu	m dense, w	ell-graded, fine	to coars	e SAND.	
5 -												
		18					,					
	H											
					1777111111							
10 -												
	M	9					Loose.					
	$\top \Delta$											
15 -												
	-	24	3.6	103.7			Dry to damp; medi	um dense.				
	H											
	Ш											
	H											
20												
				in.	e. I	AAn	ore	EL	MONTE VALLEY	MINING, RI	NG LOG ECLAMATION, AI	VD GROUNDWATER
		77.5/	7.7.54	JU (×	MIL	JUI G		RECHARC	E PROJECT	, LAKESIDE, CAL	IFORNIA

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DATE

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FIGURE A-73

	S	~												
	SAMPLES	_	(9	CF)		Z.	DATE DRILLED 2/24/11 BORING NO. B-22							
DEPTH (feet)	/S	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	30,	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 454' ± (MSL) SHEET 2 OF 2							
PTH	, E	/SMO	ISTU	ENS	SYMBOL	SSIFICAT U.S.C.S.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)							
ă	Bulk Driven	8	MO	JRY [S S	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"							
				_			SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION							
20		18				ML	ALLUVIUM: (Continued) Gray to grayish brown, moist, medium dense, fine sandy SILT.							
		10												
25 -					5555	sc	Brown, moist, stiff, clayey fine SAND.							
		19				30	Diowil, moist, only by this or a vo.							
							Total Depth = 26.5 feet.							
							Groundwater not encountered.							
							Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling on 2/24/11.							
							Note:							
							Groundwater, though not encountered at the time of drilling, may rise to a higher level du to seasonal variations in precipitation and several other factors as discussed in the report.							
30 -														
							STERED GEOLO							
							FRANCIS O. MORELAND							
							No 2071 CERTIFIED FIGURE FINE							
							ENGINEERING GEOLOGIST							
35 -							EOF CALIFOX							
40_														
				ın.	e I	AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO DATE FIGURE							
			J	, w	~ /	AIn	RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO. DATE FIGURE							

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			7		1 1						
	SAMPLES			F)			DATE DRILLED	2/28/11 and 3/1/11	BORING	NO	B-23
eet)	SAM	701	(%)	DRY DENSITY (PCF)	ار	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 455' ± (MSL)		SHEET	1 OF 5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	iger (Diedrich l	D-120) (Tri-	County Drilling)
DEP	Bulk	BLO	MOIS	₹ DE	S	YASS U	DRIVE WEIGHT	140 lbs. (Auto, Trip H	ammer)	DROP	30"
				P.O.		O	SAMPLED BYM	BG LOGGED BY DESCRIPTION		REVIEWE	D BY
0						SM	ALLUVIUM:		,	AHON	
							Brown, damp, loose,	silty fine to medium S	SAND.		
-	+										
-	\Box										
-											
5 -											
-											
-											
10 -				*							
-											
_											
15 -							Medium dense; scatte	ered coarse sand.			
											•
	$\dashv \dashv$										
-											
20							Micaceous.				
				in .	o 1	Ma	nra	EL MONTE VALLE	Y MINING, REC	IG LOG	, AND GROUNDWATER
		Y	14	JU (×	$\mathbf{A}I_{\mathcal{O}}$	ore	RECHA	RGE PROJECT,	LAKESIDE, (CALIFORNIA FIGURE
		7				₹		I NOVEOTINO.	DATE	- [riduke

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			,		
SAMPLES		Œ			DATE DRILLED 2/28/11 and 3/1/11 BORING NO. B-23
eet) SAM OOT	(%) =	DRY DENSITY (PCF)	ايرا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 455' ± (MSL) SHEET 2 OF 5
DEPTH (feet) Sulk riven BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFIC.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP Bulk Driven BLOV	MOIS		S	Y.ASS U	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
		P.		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
20				SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)
					Brown, damp, medium dense, silty fine to medium SAND.
25					Scattered fine to coarse gravel.
				·	
30 +					
35	壺				Saturated.
					Distriction.
40					
		in i	e. 1	AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER
/4//	13	TU C	×	$\mathbf{A}I_{\mathcal{I}}$	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO. DATE FIGURE

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[
et) SAMPLES		F)		DATE DRILLED 2/28/11 and 3/1/11 BORING NO. B-23
eet)	T000 ≡ (%)	DRY DENSITY (PCF)	SYMBOL CLASSIFICATION U.S.C.S.	GROUND ELEVATION 455' ± (MSL) SHEET 3 OF 5
DEPTH (feet)	BLOWS/FOOT	LISNS	SYMBOL SSIFICATI U.S.C.S.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP Bulk Driven	BLO	₹Y DE	SUASS	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
		10		SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
40			SM	ALLUVIUM: (Continued) Brown, saturated, medium dense, silty fine to medium SAND.
45				
1				
50				
55				
				Dense.
-				
60				POPING LOC
A	lini	in e	AA	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER PECHAPGE PROJECT LAWRENCE CALLEDRALIA

DATE

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FIGURE A-77

	SAMPLES			(-			DATE DRILLED 2/28/11 and 3/1/11 BORING NO. B-23
et)	SAM	TOC	(%) :	(PC		NOIT.	GROUND ELEVATION 455' ± (MSL) SHEET 4 OF 5
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISN	SYMBOL	IFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Driven Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				R.		0	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
60						SP-SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)
		43					Brown to grayish brown, saturated, dense, poorly-graded, fine to medium SAND with silt.
-							
	\vdash						
						,	•
65 -							
	+I	41					Very dense; fine to coarse sand; scattered gravel; trace roots.
	\Box						
	\vdash		<u> </u>			SW-SM	Brown to grayish brown, saturated, very dense, well-graded, fine to coarse SAND with
70 -						OVV-OIVI	silt.
		50					
		30					
	\vdash						
75 -							
		34					Gray.
							•
-							
-							
80							PODING LOC
		Mi	n	10 8	&	Mn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT. LAKESIDE. CALIFORNIA

PROJECT NO. DATE FIGURE 106200005 5/11 A-78

				10									
100	<u> </u>	<u> </u>	1						BORING LOG				
100													
	-	-											
	$ \cdot $	1											
	\sqcup	_											
	$\parallel \parallel$	1											
								OF C	ALI				
95 -													
	H	-						ENGINEI GEOLO	ERING /				
								No 20	071				
								FRANCIS O. I	MODEL AND CO				
	H	-						KERED	GEO				
	$\parallel \parallel$	1					. ,			r			
							Note: Groundwater may rise seasonal variations in precip						
90 -										!			
	+	-					Backfilled with approximate 3/1/11.						
	\prod				6141413		Total Depth = 88.0 feet. Groundwater encountered a	t approximately 35	feet during drilling				
							Refusal to further drilling.						
] .											
	H	61					Trace cobbles.						
85 -								,					
_						SVV-SM	Stay, Saturated, very defise,	well-graded, fille t	o coaise sand will	i 511t.			
	$\parallel \parallel$	<u> </u>	<u> </u>			OW OF	Gray. saturated, very dense,	well-graded fine t	O COARSE SAND WILL	n eilt			
	-						<u> </u>						
							Boring terminated on 2/28/1 Boring resumed on 3/1/11.	11.					
	-	-											
		59					Gray, saturated, very dense,	poorly-graded, fine	e to medium SAND				
80					- 	SP		DESCRIPTION/INTE	ERPRETATION				
-	خُ اِهُ	2 00	Σ	DRY		7	SAMPLED BY MBG	LOGGED BY N	 ∕BG REVIEWED				
DEPTI	Bulk	TOM	IOIST	DEN	SYN	ASSIF U.S.		lbs. (Auto, Trip Hamm		30"			
DEPTH (feet)	S	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 455 METHOD OF DRILLING 8"		SHEET	5 OF 5			
	SAMPLES	 	(§	PCF)		N O							
	ES						DATE DOULED 2/20/1	1 and 2/1/11	BORING NO.	B-23			

DATE

5/11

FIGURE

T o		T		T						
et) SAMPLES			Ę,		7	DATE DRILLED	3/3/11	BORIN	G NO	B-24
SAN SAN	00	(%) =	γ (PC	٦.	ATION.	GROUND ELEVATION	ON 453' ± (MSL)		SHEET	OF5
DEPTH (feet)	BLOWS/FOOT	TUR	NSIT	SYMBOL	SEC.	METHOD OF DRILL	ING 8" Hollow-Stem At	iger (Diedrich	n D-120) (Tri-Cou	inty Drilling)
DEP Bulk	BLO BLO	MOISTURE (%)	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer)	_ DROP	30"
	٦		8		O	SAMPLED BYM	BG LOGGED BY		REVIEWED B	Υ
0	-				SP	ALLUVIUM:	DESCRIPTION	INTERPRE	TATION	
					-	Light brown, damp, le	oose, poorly-graded,	fine SAND	•	
	-									
	1									
5										
	35					Medium dense; trace	gravel (up to ½ inch)).		
						•		,		
	-									
		 			SM	Light brown, damp, r	nedium dense, silty fi	ne SAND;	little coarse sar	nd.
10										
	-									
	-									
15										
						Moist; trace roots.				
	1					,				
	-									
	1									
	-		,							
20										
	A #3	Se s		_	4 A		ET MONTE VALLE		NG LOG	D ODOLBENIL TEN
	// //	14	JU &	₹.	M_{II}	ore	EL MONTE VALLI RECHA PROJECT NO.	ARGE PROJECT	r, lakeside, cali	
H	₹				v	<u>}</u> [FRUJEUT NU.	DA	1E [FIGURE

5/11

		1							
et) SAMPLES					DATE DRILLED	3/3/11	BORING	NO	B-24
SAM	(%)	r (PC	اب	VIION .	GROUND ELEVATION	ON 453' ± (MSL)		SHEET 2	OF5
DEPTH (feet)	BLOWS/FOUT	TISN	SYMBOL	S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	ger (Diedrich D)-120) (Tri-Cou	nty Drilling)
Bulk Driven	BLO	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	ammer)	DROP	30"
		R		O	SAMPLED BY M	BG LOGGED BY		EVIEWED B	Υ
20				SM	ALLUVIUM: (Contin	DESCRIPTION/	INTERPRETA	TION	
					Light brown, moist, n gravel (up to ½ inch)	nedium dense, silty fir	ie SAND; litt	le medium to	coarse sand; trace
					graver (up to 72 men)	,			
25					Brown; wet.				
									·
30					Fine to medium sand	; little coarse sand; tra	ice roots.		
					Dense.				
35									
35 +				SW	Brown, moist, dense,	well-graded, fine to c	oarse SAND		The second place again with any and argue and are
40									
	lin.		, 1	Ma		EL MONTE VALLE	BORIN Y MINING, REC		O GROUNDWATER
/ /	444	JU d		\mathbf{M}_{II}	ore	RECHA.	RGE PROJECT, I	AKESIDE, CALI	FORNIA FIGURE

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	SAMPLES			[E			DATE DRILLED	3/3/11	BORING NO.	B-24
et)	SAM	χότ	(%) ::	DRY DENSITY (PCF)	ار ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 453' ± (MSL)	SHEET	3 OF5
DEPTH (feet)		BLOWS/FOÖT	MOISTURE (%)	TISN	SYMBOL	S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	ger (Diedrich D-120) (Tri-Co	ounty Drilling)
E	Bulk	BLO _V	MOIS	ĭY DE	S	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	ammer) DROP	30"
				P. C			SAMPLED BYM	BG LOGGED BY		BY
40	+		草			SW	ALLUVIUM: (Conti		INTERPRETATION	
			=				Brown, saturated, der	nse, well-graded, fine	to coarse SAND.	
	Ш									
	H									
4.5										
45 -										
	H									:
					211275					
50 -										
	H						,			1
55 -	Ш									
],,							Grayish brown; mica	ceous.		
	- -									
						ı				
	\square				177 11		Trace silt.			
							Hace sitt.			
60			<u> </u>		f::::::::				PODING LOC	
<i>Ninyo & M</i> oore								EL MONTE VALLE	BORING LOG	ND GROUNDWATER
			1 / J C/	ر کی ر	~ #		JUL G	RECHA	RGE PROJECT, LAKESIDE, CAL	LIFORNIA

DATE

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FIGURE

SSIFICATION U.S.C.S. BY TH (feet) SAMI SAMI US.C.S. SAMI SAMI SAMI SAMI SAMI SAMI SAMI SAM	3/3/11 BORING NO. B-24 ATION 453'± (MSL) SHEET 4 OF 5 BLLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling) 140 lbs. (Auto. Trip Hammer) DROP 30" MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
60 31 SM ALLUVIUM: (Co Brown, saturated, 65 — 13 Dense.	ntinued) medium dense, silty fine SAND.
Medium dense. Nimun & Annre	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER

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FIGURE A-83

	SAMPLES			(<u>F</u>		_	DATE DRILLED	3/3/11	BORING NO.	B-24			
eet)	SAN		(%) :	Y (PC	ړ	ATION S.	GROUND ELEVATIO	N 453' ± (MSL)	SHEET	5 OF 5			
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISI	SYMBOL	SIFIC/	METHOD OF DRILLII	NG 8" Hollow-Stem	Auger (Diedrich D-120) (Tri-Co	unty Drilling)			
DEF	Bulk	BLO	MOIS	ORY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto, Trip	Hammer) DROP	30"			
				۵			SAMPLED BY ME		Y MBG REVIEWED B	BY			
80						SM	ALLUVIUM: (Conting Brown, saturated, med	ued)					
	H	12					,	, ,					
-													
-	\prod					SP-SM	Brown, saturated, med	lium dense, poorly	-graded, fine SAND with si	Tt			
85 -													
-		22											
							Refusal to further drill						
								ered at approximat	ely 40 feet during drilling.				
-	$ \cdot $						Backfilled with approximately 30 cubic feet of bentonite grout shortly after drilling on 3/3/11.						
-	H	-					Note:						
90 -	-	-							han that measured in boreh her factors as discussed in t				
-								(5)	ERED GEOLO				
-	H							FR.	ANCIS O. MORELAND				
	\vdash	-							CERTIFIED ENGINEERING				
95 –									GEOLOGIST				
,									OF CALIFO:				
-													
-	$\parallel \parallel$												
	-												
100					1								
A 73 A A									BORING LOG				
	1	MII	1//	<i>111 t</i>	& /	IIII	ure		LEY MINING, RECLAMATION, AL				

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DATE

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FIGURE

[T.a	1										
JES				1		DATE DRILLED	3/4/11	BORING	NO	B-25	
eet)	707	(%)	DRY DENSITY (PCF)	7	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 465' ± (MSL)		SHEET _	1 OF 2	
DEPTH (feet)	BLOWS/FOOT	TURE	NSIT	SYMBOL	S.C.S	METHOD OF DRILL	NG 8" Hollow-Stem A	uger (Diedrich D	0-120) (Tri-C	County Drilling)	
DEP Bulk Driven	BLOV	MOISTURE (%)	Y DE	ર્જ	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip I	Hammer)	DROP _	30"	
			DR		0	SAMPLED BY M	BG LOGGED BY	' <u>MBG</u> R	REVIEWED) BY	
0					SM	ALLUVIUM:					
						Gray, damp, loose, si	ity fine to medium S	AND.			
					SW-SM	Gray, damp, medium	dense, well-graded,	fine to coarse	SAND wit	th silt.	
5						·					
	19	3.5	110.5								
	_								•		
	-										
	1										
10											
	16										
									,		
				Hill							
	-										
15											
	45	6.2	100.0			Dense.					
-											
	-										
20	<u></u>			ШШ		1					
	AI		in i	e- 1	AAn	ore	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA				
		"3		* /	Ain	WI G	RECH PROJECT NO.	IARGE PROJECT, DATE		ALIFORNIA FIGURE	

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METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling) DRIVE WEIGHT	Г			Τ		T 1									
### ### ### ### #### #################		PLES			Œ		_	DATE DRILLED 3/4/11 BORING NO. B-25							
20 20 30 31 31 32 33 34 34 34 30 30 30 30 30 30 30 30 30 30 30 30 30	eet)	SAN	700	(%)	Y (PC		ATION S.	GROUND ELEVATION 465' ± (MSL) SHEET 2 OF 2							
SAMPLED BY MBG LOGGRIPTION/INTERPRETATION DESCRIPTION/INTERPRETATION SM ALLUYIUM: (Continued) Gray, damp, medium dense, silty fine SAND. ML Brown, moist, medium dense, fine sandy SILT. Loose. Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling. 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher let to seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations are right of the seasonal variations and several other factors as discussed in the right of the seasonal variations are right of the seasonal variations and several other factors as discussed in the right of the seasonal variation and several other factors as discussed in the right of the seasonal variation and several other factors ar	TH (f		NS/F(TURE	NSIT	MBO	SIFIC/	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)							
SAMPLED BY MBG LOGGRIPTION/INTERPRETATION DESCRIPTION/INTERPRETATION SM ALLUYIUM: (Continued) Gray, damp, medium dense, silty fine SAND. ML Brown, moist, medium dense, fine sandy SILT. Loose. Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling. 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher let to seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations are right of the seasonal variations and several other factors as discussed in the right of the seasonal variations are right of the seasonal variations and several other factors as discussed in the right of the seasonal variation and several other factors as discussed in the right of the seasonal variation and several other factors ar	DEF	Bulk	BLO	MOIS	₹Y DE	Ś	J.AS. U	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"							
SM ALLUVIUM: (Continued) Gray, damp, medium dense, silty fine SAND. Brown, moist, medium dense, fine sandy SILT. Loose. Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher k to seasonal variations in precipitation and several other factors as discussed in the results of the process o					Ö		Ü								
Brown, moist, medium dense, fine sandy SILT. Loose. Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher let to seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations in precipitation and several other factors as discussed in the results of the seasonal variations of	20	7					SM	ALLUVIUM: (Continued)							
Loose. Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling. 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher to seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations in precipitation and several other factors as discussed in the right of the seasonal variations are seasonal variations.	+	-/	13					Gray, damp, medium dense, siny tine SAND.							
Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher let to seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations in precipitation and several other factors as discussed in the recommendation of the seasonal variations and the seasonal variations are seasonal variations.							ML	Brown, moist, medium dense, fine sandy SILT.							
Loose. Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher let to seasonal variations in precipitation and several other factors as discussed in the reconstruction. Total Depth = 26.5 feet. Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling 3/4/11. Note: Groundwater, though not encountered at the time of drilling, may rise to a higher let to seasonal variations in precipitation and several other factors as discussed in the reconstruction. GENTRIPED GEOGRAPHICAL CONTRIBUTION OF THE PROPERTY															
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Groundwater, though not encountered at the time of drilling, may rise to a higher to seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors as discussed in the respective of the seasonal variations in precipitation and several other factors are seasonal variations.		+													
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FRANCIS O. MORELAND No 2071 CERTIFIED ENGINEERING								to seasonal variations in precipitation and several other factors as discussed in the report.							
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CERTIFIED ENGINEERING		+													
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OF CALIFORN								CALIFORE!							
35	35	+													
		+													
		$\perp \mid$													
	-	+													
	40														
BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA			Mi	771	in.	&	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER								

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et)	3					DATE DRILLED	3/4/11	BORING	S NO	B-26	
Set)	TO TO	(%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 469' ± (MSL)		SHEET _	1 OF _	6
DEPTH (feet)	iven J	TURE	VISIT	SYMBOL	IFICA S.C.S	METHOD OF DRILL	NG 8" Hollow-Stem Aug	ger (Diedrich	D-120) (Tri-C	County Drilling)	
DE P	riven	MOISTURE (%)	Y DEI	λS	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	mmer)	DROP	30"	
	۵		ä		S	SAMPLED BY M			REVIEWED	BY	
		-			ML	ALLUVIUM:	DESCRIPTION/I	NTERPRET	ATION		
						Brown, moist, loose,	fine sandy SILT.				
5											
		 -			SM	Brown, moist, loose t	o medium dense, silty	fine SAND			of weather Million often market
-											
10	_										
15						Trace coarse sand.					
	-										
	_										
20						-11					
				o 1	44-		EL MONTE VALLE		NG LOG	AND GROTING	ATER
	/ \//	14		Ý	M_{II}	ore			LAKESIDE, C	ALIFORNIA.	
II .	v				V	il	FRUSEUT NU.	DAI	_	FIGUR	E.

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	SAMPLES			(DATE DRILLED 3/4/11 BORING NO. B-26			
eet)	SAM	TOC	(%)	DRY DENSITY (PCF)	ر	CLASSIFICATION U.S.C.S.	GROUND ELEVATION 469' ± (MSL) SHEET 2 OF 6	_		
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	TISN	SYMBOL	S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)			
DEP	Bulk	BLO\	MOIS	Y DE	\S	LASS U.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"	_		
				g.		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY	-		
20	\forall					SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)			
	$\perp \mid$						Light brown, moist, loose to medium dense, silty fine SAND; few coarse sand.			
1	+						Medium dense.			
25							Silty fine to medium sand.			
+	+									
	+									
	\dagger									
30 -	+						Some coarse sand.			
	Ш									
†	П									
1	+									
	\perp									
35										
							Silty fine to coarse sand.			
	+									
	$\perp \mid$									
			•							
40	<u> </u>						BORING LOG			
	MINUO & MOORE EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA									

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et) SAMPLES			(£			DATE DRILLED	3/4/11	BORING NO.	B-26
eet)	DOT	(%) =	Y (PC	_	ATION S.	GROUND ELEVATION	ON 469' ± (MSL)	SHEET	3 OF6
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.8	METHOD OF DRILL	ING 8" Hollow-Stem Au	ger (Diedrich D-120) (Tr	i-County Drilling)
DEP Bulk Driven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	mmer) DROP	30"
			۵			SAMPLED BYM		MBG REVIEW	ED BY
40					SM	ALLUVIUM: (Conti	nued)		
						Brown, wet, medium	dense, silty fine to coa	arse SAND.	
+									
-									
			٠						
45		후				Saturated; micaceous			
50									
						Trace gravel (up to ½	inch).		
			-						
55						Silty fine sand; trace	coarse sand.		
						Dark brown, saturate	d, dense, fine sandy S	ILT	
					,,,,,,		•		
60									
60 1 1				milli	<u> </u>			BORING LO	G
	Vi	714	10	&	DN	ore		Y MINING, RECLAMATIO RGE PROJECT, LAKESIDE	N, AND GROUNDWATER
	V	U		-	V •	· 	PROJECT NO.	DATE	FIGURE

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DEPTH (feet) Bulk SAMPLES Driven DEPTH (feet) BLOWS/FOOT	MOISTURE (%) DRY DENSITY (PCF)	SYMBOL	M CLASSIFICATION U.S.C.S.	DATE DRILLED 3/4/11 BORING NO. B-26 GROUND ELEVATION 469' ± (MSL) SHEET 4 OF 6 METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling) DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30" SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued) Dark brown, saturated, medium dense, silty fine SAND. Dark gray, saturated, medium dense to dense, well-graded, fine to coarse SAND.
65 — 23			SM	Grayish brown, saturated, dense, silty fine SAND.
70			SW-SM	Grayish brown, saturated, dense, well-graded, fine to coarse SAND with silt.
75 42				Very dense; few gravel up to (1½ inch). BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT LAKESIDE CALIFORNIA

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FIGURE

	SAMPLES			<u>ا</u>			DATE DRILLED	3/4/11	BORING	NO		B-26	
eet)	SAM	707	(%)	r (PC)	پ	VTION .	GROUND ELEVATION	ON 469' ± (MSL)	····	SHEET _	5	OF _	6
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Aug	er (Diedrich D	0-120) (Tri-0	County	Drilling)	
DEF	Bulk	BLO	MOIS	DRY DENSITY (PCF)	Ś	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip Han	nmer)	DROP _		30"	
				۵			SAMPLED BYM	BG LOGGED BY DESCRIPTION/IN		REVIEWED	D BY	······································	
80	1	38				SP-SM					um S/	AND wit	h silt;
-		!					micaceous.						
-													
	H												
-		apart arms more block		»		SW-SM	Gray, saturated, very	dense, well-graded, fin	e to coarse	SAND wi	th silt.		
85 -								-					
		50/4"											
90 -													
		78/10"											
						SM	Grayish brown, satur	ated, very dense, silty f	ine to medi	um SAND	J. — —		· william stronger surveys party
	H						Fine to coarse sand.						
-			-										
95 -							Dense.						
		24						a cond					
							Dark brown; silty fin	e sand.					
		!											
	H	!											
100									DOC!	0100			
				in i	e	AAn	nro	EL MONTE VALLEY	MINING, REC		AND G		ATER
EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWARECHARGE PROJECT, LAKESIDE, CALIFORNIA PROJECT NO. DATE FIGURE											E		

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	LES						DATE DRILLED 3/4/11 BORING NO. B-26
et)	SAMPLES	01	(%)	(PCF		NOIT	GROUND ELEVATION 469' ± (MSL) SHEET6 OF6
DEPTH (feet)	П	BLOWS/FOOT	rure	SITY	SYMBOL	FICA:	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEPT	Bulk	SLOW	MOISTURE (%)	DRY DENSITY (PCF)	SYI	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
	ا ا	-	_	D. C.		ਠ	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
100					EFFFFF		DESCRIPTION/INTERPRETATION
		50/3"				SM	ALLUVIUM: (Continued) Dark brown, saturated, very dense, silty fine SAND; some gravel (up to 2 inches). Refusal to further drilling. Total Depth = 101.0 feet.
-							Groundwater encountered at approximately 45 feet during drilling. Backfilled with approximately 35 cubic feet of bentonite grout shortly after drilling on 3/4/11.
							Note:
		-					Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
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-							RED GE
		-					CE TE LA COLONIA DE LA COLONIA
-		-					FRANCIS O. MORELAND ON No 2071
110 -							CERTIFIED ENGINEERING GEOLOGIST
-							OF CALIFOT
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120						and the second	PODING LOG
<i>Ninyo & M</i> oore					e I	AAn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER
	4	7 7 4 4	/	<i>, u</i> '	~ /		RECHARGE PROJECT, LAKESIDE, CALIFORNIA

DATE

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FIGURE

	SAMPLES			Œ,		•••	DATE DRILLED	2/25/11	BORING NO.	B-27
eet)	SAN	700	(%) =	DRY DENSITY (PCF)	_	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 477' ± (MSL)	SHEET 1	OF2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SEC.8	METHOD OF DRILLI	NG 8" Hollow-Stem A	uger (Diedrich D-120) (Tri-Cour	nty Drilling)
HG.	Bulk	BLO	MOIS	.γ DE	S	SASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip I	Hammer) DROP	30"
		3		F.		O	SAMPLED BY M	BG LOGGED BY	MBG REVIEWED BY	Υ
0	$\dag \dag$					SM	ALLUVIUM:		VINTERPRETATION	
		-					Brown, damp, mediur	n dense, silty SAND).	
						*				
	H	-					Scattered gravel (up t	o 1 inch).		
	Ц.									
							-			
5 -										
		52	6.0	121.2			Dense; trace gravel (u	ip to 1 inch).		
	\prod	1								
	\vdash	-								
10-										
		20					Medium dense to den	se: trace roots: few	gravel	
-								,	5	
	H	1		,						
-		-								
15	\downarrow	1								
-	$\coprod \setminus$	34					Medium dense.			
		1								
-		-								•
-	-]								
								Y		
20_	<u> </u>				<u> </u>		1		BORING LOG	
	1	Mil	77/	In a	&	Mn	ore		LEY MINING, RECLAMATION, AND	

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	SAMPLES			Œ.			DATE DRILLED 2/25/11 BORING NO. B-27
eet)	SAN) TO	(%) =	Y (PC	١	ATION.	GROUND ELEVATION 477' ± (MSL) SHEET 2 OF 2
DEPTH (feet)		BLOWS/FOOT	TUR	NSIT	SYMBOL	SSIFICA U.S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEP	Bulk	BLOV	MOISTURE (%)	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
				8		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY
20			-		2,182.83	sw	DESCRIPTION/INTERPRETATION ALL LINITIDA: (Continued)
		24	3.1	103.1		SVV	ALLUVIUM: (Continued) Gray, dry to damp, medium dense, well-graded, fine to coarse SAND.
-							
-							
-		 		 		SM	Grayish brown, damp, dense, silty fine to coarse SAND.
25							
_		22					
	-					•	Total Depth = 26.5 feet.
-							Groundwater not encountered. Backfilled with approximately 9 cubic feet of bentonite grout shortly after drilling on
-	-						2/25/11.
_							Note:
							Groundwater, though not encountered at the time of drilling, may rise to a higher level duto seasonal variations in precipitation and several other factors as discussed in the report.
30 -							
-	-	-					
							GTERED GEOV
							FRANCIS O. MORELAND
-	H						CERTIFIED
-							ENGINEERING GEOLOGIST
35							TOF CALIFORNIA
							OF PARTY.
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-		1					
_	-						
40							
		A #3	50 =		_ 4		BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER PECHAPGE PROJECT LAMESUDE, CALLED NIA
	4	TV/I	7//		\$\$ <u></u>		EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER

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et)			Œ.		_	DATE DRILLED	3/8/11 - 3/9/11	BORING	S NO	B-28
eet)	100	(%)	DRY DENSITY (PCF)	_	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 471' ± (MSL)		SHEET _	1 OF <u>6</u>
DEPTH (feet)	iven Jon BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	ager (Diedrich	D-120) (Tri-C	County Drilling)
Bulk	rriven BLO\	MOIS	Y DE	S	LASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer)	DROP _	30"
	Ω		8		0	SAMPLED BYN	BG LOGGED BY	MBG	REVIEWED	BY
0					SM	ALLUVIUM:	DESCRIPTION	INTERPRET	ATION	
					OIVI	Light brown, moist, l	oose, silty fine to med	lium SAND	; trace coars	e sand.
	_									
	_									
_										
5							-			
-	-									
+	-									
10	-									
	_									
	-									
15	_					Micaceous.				
						Wilcaccous.				
										·
	_									
20						Few coarse sand.				
		9							NG LOG	
	N		10 °	&	Na	ore	RECHA	EY MINING, RE ARGE PROJECT.	CLAMATION, A , LAKESIDE, CA	AND GROUNDWATER ALIFORNIA
•	- ▼	U		_	7		PROJECT NO.	DAT	E	FIGURE

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et) SAMPLES	;		<u>.</u>			DATE DRILLED	3/8/11 - 3/9/11	BORING NO	B-28
SAM	100 TO	(%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 471'± (MSL)	SHEET	2 OF6
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	S.C.S	METHOD OF DRILLI	NG 8" Hollow-Stem Aug	ger (Diedrich D-120) (Tr	i-County Drilling)
DEP Bulk Driven	BL.Ov	MOIS	Y DE	S	:LASS U.	DRIVE WEIGHT	140 lbs. (Auto, Trip Ha	mmer) DROP	30"
			P.A.		O	SAMPLED BY M	BG LOGGED BY		ED BY
20					SM	ALLUVIUM: (Contir		NTERPRETATION	
					OW	Light brown, moist to	wet, loose, silty fine t	o medium SAND; tr	ace coarse sand.
25						Silty fine sand.			
30									
.35		귳				Saturated; trace roots			
40				<u>teeteel</u>		1		BORING LO	G .
	VŽ		10	&	ON	ore	EL MONTE VALLE RECHAF		N, AND GROUNDWATER
	▼	U			y •		PROJECT NO.	DATE	FIGURE

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		·		т Т						
et) SAMPLES			Ĕ.		7	DATE DRILLED	3/8/11 - 3/9/11	_ BORING N	O	B-28
feet)	00T	MOISTURE (%)	DRY DENSITY (PCF)	7	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 471' ± (MSL)	SI	HEET3_	OF6
DEPTH (feet)	BLOWS/FOOT	TUR	NSIT	SYMBOL	SIFIC.	METHOD OF DRILL	ING 8" Hollow-Stem Au	iger (Diedrich D-1	20) (Tri-Count	y Drilling)
DEP Bulk Driven	BLO	MOIS	3√ DE	Ś)LAS	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) [DROP	30"
			ğ		O	SAMPLED BYN	BG LOGGED BY	MBG RE	VIEWED BY	4
40					SM	ALLUVIUM: (Conti				
						Brown, saturated, 100	se, sitty line SAND;	intie medium sa	ina.	
	•									
45						Trace gravel (up to 3	ź inch).			
						•				
50										
								,		
55						Medium dense; trace	coarse sand.			
									•	
				FEETER	SP	Grayish brown, satur	ated, medium dense, j	poorly-graded,	medium SA	ND.
60										
	n #3	-		1				BORING	LOG	
	V//	74		&	$N_{\it D}$	ore	RECHA	EY MINING, RECLA RGE PROJECT, LAI	MATION, AND KESIDE, CALIFO	DRNIA
	7	J			Y		PROJECT NO. 106200005	DATE 5/11		FIGURE A-97

	ES				T							
	SAMPLES	-	9	CF)		N O	DATE DRILLED _		8/11 - 3/9/11	- BORIN	G NO	
DEPTH (feet)	/S	BLOWS/FOOT	MOISTURE (%)	DRY DENSITY (PCF)	ğ	CLASSIFICATION U.S.C.S.	GROUND ELEVAT				-	OF 6
EPTH	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	OWS	ULSIO	DENS	SYMBOL	SSIFI U.S.C	METHOD OF DRIL					
ā	Bulk	B	Σ	ORY [CLA	DRIVE WEIGHT				_ DROP	30"
							-	MBG	_ LOGGED BY DESCRIPTION/	MBG INTERPRE	REVIEWED B	Y
60		13				SM	ALLUVIUM: (Con Grayish brown to d	tinued) ark bro	wn, saturated, m	edium dens	se, silty fine to	medium SAND.
-												
-	+H											
_	Ш											
-	$ \cdot \cdot $						Dark brown; silty f	ne san	d.			
65 -												
		17										
	H											
-												
	H											
-	- -											
70 -												
/0-		22					Domas					•
-		22					Dense.					
-	\square											
-												
75 -												
		56					Grayish brown; trac	e med	ium sand.			
•												
-	H											
_												
80												
		L #3	##		_		ore		EL MONTE VALVE	BORI	NG LOG	D CDOLDANA AMERICA
		~///			经		MLF F		RECHA	ET MINING, K RGE PROJEC	ECLAMATION, AN T. LAKESIDE, CAL	D GROUNDWATER

PROJECT NO. DATE FIGURE
106200005 5/11 A-98

Ir ====	T				T					
	SAMPLES			F)			DATE DRILLED	3/8/11 - 3/9/11	BORING NO.	B-28
set)	SAM	TOC	(%) =	DRY DENSITY (PCF)	یہ ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 471' ± (MSL)	SHEET 5	OF 6
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILLI	NG 8" Hollow-Stem Au	ger (Diedrich D-120) (Tri-Cou	nty Drilling)
HE HE	Bulk	BLO	MOIS	3Y DE	S). U	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	mmer) DROP	30"
				Ö		O	SAMPLED BYM		MBG REVIEWED B	Υ
80						SP-SM	ALLUVIUM: (Contin	nued)		
		19	·				medium sand.	•	oorly-graded, fine SAND	with silt; trace
						SW	Gray, saturated, medi	um dense, well-graded	I, fine to coarse SAND.	
-										
						SW-SM	Brown, saturated, der	ise, well-graded, fine t	o medium SAND with sil	t.
85 -										
		25							•	
		,								
									•	
							Very dense; fine to co	parse sand.		
90 -		50/3"					•			
		00,5								
	H					SM	Dark brown, saturate	d, very dense, silty fin	e SAND.	
	Ш					-		• • • •		
95 -										
		70								
						SW	Dark gray, saturated,	very dense, well-grad	ed, fine to coarse SAND.	The street fights about mind come makes which we
		i								
-	H									•
100							Gravel and cobbles.			
100	<u>- </u>				J:2222				BORING LOG	
			74	10	&	N_0	ore		Y MINING, RECLAMATION, AND RGE PROJECT, LAKESIDE, CALI	

E

 PROJECT NO.
 DATE
 FIGURE

 106200005
 5/11
 A-99

	S						
	SAMPLES			CF)		z	DATE DRILLED3/8/11 - 3/9/11 BORING NO B-28
feet)	SA	- - - - - -	'E (%	IY (P	占	ATIO S.	GROUND ELEVATION 471' ± (MSL) SHEET 6 OF 6
DEPTH (feet)	$ \cdot $	BLOWS/FOOT	MOISTURE (%)	ENSI	SYMBOL	SIFIC I.S.C.	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
B	Balk	BLO	MOK	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
		-		ă			SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
100	H	50/4"				SM	ALLUVIUM: (Continued)
							Dark gray, saturated, very dense, silty fine to medium SAND with gravel (up to 1 inch). Boring terminated on 3/8/11.
							Boring resumed on 3/9/11.
	$ \cdot $						
	\sqcup						Refusal to further drilling. Total Depth = 103 feet.
							Groundwater encountered at approximately 35 feet during drilling.
							Backfilled with approximately 36 cubic feet of bentonite grout shortly after drilling on 3/9/11.
105 -	H	-					Note:
							Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.
							variations in precipitation and several other factors as discussed in the report.
	$\ \cdot\ $	-					
	Ц	_					
							STEREDGEOLO
110 -	H						FRANCIS O. MORELAND
							No 2071 CERTIFIED
							GEOLOGIST TO THE PROPERTY OF T
	$\parallel \parallel$	-					GEOLOGIST GEOLOGIST
	\prod	_					
115 -	$\lVert \cdot \rVert$						
	H						
	\parallel	-					
		1					
120	Ш	<u> </u>			<u> </u>		POPING LOC
		Ni	NL	10	&	Mn	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA

106200005

DATE

5/11

FIGURE

			,						
et) SAMPLES						DATE DRILLED	3/9/11	BORING NO.	B-29
SAM	700	(%)	DRY DENSITY (PCF)	ب ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 479' ± (MSL)	SHEET	1 OF 2
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	LISN	SYMBOL	SIFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Au	ger (Diedrich D-120) (Ti	ri-County Drilling)
DEP Bulk Driven	BLO/	MOIS	₹Y DE	S	LASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) DROP	30"
			5		O	SAMPLED BYM		MBG REVIEW	ED BY
 					SM	ALLUVIUM:	DESCRIPTION	MITERPRETATION	
						Gray, moist, loose, si	lty fine to medium SA	ND.	
							•		
								•	
5									
	38	5.4	107.2			Medium dense.			•
10									
	25					Dense; silty fine to co	parse sand; trace grave	el (up to 1 inch).	
						,		,	
								•	
					SP	sand.	meaium aense, pooriy	-graded, medium SA	ND; trace silt and coarse
15			,						
	24					Trace gravel (up to ½	ź inch).		
20								PODING LO	
	Vi		10 8	3	Mn	ore		BORING LO	N, AND GROUNDWATER
	V	J			Ar		PROJECT NO.	RGE PROJECT, LAKESIDE DATE	, CALIFORNIA FIGURE

5/11

	SAMPLES			e.			DATE DRILLED	3/9/11	BORIN	IG NO	B-29	
et)	SAM	701	(%)	DRY DENSITY (PCF)		CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 479' ± (MSL)		SHEET	2 OF _	2
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	LISI	SYMBOL	IFICA S.C.S	METHOD OF DRILL	ING 8" Hollow-Stem Aug	ger (Diedric	h D-120) (Tri-0	County Drilling)	<u> </u>
DEP	Driven	BLOV	MOIS	Y DE	S	LASS U.	DRIVE WEIGHT	140 lbs. (Auto. Trip Ha	mmer)	_ DROP	30"	
				R		O	SAMPLED BYM	BG LOGGED BY		REVIEWE) BY	
20		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				SM	ALLUVIUM: (Conti	DESCRIPTION/I	NTERPRE	TATION	nm:- 25557	
		24				• • • • • • • • • • • • • • • • • • • •	Grayish brown, wet, o	lense, silty fine to med	lium SAN	D.		
+	+								-			
+	\parallel											
25												
		9	8.4	96.7			Loose; trace roots.					
Ī							Total Depth = 26.5 fe	O				
 	+						Groundwater not enc	ountered.				
	Ш						Backfilled with appro	eximately 9 cubic feet	of benton	ite grout sho	rtly after drill	ing on
							Note:					
+	+						Groundwater, though	not encountered at the				
30 -	\perp						to seasonar variations	in precipitation and so	everai oin	er factors as	discussed in t	ne report.
								·				
								STERE	D GEO			
+	+i							1,97	`	8		
	Ш							No.	O. MORELANI 2071	72		
								\\ ENGI	RTIFIED NEERING			
1	$\dagger \dagger$							12/	LOGIST	<i>\$\\</i>		
35	+							COF	CALIFO			1
			,									
+	+		:									
	\coprod											
+	+											
40							1,					
	1		72.1	in i	e. I	AAn	nro	EL MONTE VALLEY	MINING, R	ING LOG	AND GROUNDW	ATER
		V -^	J		×.//	Ain	ore	RECHAR PROJECT NO.	GE PROJEC	T, LAKESIDE, C	ALIFORNIA FIGUR	

5/11

	U.	П												
	SAMPLES				(F)		z	DATE DRILLED	3/7/11 - 3/8/11	BORING	3 NO	В	-30	
(eet)	SAN		00	E (%)	7 (PC		ATIO! S.	GROUND ELEVATION	ON 479' ± (MSL)		SHEET _	1	OF _	6
DEPTH (feet)			BLOWS/FOOT	MOISTURE (%)	:NSIT	SYMBOL	SIFIC. S.C.(METHOD OF DRILL	ING 8" Hollow-Stem A	uger (Diedrich	D-120) (Tri-	County D	rilling)	
DEP	Ě,	riven	BLO	MOIS	DRY DENSITY (PCF)	S	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT	140 lbs. (Auto. Trip I	Hammer)	DROP		30"	
		١			Ą		J	SAMPLED BY M		MBG_	REVIEWE	D BY _		
0	\vdash						SM	ALLUVIUM:	DESCRIPTION	VINTERPRET	TATION			
								Brown, moist, loose,	silty fine SAND.					
	\vdash	1												
	\sqcup													
	\prod													
5 -	H	+						Micaceous.						
	\prod													
	H	-												
10-														
	H	-												
	\prod	1												
	$\ \cdot\ $	-												
15 -	\coprod							T inha h						
								Light brown; trace co	oarse sand.					
	H	+												
											•			
	\parallel													
20_														
		A			in .	e /	Ma	ore	EL MONTE VALL	EY MINING, RE		AND GRO		TER
	1	7 1		# 54	TO S	~ #		WI W	RECH	ARGE PROJECT	, LAKESIDE, C	ALIFORN	ΊA	

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FIGURE

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	SAMPLES			F)			DATE DRILLED3/7/11 - 3/8/11 BORING NOB-30
eet)	SAM	DOT	(%) =	DRY DENSITY (PCF)	7	CLASSIFICATION U.S.C.S.	GROUND ELEVATION _479' ± (MSL) SHEET2 OF6
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)	NSIT	SYMBOL	SIFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)
DEF	Bulk Driven	BLO	MOIS	₹Y DE	S	J. U	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"
			***************************************	ă		O	SAMPLED BY MBG LOGGED BY MBG REVIEWED BY DESCRIPTION/INTERPRETATION
20		-				SM	ALLUVIUM: (Continued)
-	Н						Light brown, loose, silty fine to medium SAND; trace coarse sand.
-							
-	H						
25 -							
25							
-			,				
-							
-							
30 -							Few coarse sand.
-							
	Ш						
35 -							Medium dense.
-	H						
-							
40_							
				ın.	e I	NA n	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA
I			7 11 54	7 - 1	~ #		RECHARGE PROJECT, LAKESIDE, CALIFORNIA

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FIGURE

				-					
et) SAMPLES			Œ			DATE DRILLED	3/7/11 - 3/8/11	BORING NO.	B-30
SAM	TOC	(%) :	DRY DENSITY (PCF)	ر ا	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 479' ± (MSL)	SHEET	3OF6
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	TISN	SYMBOL	SIFIC/	METHOD OF DRILL	NG 8" Hollow-Stem A	uger (Diedrich D-120) (Tr	i-County Drilling)
DEP Bulk Driven	BLO	MOIS	Y DE	S	LASS U	DRIVE WEIGHT	140 lbs. (Auto. Trip F	Iammer) DROP	30"
			ä		O	SAMPLED BY M	BG LOGGED BY		ED BY
40					SM	ALLUVIUM: (Contin		I/INTERPRETATION	
						Brown, moist, medius	n dense, silty fine SA	AND; some medium sa	and; trace coarse sand.
		2000							
45		포				Saturated.			
50									
55						T			
						Trace medium sand.			
60									
								BORING LO	3
	VÁ	74	10	&	N_0	ore	RECHA	EY MINING, RECLAMATION ARGE PROJECT, LAKESIDE,	N, AND GROUNDWATER
	7	U			Y -	_	PROJECT NO. 106200005	DATE 5/11	FIGURE A-105

·												
	SAMPLES			F)			DATE DRILLED	3/7/11 - 3/8/11	_ BORING N	0	B-30	
eet)		70 T	(%) =	DRY DENSITY (PCF)	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 479' ± (MSL)	SI	HEET _	4 OF _	6
DEPTH (feet)		BLOWS/FOOT	MOISTURE (%)				METHOD OF DRILL	ING 8" Hollow-Stem Au	iger (Diedrich D-1	20) (Tri-C	County Drilling)	
DEP	Bulk	BLO	MOIS				DRIVE WEIGHT	140 lbs. (Auto. Trip H	ammer) [OROP _	30"	
				Ö				SAMPLED BY M	BG LOGGED BY	MBG RE	VIEWED	BY
60					1000	SP-SM	ALLUVIUM: (Conti		MILLIO ILLIAN			
		36					Brown, saturated, me coarse sand.	dium dense, poorly-g	raded, fine to m	iedium S	SAND with si	ilt; trace
			 -			SW-SM	Brown, saturated, der	nse, well-graded, fine	to coarse SANI	D with s	ilt	
65 -												
		24										
									•			
	H											
	- -											
70 -												
/0		25				SM	Dark brown, saturate	d, dense, silty fine SA	.ND.			
	++		}									
	++-											
			9									
75 -			 			SP-SM	Dark brown, saturate	d, dense, poorly-grad	ed, fine to medi	ium SAN	ND with silt.	
	-7	24	,									
						SM	Grayish brown, satur	ated, very dense, silty	fine to coarse	SAND.		THE STREET STREET, THE STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET, STREET,
	H											
80									DORNIC			
<i>Ninyo & M</i> oore							ore	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA				
		V	J	_		A #_		PROJECT NO.	DATE		FIGU	
L								106200005	5/11		A-10	16

A-106

	1	T	I	Γ						
et) SAMPLES			Œ		*- 	DATE DRILLED	3/7/11 - 3/8/11	BORING NO.	B-30	
eet)	100	(%) =	r (PC	SYMBOL	CLASSIFICATION U.S.C.S.	GROUND ELEVATION	ON 479' ± (MSL)	SHEET	5 OF6	
DEPTH (feet)	BLOWS/FOOT	MOISTURE (%)	NSIT			METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)				
BE DE	BLOV	MOIS	DRY DENSITY (PCF)			DRIVE WEIGHT	140 lbs. (Auto. Trip H	(ammer) DROP	30"	
	4		ä			SAMPLED BY M	BG LOGGED BY	MBG REVIEWE	ED BY	
80					SW-SM	ALLUVIUM: (Conti	nued)			
	37					Grayish brown, satura	ated, very dense, well	-graded, fine to coarse	e SAND with silt.	
	_									
	-									
-										
					1					
85						Medium dense.		•		
_	40								•	
++	-									
	_									
90										
	48					Very dense; trace gra	ivel (up to ¾ inch).			
							•			
	7									
	-									
95										
	29					Dense.				
	-									
						Begin gravel and cob	hlac			
						Degin graver and coo	voics.			
100						End gravel and cobbl	es.	ROPING LOG	3	
	Mi	nu	10 8	₹	Mn	ore	BORING LOG EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA			
4	▼	J			A		PROJECT NO.	DATE	FIGURE	
							106200005	5/11	A-107	

Г	100				T									
	SAMPLES			(PCF)		NOIL	DATE DRILLED 3/7/11 - 3/8/11 BORING NO. B-30							
DEPTH (feet)	SAM	Į į	(%)				GROUND ELEVATION 479' ± (MSL) SHEET 6 OF 6							
	Bulk	Tven L	TURE	USIT	SYMBOL	IFICA S.C.S	METHOD OF DRILLING 8" Hollow-Stem Auger (Diedrich D-120) (Tri-County Drilling)							
		BLOV	MOISTURE (%)	DRY DENSITY (PCF)	SY	CLASSIFICATION U.S.C.S.	DRIVE WEIGHT 140 lbs. (Auto. Trip Hammer) DROP 30"							
]		٥					SAMPLED BY MBG LOGGED BY MBG REVIEWED BY							
100						SW-SM	DESCRIPTION/INTERPRETATION ALLUVIUM: (Continued)							
		100					Grayish brown, saturated, very dense, well-graded, fine to coarse SAND with silt; little gravel (up to 2 inches).							
							Boring terminated on 3/7/11.							
	Н	-					Boring resumed on 3/18/11.							
	H	al-rate												
						SP-SM	Dark brown, saturated, very dense, poorly-graded SAND with silt; little gravel (up to 2 inches).							
	П													
105 -		50/4"	5044											
		30/4												
							Refusal to further drilling. Total Depth = 106.5 feet.							
							Groundwater encountered at approximately 45 feet during drilling. Backfilled with approximately 37 cubic feet of bentonite grout shortly after drilling on							
	H	-	3/8/11.											
							Note: Groundwater may rise to a level higher than that measured in borehole due to seasonal variations in precipitation and several other factors as discussed in the report.							
110 -	10													
	$\ \cdot\ $	-												
							GTERED GEOLO							
							FRANCIS O. MORELAND							
	\prod						No 2071 CERTIFIED 2							
	H		1				ENGINEERING GEOLOGIST							
115 OF CALIFORNIA						CEOF CALIFORM								
					,									
	H	-												
	\prod													
120														
	:	A #3			-	44-	BORING LOG							
		MI		IU (经	IIII	EL MONTE VALLEY MINING, RECLAMATION, AND GROUNDWATER RECHARGE PROJECT, LAKESIDE, CALIFORNIA							

106200005

DATE

5/11

FIGURE