# GROUND WATER PUMPING TESTS AND A REVIEW OF GROUND WATER TREATMENT SYSTEM 7575 DUBLIN BOULEVARD DUBLIN, CALIFORNIA

PROJECT NO. 1233

NOVEMBER 1ST, 1991



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#### 1.0 INTRODUCTION

Environmental Audit, Inc. (EAI) was retained by Montgomery Ward & Company, Inc. (Ward) to complete ground water pumping tests, and to evaluate the existing ground water treatment system located at a Ward Auto Service Center, 7575 Dublin Boulevard, Dublin, California (Site) (see Figure 1).

The Site formerly contained three 10,000-gallon underground gasoline storage tanks (USTs) (see Figure 2). The existing ground water treatment system consists of two 2,500-pound activated carbon canisters connected in parallel. When the system was in use, the ground water was extracted from well B-12 at a rate of 8 to 12 gallons per minute (gpm). The extracted ground water was filtered before adsorption in order to remove the suspended solids. The treated ground water was then discharged to the sanitary sewer.

This report presents the results of EAI pumping tests, and the minor modifications recommended to improve the ground water treatment system.

#### 2.0 FIELD WORK

### 2.1 GROUND WATER LEVEL MEASUREMENTS

On March 29 and June 4, 1991, prior to commencement of the pumping tests, ground water level measurements were obtained from all on-site wells. The measurements were obtained using a Marine Moisture Control interface probe. No free-product was detected in any of the wells (see Table 1). EAI surveyed all wells using an arbitrary reference datum of 100 feet for the top of the casing of the well B-12.

TABLE 1
GROUND WATER ELEVATIONS

WELL	CASING ELEVATIONS (ft)	DEPTH TO GROUND WATER (ft)	GROUND WATER ELEVATION (ft)
		3/29 6/4	3/29 6/4
B-5 B-10 B-12 B-15 B-16	100.95 100.60 100.00 101.50 100.70	10.41 11.02 10.13 10.72 9.36 9.96 10.86 11.47 10.41 10.98	90.54 89.93 90.47 89.88 90.64 90.04 90.64 90.03 90.29 89.72

## 2.2 GROUND WATER PUMPING TESTS

Ground water pumping tests were conducted on March 29 and June 4, 1991. For the March 29, 1991 testing, ground water was pumped from monitoring well B-5 at a constant rate of 3.5 gpm, and wells B-10, B-12 and B-16 were used as observation wells. For the June 4, 1991 testing, ground water was pumped from well B-12 at a constant rate of 7.5 gpm, and wells B-5, B-10, B-15 and B-16 were used as observation wells. The pumping test data are shown in Appendix A.

The recovered ground water was sealed in labeled 55-gallon drums. The drums remained on-site pending the results of the analytical testing of water samples, at which time the appropriate disposal method was determined.

#### 2.3 GROUND WATER SAMPLING

On June 4, 1991, all wells were sampled after completion of the ground water pumping test. Prior to sampling, wells B-5, B-10, B-15 and B-16 were purged of four to five casing volumes of water using a submersible pump. No purging of well B-12 was necessary since this well was used to extract ground water during the pumping test. The water samples were obtained using Voss Technologies disposable bottom bailers equipped with volatile organic compound samplers. Use of these bailers precludes the potential for cross contamination. The samples were sealed in two 40-milliliter (ml) VOA vials with Teflon septa lined lids. Each vial was completely filled so that no head space existed between the sample and the lid. The samples were labeled with the sample point identification and date, and immediately placed into an ice chest chilled using frozen blue ice and crushed ice. The samples remained chilled until they were delivered to the laboratory for analytical testing. samples were logged on a chain of custody record form (see Appendix B).

## 2.4 SAMPLING EQUIPMENT CLEANING PROTOCOL

The submersible pump and hose system (equipment) used to purge the wells prior to sampling, was decontaminated prior to use at each well by the following procedure:

- The equipment was flushed with a solution of Alconox detergent and water; and
- The equipment was rinsed with purified water.

#### 3.0 ANALYTICAL TESTING

All samples were delivered for analytical testing to Calscience Environmental Laboratories, Inc., a California Department of Health Services (DOHS) certified hazardous waste testing laboratory (Certificate #257) located in Stanton, California. Each sample was tested for total volatile petroleum hydrocarbons (TVPH) using modified EPA Method 8015, and benzene, toluene, xylenes and ethylbenzene (BTXE) using EPA Method 602. The testing results are shown in Table 2. The laboratory report is contained in Appendix C.

TABLE 2
GROUND WATER ANALYTICAL TESTING RESULTS

Parts per Billion (ppb)

		PUL DILL	·-(FE-,)		ETHYL-
SAMPLE I.D. NO.	TVPH	BENZENE	TOLUENE	XYLENES	BENZENE
B-5	7,800	2,140	1,030	764	439
B-10	16,000	3,820	1,770	1,210	933
B-12	20,000	2,240	2,960	4,280	1,030
B-15	1,200	43	21	` <b>2</b> 8	3 4
B-16	2,300	346	50	407	155
<u> </u>					

#### 4.0 RESULTS

## 4.1 GROUND WATER GRADIENT AND DIRECTION OF FLOW

Figures 3 and 4 present isopotentiometric contour maps for ground water constructed from data collected on March 29 and June 4, 1991, respectively. Interpretation of the data indicates that the direction of ground water flow, at the time of measurement, is to the south, and that the gradient is approximately 0.003 ft/ft.

#### 4.2 GROUND WATER PUMPING TEST

The Neuman method of analysis was utilized to determine the unconfined aquifer parameters of transmissivity (T), hydraulic conductivity (K) and storativity (S). The aquifer thickness in the on-site wells is not well defined in the logs. Therefore, hydraulic conductivity values were determined assuming an aquifer thickness of 10 feet for the March 29, 1991 pumping test, and 15 feet for the June 4, 1991 pumping test (this represents the height of the water column in wells B-5 and B-12, respectively, which were used to conduct the pumping tests).

Figures 5 through 10 present the draw-down versus log time and residual drawdown versus log t/t' (t = time elapsed since the start of pumping, and t' = time elapsed since the pumping stopped) plots for the observation wells associated with the March 29, 1991 pumping test. Figures 11 through 17 present the same plots for the June 4, 1991 pumping test. Table 3 summarizes the results of the pumping tests, and includes the distances between the pumping and observation wells.

TABLE 3
SUMMARY OF PUMPING TEST RESULTS

PUMPING WELL	OBSERVATION WELL	<u>r (ft)</u>	S	T (ft <sup>2</sup> /min) I	(ft/min)
March 29,	1991				
B-5	B-10 B-12 B-16	23.0 48.5 82.0	0.00341 0.01319 0.01370	1.112 1.682 1.733	0.1112 0.1682 0.1733
June 4, 19	991				
B-12	B-5 B-10 B-15 B-16	48.5 68.5 55.0 95.0	0.01739 0.00985 0.01025 0.01430	1.791 2.374 1.377 1.949	0.1194 0.1583 0.0918 0.1299

#### 5.0 DISCUSSION

#### 5.1 GROUND WATER PUMPING TESTS

Calculations were made to evaluate shallow aquifer parameters such as transmissivity, storativity and permeability using an interactive computer software program developed by Geraghty & Miller, Inc. ("AQTESOLV"). The Neuman method for unsteady flow to a well in an unconfined aquifer was used to interpret pumping test data. Residual drawdown (recovery) plots provide reliable values of aquifer conditions near the individual observation wells because the recovery is not influenced by the variations in pumping rates that commonly occur during the drawdown period. However, as in this case, when boundary conditions are known or suspected, the interpretation of the recovery data must be done with caution because of the difficulty in separating the influence of boundaries. The transmissivity values calculated from the pumping test data indicate that the yield of water-bearing sediments is high (i.e., 1.112 to 2.374 ft²/min) (see Table 3).

The hydraulic conductivity values (i.e., 0.1112 to 0.1583 ft/min) were estimated from the transmissivity values, assuming that the aquifer thickness equals the height of water column in the pumping wells. These hydraulic conductivity values correspond to clean sand to silty sand. These findings are inconsistent with the soil boring logs which indicate that the soil consists of clay and sandy/silty clay (see Appendix D). The existing on-site wells are in the vicinity of a storm drain, and a definite change in slopes of the time draw-down graphs is expected to occur because of this boundary influence. slopes steepen, this often reflects interception of a geohydrologic boundary by the cone of depression (e.g., limited aquifer conditions, impermeable bedrock, or fault barriers). When slopes flatten, the cone may have encountered a recharge boundary (e.g., stream), or have received recharge from leakage. Consequently, if the method used to interpret the test results cannot take into account the boundary condition influence, a shift in results will occur. Since the boring logs were prepared by two different consulting firms, and data regarding the depth and diameter of storm drain and sewer lines were not available to EAI, we decided to use the above-mentioned methods to interpret pumping test results. As a matter of fact, a shift of the results toward coarser grain sizes will not influence estimating the design parameters of the ground water extraction system, since the June 4, 1991 test was performed with a discharge rate close to the maximum yield of the existing extraction well. Based on these findings, it is presumable that this storm drain, as well as the former UST area filled with pea gravel, affect ground water extraction at the Site. The results also indicate that ground water extraction from well B-12 at a constant rate of 7.5 gpm has caused measurable drawdown in observation well B-16, located about 95 feet away from well B-12.

Based upon the pumping test results, it is EAI's opinion that pumping ground water at a rate of 8 gpm from existing extraction well B-12 should be sufficient to contain the ground water beneath the Site.

## 5.2 GROUND WATER QUALITY

The analytical testing results of the ground water samples show elevated TVPH and BTXE concentrations in all samples. The sample collected from extraction well B-12 contained the highest contaminant concentrations, i.e., a TVPH concentration of 20,000 parts per billion (ppb), and a total BTXE concentration of 10,510 ppb. Samples obtained from other wells contained the same parameters, but at lower concentrations. The backfill of the storm drain may act like a trench increasing the flow of the ground water at the Site. This may increase the volume of water to be pumped and treated since the influent is diluted because of the increasing ground water flow.

## 6.0 RECOMMENDED TREATMENT SYSTEM MODIFICATIONS

EAI has reviewed the existing treatment system at the Site, which consists of two 2,500-pound activated carbon canisters in This system, if properly maintained and managed, can effectively treat the extracted ground water to reduce the dissolved phase constituents to acceptable levels, prior to discharge to the sanitary sewer. However, based on our knowledge of past problems associated with the system, EAI recommends that an oil-water separator be installed at the front end of the treatment system and the carbon canisters be installed in series. Additionally, influent sampling ports should be installed before and after the separator, and between the two carbon canisters. The effluent sampling port will remain as currently located, i.e., after the second canister (see Figure 18). Free-product, if any, from the separator will be directed to a holding tank equipped with an automatic shutoff valve which will shut-down the treatment system if the product tank becomes full. Some aboveground piping is damaged and this also will be replaced. With these modifications and proper maintenance and monitoring, the system should be sufficient to contain and remediate the ground water below the Site.

#### 7.0 LIMITATION

Our professional services have been performed using that degree of care and skill ordinarily exercised, under similar circumstances by reputable environmental consultants practicing in this or similar localities. This report has been prepared for Montgomery Ward & Company, Inc. No other warranty, expressed or implied, is made as to the professional advice contained in this report.

Respectfully submitted,

ENVIRONMENTAL AUDIT, INC.

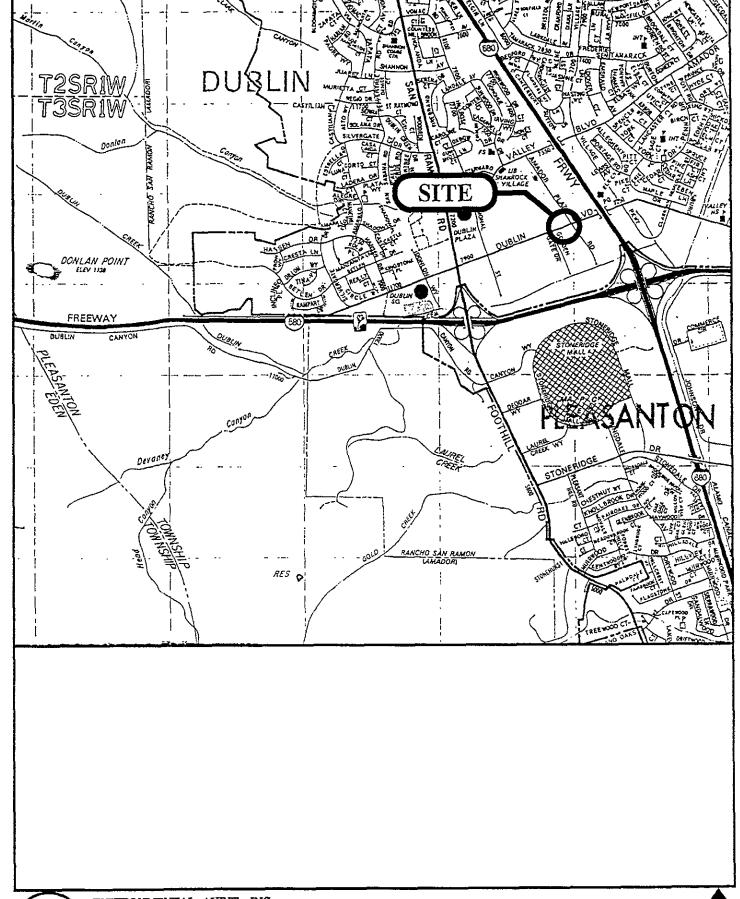
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Seyed M. Mortazavi, Ph.D., R.C.E. Senior Engineer/Hydrogeologist

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FIGURES





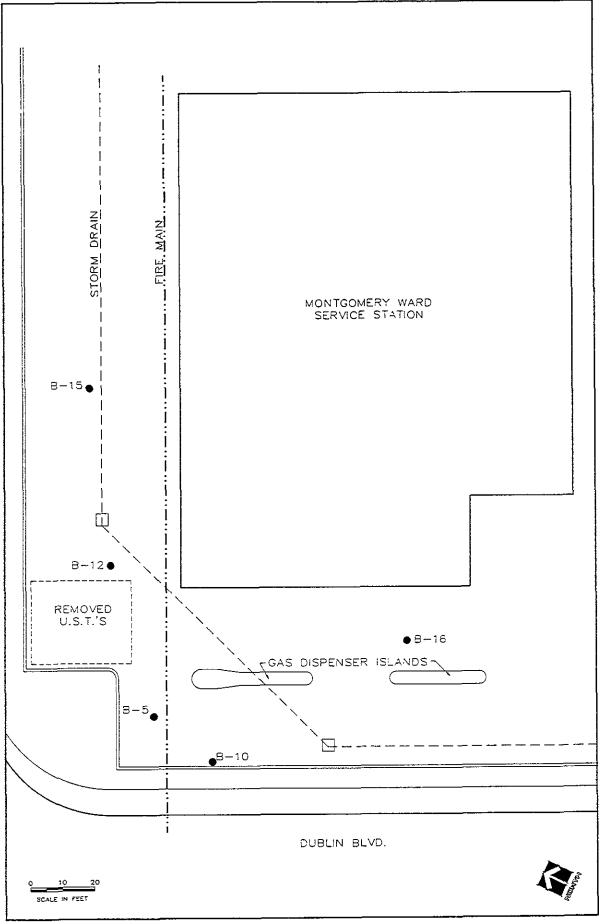
ENVIRONMENTAL AUDIT, INC.

MONTGOMERY WARD AUTO SERVICE CENTER
7575 DUBLIN BLVD.
DUBLIN, CALIFORNIA



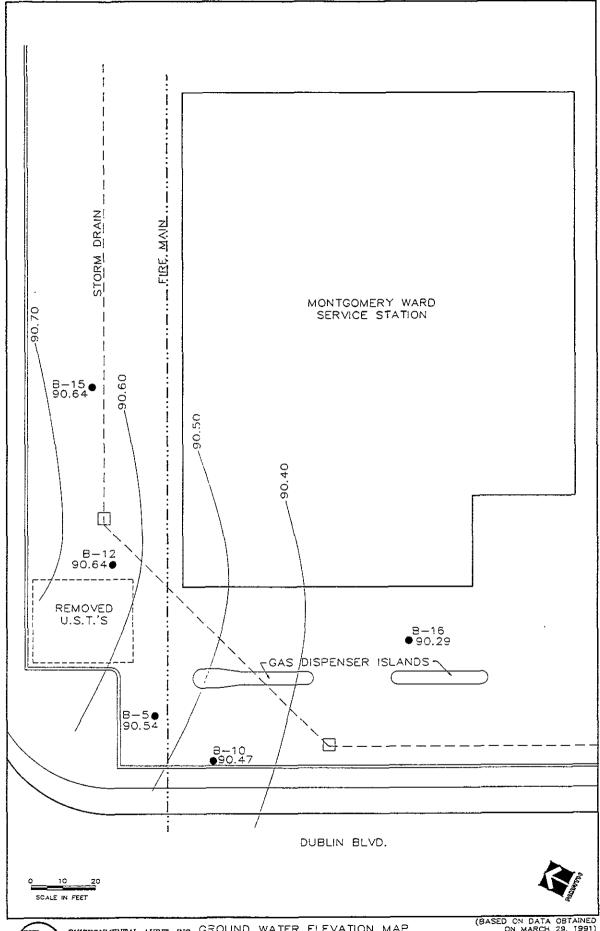
FIGURE: 1

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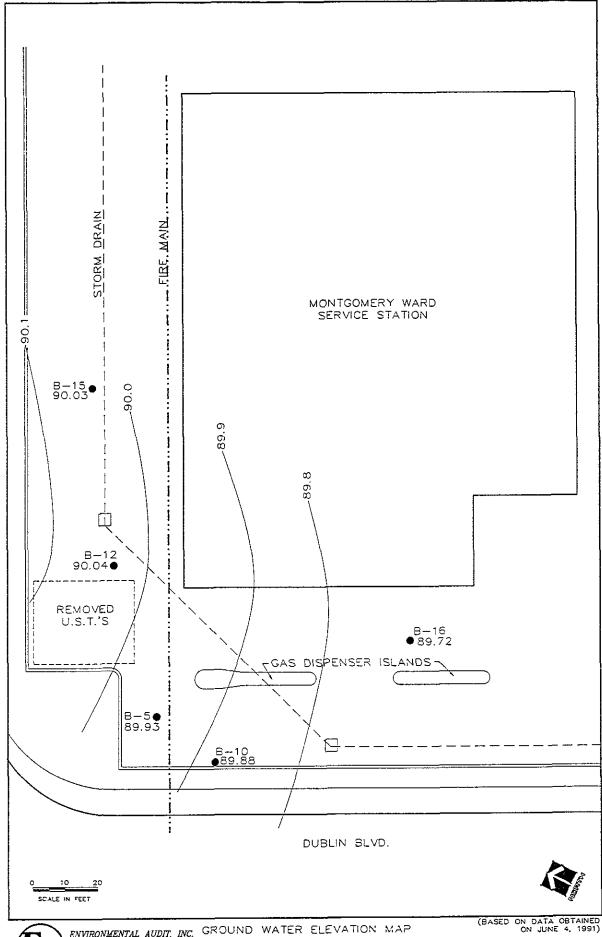
ENVIRONMENTALBUATEDRI, INC.

SITE PLAN MONTGOMERY WARD SERVICE STATION DUBLIN, CA



ENVIRONMENTAL AUDIT, INC. GROUND WATER ELEVATION MAP MONTGOMERY WARD SERVICE STATION DUBLIN, CA

(BASED ON DATA OBTAINED ON MARCH 29, 1991)



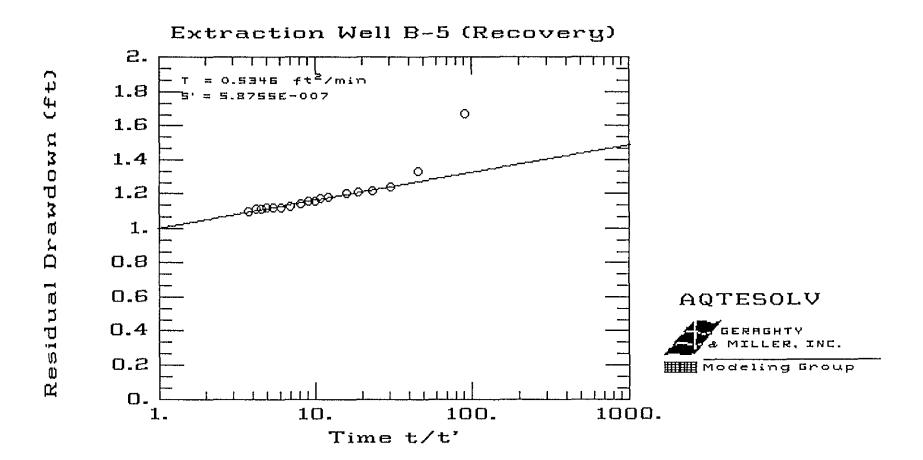
ENVIRONMENTAL AUDIT, INC. GROUND WATER ELEVATION MAP

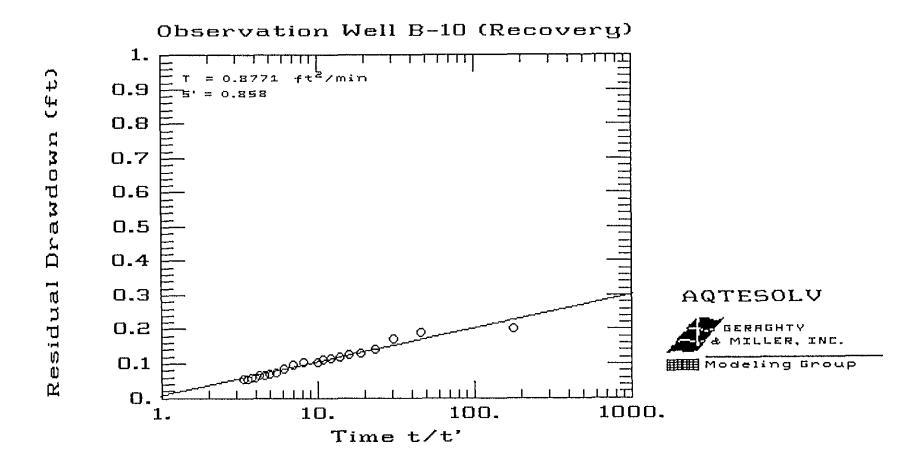
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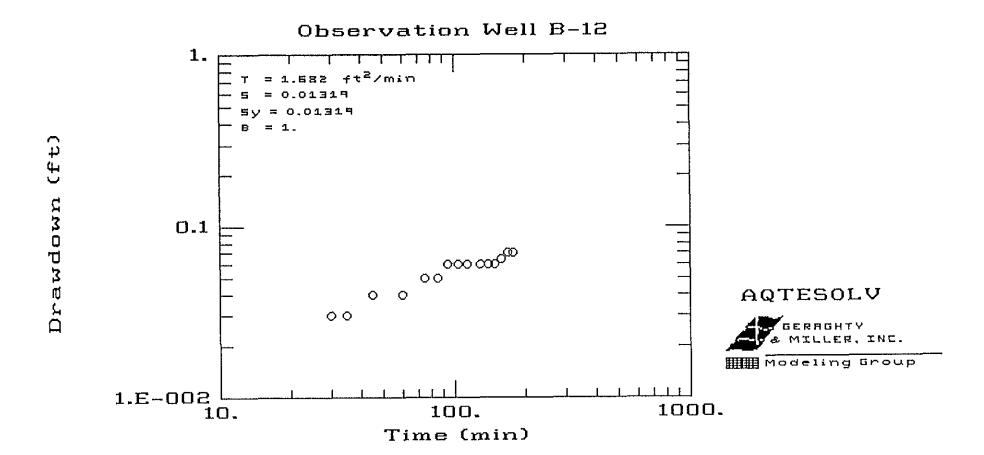
SERVICE STATION DUBLIN, CA

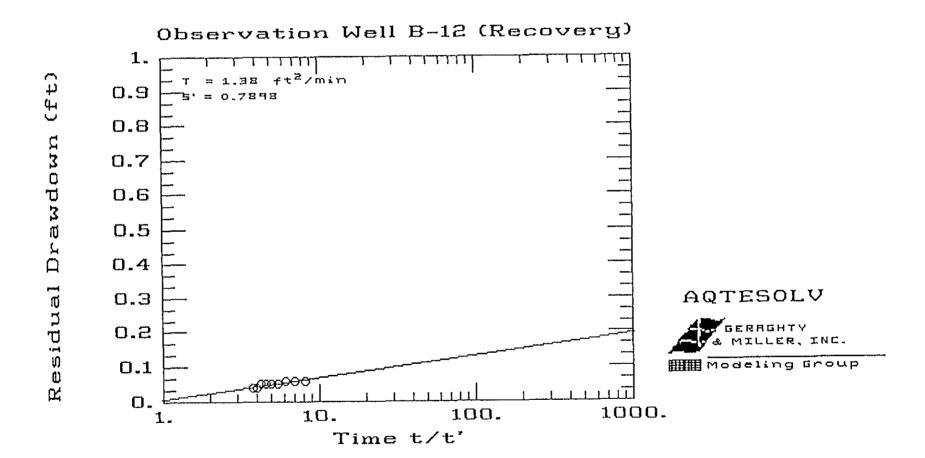
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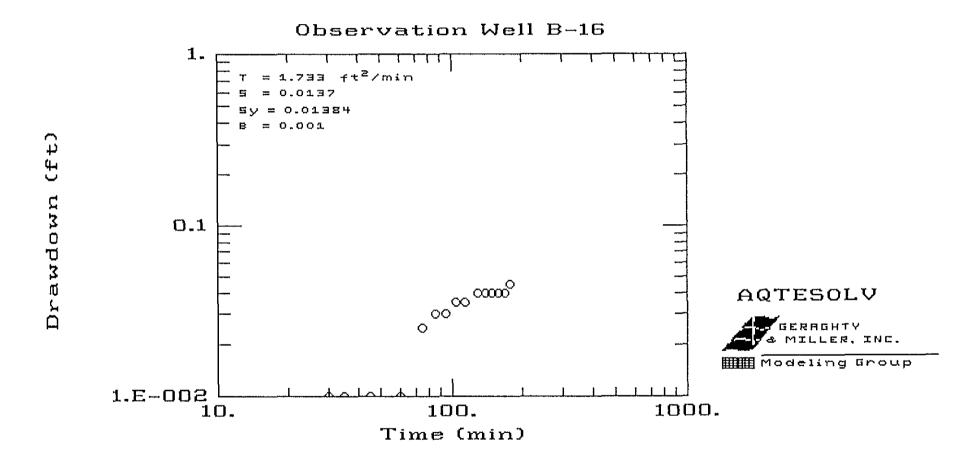
FIGURE: 4

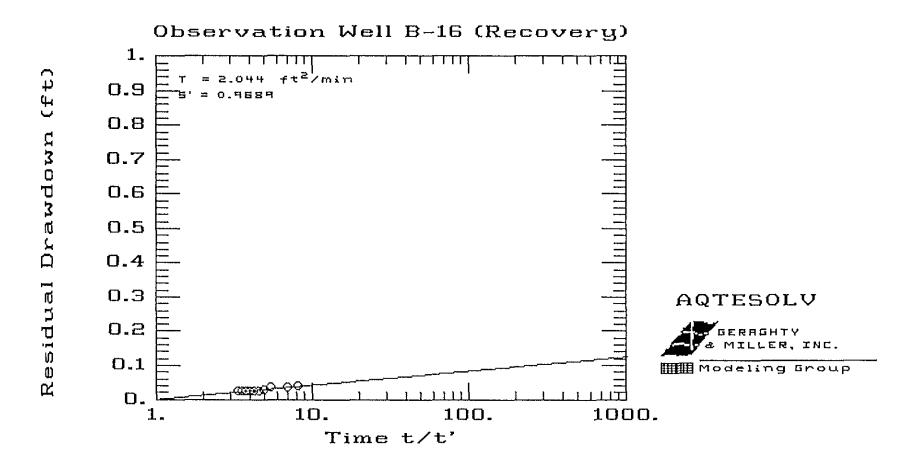


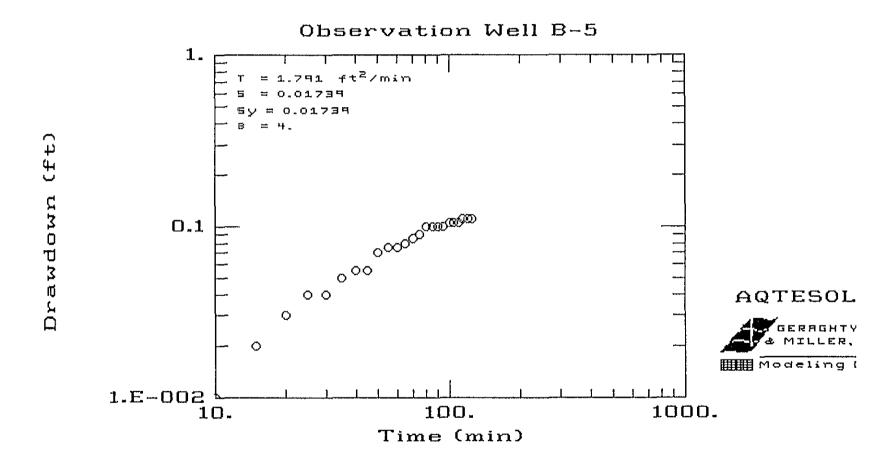


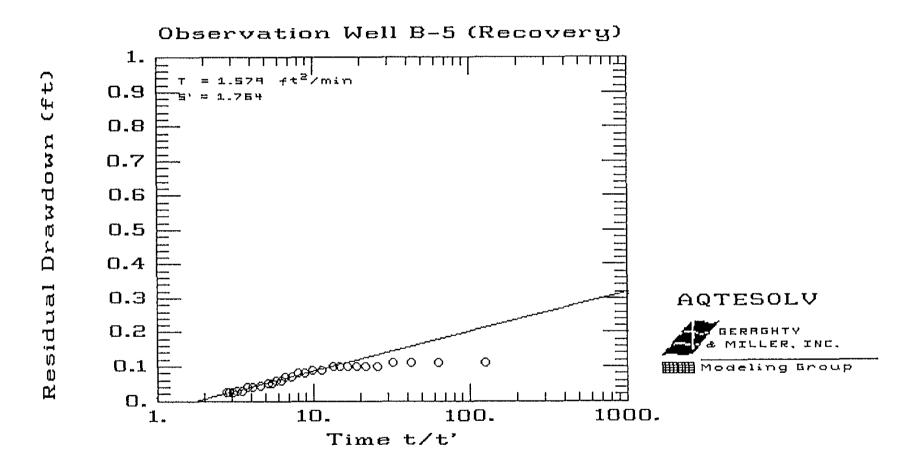


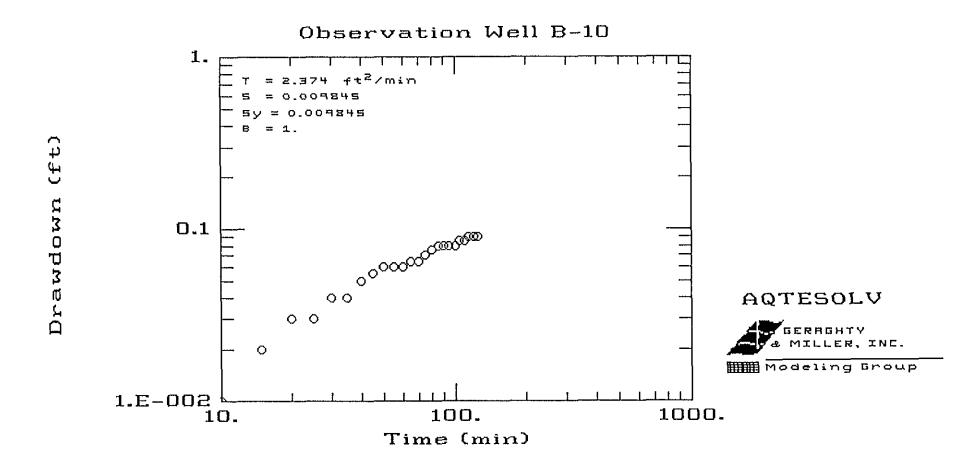


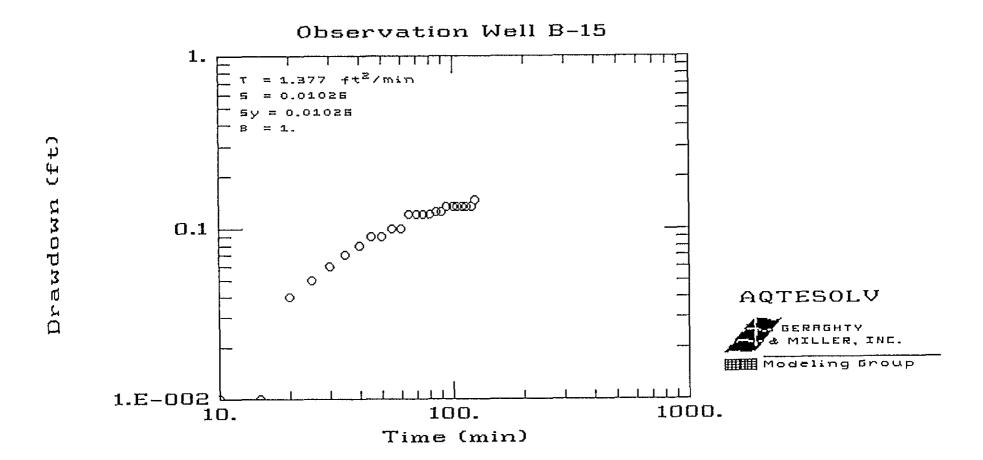


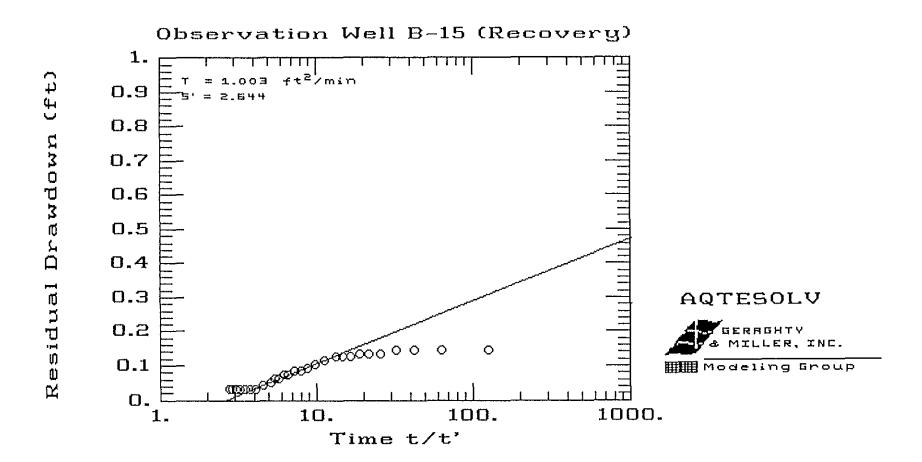


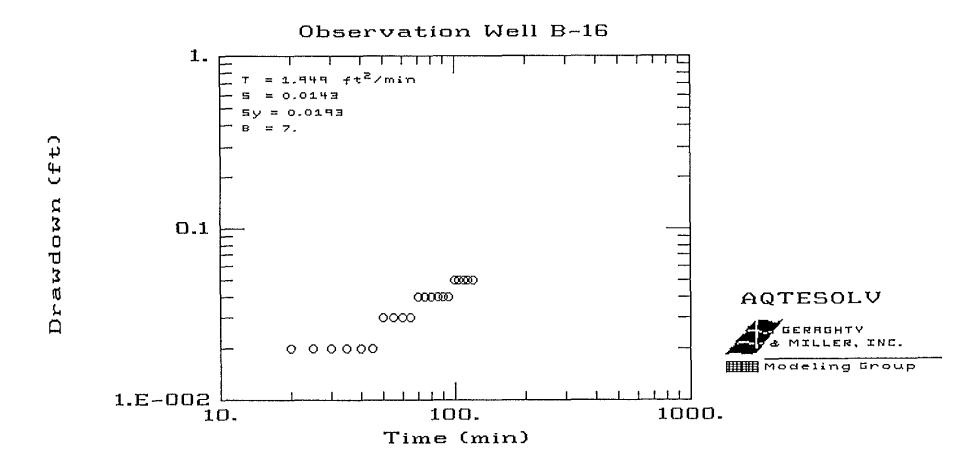


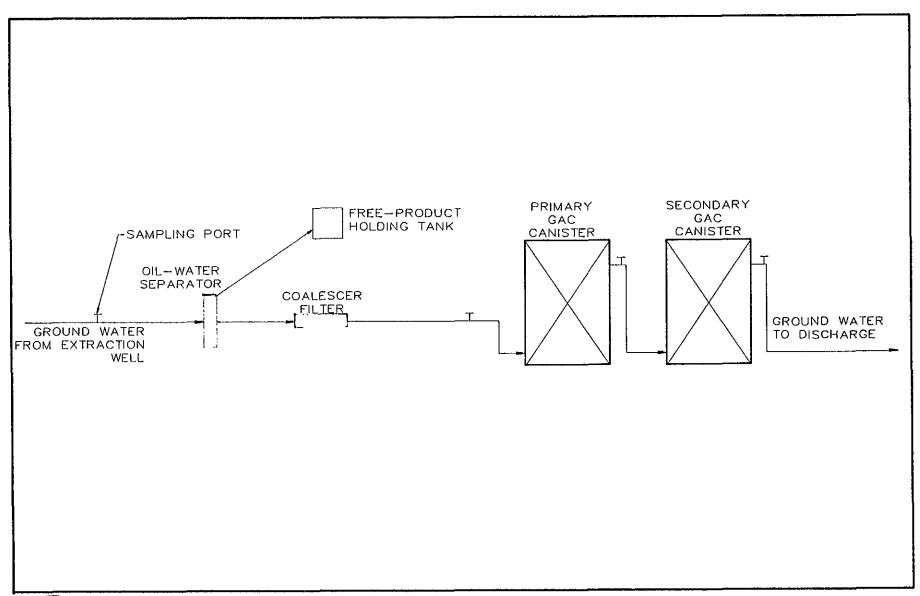


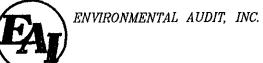












GROUND WATER TREATMENT SYSTEM MONTGOMERY WARD SERVICE STATION DUBLIN, CA

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FIGURE: 18

APPENDIX A

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Onller: Cam	Drill Bit3' Hollo		Seal 1: Bentonit		From:	4! To: 5!
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7	1	2 (	Clay, me	dium brown	, moist, b	ecoming more				15-2-4		
	$\coprod_{1}$	2 5	oft and	mottled 1		Decrease in				Gas Tec		
20-		~ "	rootlet:	s <sup>†</sup> •						No odor	•	
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7												
4							4					
1												
1		3 7 0	lay, as	above, so	ft to firm.	•	7			15-2-5		•
	1111	o L	· <del></del>							Gas Tec		
25 -	- 1	E	Sottom o	f Boring				<u></u>	ļ	No odor	•	
ال	]								]			
٦		•					7					
4							4		1			
4							_		Ì	Logge	ed by:	тмн
1		],	*l-Water	at time o	f drillino	, 17.5'	7		]	-		
1				3' within		· · <del>-</del>	$\dashv$		l	Figure		
30—	[						4		Ì	Page	1 of	
	* IN	DICA	TE WELL C	OVER AND /	OR LOCK		<del></del>	/2		Sunucement		

## WELL LOG

## 115-770-9608 6267% - Graquur Nurera - Urc Navard. 621.94560 Project Name: Dublin  Boring/Well ID: 1188002R-16 Date Started: 8-15-89 Date Completed: 8-15-89	### 175-770-9608 62670- Şiraquun Nureta - bre N Boring/Well ID: 1188002R-16 Da Project and Task Number: 1188002R Da Size and Type of Casing: 4" PVC Co Drilling Method/Equip: Mobil Drill Pe	Action Col. 9-560 atte Started: 8-15-atum: completion Depth: 26 erl: .02 ack: #2 Sand	89 Date No. .5 Wat	Dublin  e Completed: 8-15-89  of Samples: 5
Date Started: 8-15-89  Date Completed: 8-15-89  Project and Task Number: 1188002R  Date Started: 8-15-89  Project and Task Number: 1188002R  Date Completed: 8-15-89  No. of Samples: 5  Water Level Dottl: 14  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Agency: Ensco  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Agency: Ensco  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Agency: Ensco  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Agency: Ensco  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Agency: Ensco  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Agency: Ensco  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Method/Equip: Mobil Drilli  From: 10 To: 25  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  To: 25  Drilling Method/Equip: Mobil Drilli  Pet: 02 From: 10 To: 25  Drilling Method/Equip: Mobil Drilli  From: 10 To: 25  Drilling Method/Equip: Mobil Drilling Start  From: 10 To: 25  Drilling Method/Equip: Mobil Drilling Start  From: 10 To: 25  Drilling Method/Equip: Mobil Drilling Start  Abandonad power Service  Abandonad Power	Boring/Well ID: 1188002R-16 Project and Task Number: 1188002R  Size and Type of Casing: 4" PVC  Drilling Method/Equip: Mobil Drill Pe	ate Started: 8-15- atum: ompletion Depth: 26 ed: .02 ack: #2 Sand	89 Date No. .5 Wat	e Completed: 8-15-89 of Samples: 5
Project and Task Number: 1188002R  Datum: No. of Samples: 5  Size and Type of Casing: 4" PVC  Completion Depth: 26.5 Water Level Depth: 14  Drilling Method Equip: Mobil: 1 Drill Pert: 02  Drilling Agency: Ensco  Drill Ris: 10" Hollow Seal: 25 Sand From: 8 170: 25  Drilling Agency: Ensco  Drill Ris: 10" Hollow Seal: Benconte From: 8 170: 25  Drilling Agency: Ensco  Drill Ris: 10" Hollow Seal: Benconte From: 7 170: 8  Elev TOC: MSL Elev WL: MSL Seal: 2: Concrete From: 0 170: 7  Gravel, gray, 3/4" ±, clean drain rock.  Concrete and Gravel  Gravel, gray, 3/4" ±, clean drain rock.  Concrete and Gravel  Gravel, gray, 3/4" ±, clean drain rock.  Clay, light to medium brown, slightly sandy, slightly sandy, slightly noist, firm.  Clay as above, mottled light gray,  16-2-1  Gas Tech O No odor.  Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".  Clay, as above, becoming mottled light gray  Gas Tech O No odor.  Clay, as above, becoming mottled light gray  Clay, as above, becoming mottled light gray  Gas Tech O No odor.  Clay, as above, becoming mote firm.  Gas Tech O No odor.  Logged by: Clay: Strong product odor on top of water at completion.	Project and Task Number: 1188002R Da Size and Type of Casing: 4" PVC Co Drilling Method/Equip: Mobil Drill Pe	atum: ompletion Deoth: 26 ed: .02 ack: #2 Sand	No.	of Samples: 5
Size and Type of Casing: A" PVC Completion Depth: 26.5 Maste Level Depth: 14  Drilling Method/Equip: Mobil Drill Part: 02 From: 10 To: 25  Driller Apency: Enaco  Driller Scott Driller: 10" Hollow Seal: Bentonite From: 7 To: 8  Elev TCC: MSL Eve WL: MSL Seal2: Concrete From: 0 To: 7  Gravel: gray, 3/4" = clean drain tock.  Concrete and Gravel  Gravel, gray, 3/4" = clean drain tock.  Clay, light to medium brown, slightly sandy, slightly moist, firm.  Clay, light to medium brown, slightly sandy, slightly moist, firm.  Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".  Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".  Clay, light to medium brown, mottled light gray  Clay, as above, becoming mote firm.  Clay, as above, becoming more firm.	Size and Type of Casing: 4" PVC Co Drilling Method/Equip: Mobil Drill Pe	ompletion Depth: 26 ed: .02 ack: #2 Sand	.5 Wat	
Drilling Agency: Ensco Drilling Agency: Ensco Drilling Agency: Ensco Drilling Agency: Ensco Drilling: Scott Dr	Drilling Method/Equip: Mobil Drill Pe	ed: .02 ack: #2 Sand		ar Level Decth: 14
Drilling Agency: Ensco Driller: Scott Driller: Scot		ack: #2 Sand	• From	
Driller Scott   Drill St: 10" Hollow   Seal: Bentonite   From: 7   To: 8				<del></del>
Elev TCC: MSL EvewL: MSL Seaf 2: Concrete    Seaf Seaf Seaf Seaf Seaf Seaf Seaf Seaf		aali Kantonita		
Concrete and Gravel   Gravel, gray, 3/4" ±, clean drain rock.   Abandoned power service   Clay, light to medium brown, slightly sandy,   16-2-1   Gas Tech O No odor.				
Clay, light to medium brown, slightly sandy,  Slightly moist, firm.  Clay as above, mottled light gray,  Clay as above, becoming mottled light gray  Clay, as above, becoming mottled light gray  Solution of Boring.  NOTE: Strong product odor on top of water at completion.  Logged by:  INSTE: Strong product odor on top of water at completion.		eal2: Concrete	Fron	n: 0 ;To: 7
Gravel, gray, 3/4" ±, clean drain rock.  Clay, light to medium prown, slightly sandy, slightly moist, firm.  Clay as above, mottled light gray,  Clay as above, mottled light gray,  Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".—  Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".—  Clay, as above, becoming mottled light gray  Clay, light to medium prown, slightly sandy, as above, become gray lightly sandy, as above		NOIT	WELL	REMARKS
Clay, light to medium brown, slightly sandy, slightly moist, firm.  Clay as above, mottled light gray,  Clay as above, mottled light gray,  Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".  Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".  Clay, as above, becoming mottled light gray  Clay, as above, becoming more firm.  Bottom of Boring.  North Clay, as above, becoming more firm.  Clay, light to medium brown, slightly sandy,  AND  16-2-1  Gas Tech O  No odor.	Concrete and Gravel		1/1 //	1
Slightly moist, firm.    Gas Tech 0   No odor.				service
Clay, light to medium brown, mottled green-gray. Free moisture in "root canals".  Clay, as above, becoming mottled light gray  Bottom of Boring.  NOTE: Strong product odor on top of water at completion.	5 — M 6 slightly moist, firm.	ightly sandy,		Gas Tech O
Clay, as above, becoming mort firm.  Clay, as above, becoming more firm.  Clay, as above, becoming more firm.  Bottom of Boring.  NOTE: Strong product odor on top of water at completion.  Clay, Iight to madium brown, mottled  Gas Tech 0  No odor.  16-2-4  Gas Tech 0  No odor.  16-2-5  Gas Tech 0  No odor.  Logged by:  IMH	Clay as above, mottled light gr	ray,		Gas Tech 0
Clay, as above, becoming mottled light gray  Clay, as above, becoming mottled light gray  Clay, as above, becoming more firm.  Clay, as above, becoming more firm.  Clay, as above, becoming more firm.  Bottom of Boring.  NOTE: Strong product odor on top of water at completion.  Logged by:  IMH	Clay, light to medium brown, mo green-gray. Free moisture in "r			Gas Tech 0
Clay, as above, becoming more firm.  Bottom of Boring.  NOTE: Strong product odor on top of water at completion.  Clay, as above, becoming more firm.  Gas Tech O No odor.  Logged by:  IMH	Clay, as above, becoming mottl	Led light gray		Gas Tech O
of water at completion.	Bottom of Boring.	-		Gas Tech •O
	i l i			IMH.
				Figure
Page 1 of	30-	ĺ		

275-200-1750		L.D. Seidicch and Leeve Inc						
<del>52-415-770-9</del> 60	28 62675- Fossium.	Muneca Live. Newark. Col 94560	2   2	rejec	: Nai	me:		
Bonng/Well ID:		Date Started:			(	Date	Comi	pleted:
Project and Task		Datum:				No. c	d San	noles:
Size and Type of		Completion Deoth:			1	Vate	rLev	el Death:
Drilling Method/E	quio:	Perf:			F	mon		To:
Drilling Agency:		Pack:			3.5	:om	:	To:
Driller:	Drill Sit:	Seal 1:			: 1	From	:	, Tc:
Elev TOC:	MSL   Elev WL:	MSL   Seal 2:	<del></del>	<del></del>	ş	mm.	:	To:
Dopth (foot) Sample Blws/ft	LITHOLOGI	C DESCRIPTION	Port	Pack	Soal 1	Soal 2	M.	REMARKS
-	,						4	- CONCRETE
5	2-inch I. D. Medifi	ied California Sampler	1	- T		4		BENTONITE
	2 1/2-inch I.D. Mo	edified California Sample			-			SAND
10	2-inch O. D. Stan	dard Split-Spoon Sampl	e				V	
	3-inch O. D. Shell	by Tube Sampler	1	V				SCLID PIPE
15 29	Blow count with falling 30 inches	140-lb hammer	1					
ρ.	Sampler advance	ed by pushing			4			GRAVEL
20-								SLOTTED
	At Ti	Level Measured: ATD ime of Drilling ATD ATD 24 hrs.	<del> </del>				Æ	STEEL COVE
25 —		ate indicated -> 3-10-86	-lı				1	REMOVABLE END CAP LOCKABLE COVER PERMANEN
30-	item applical	indicates specificable to Boring Logs for						END CAP

APPENDIX B

_	M	フレロ	'€o!~	1 E Z.	٧	) ARD	A				<u> </u>		County		State (	: A
Owner	·——	i.			<u> </u>		Addre	:ss					Cocsiny _	•	State	
Date _		5/2	3 / 9	ا (	Соп	npany per	forming	test	-111	K014	WENTA	· L Ant	Meas	sured by	Sin/BHN	<u>,                                     </u>
Well N	0	B -	- [0	:	Dista	ence from	pumping	g well	23	Туре	of test	arey.	7 7	i.eu	Test No	
Measu	ring eq	uipmen	ıt													
_			Data		<b>–</b>			r Level			i	Discharge Dat				
Pump Pump	on: Date off: Date	e <u>3-23</u> e <u>3-23</u>	<u>-31</u> Time - <u>31</u> Time	e <u>4</u> -	で(な) で(な)	Static wa Measurin					Depth of pur	ured p/air line nping? Yes		-	Comments on factors affecting test data	•
Duratio Pum	on of aq oping	uifer te <u>3 n</u>	st: Reco	very <u>1</u>	h 3cm	Elevation					Duration	nping: res Er	NO nd	-		
Date	Clock time	Time since pump started	Time since pump	t/t'		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate				
3-29	-	0		, <u> </u>		10.13			0			3.5gPn	P			
	1:14	2				10.17			0.64	_						
	1:16	4				10.19			0.06							
	1:18	6				10.20			0.07							
	1:20	E				10.21			Died							
	1:22	lo				10.22			c.c9							
	1:24	12				10,23			0.10							
	1:26	14				10.24			0.11							
	1:28	16				10,245			a115'			3.296	,,,			
	1:30	15				10.25			0.12							
4	1:32	20				10.258			0.128							
	1:37	25				1925			0.15					ļ		
	1:42					10.25			0.15							
	1:47					10,25			0.15			3.5 gpm				
	1:52	40				10.2년			0.16					<u> </u>		
	1:57					16.23			0.16	<u> </u>				<u> </u>		
	2:02	50				10.30			0.17							
	2:07					10.305			6.175							
	2:12					10.305	-		c.175			<u> </u>				
	2:17		_			10.31			0-18		<u></u>		<u> </u>	1		
	2:22					10,3)			0.15							<del></del>
	2:27	75				10.31			6.18							
	2:32					1031			0.18		<u> </u>					<del></del>
		85				10.315			0.185							<del> </del>
		30	<u> </u>			10.315			0.185		-					
	2:47	35				10,315			0.185							
	2:52	100				10.32			c. 19"							
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Date_	3	/29	/91		Con	noanv per	formina	test	明とくる	もええゅうご	× (_ A	PIT Meas	sured by	5~1/BHm	
Well N	o	В -	12		Dista	ance from	pumpin	g well	48.5	Type of test	م7 کا دسمن	-UT F	-دوس	Test No	- 1
Measu	ring eq	uipmer	nt			1		_							
	on: Dat off: Dat	e	e Data Time Time est:	e e	(t <sub>0</sub> ) (t' <sub>0</sub> )	Static wa	eter level		Data	How Q meas		ata No	- 1	Comments on factors affecting test data	;
			Reco	very_		Elevation	of meas	suring po	oint	Duration	!	End	-		
Date	Clock	Time since pump	Time Time shoe pump	t/t		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'	Discharge measure- ment	Rate				
3-21	1:12	ی	-	   		3.36			3						
	1:42					3:37			0 03						
<u> </u>	1:47	35				ES:E			0.03						
	1:57					9:40			0.04					·	
•	2:12	60				9:40			0.04						
	2:27	75				2141			0105						
	2:37	85				2:41			8.05						
	2:47	1				2:42			€10€						
	2:57	105				1:42			0.06						
	3:07	115				9:42			€.0€						
	3:22	130				3142			0.06						
	3:32	140				1142			0.06		<u></u>				
	3:42	150				3:42			0.06			<u> </u>			
	3:52	160				3:425			0.065						
	4.02	170				ગુ : ૫૩			5.07		<u> </u>				
	4:12	150				3:43			c.57						
	4137					7:42			3.0€						
	4:42	210	30			9:42			6.06						
	41.47					3;45			€.66						
	41.52	220	40			9:41			0.05						
	4257	225	45			호:41			0.55						
	5:02	230	5c			વ : 41			6.05						
	5:c7	235	55			9:41			0.05						
	5:12					3:40			0.04						
	5:17					9:40			004					···	
	5:22														
	5:27			_											
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Owne	Mo	NTE	بردسر ا	<u>=-</u> 4	ر ر	ARD	Addr	ess	<b>⊅</b> 4,©	LIN	4		County _		State	C.A
Date_	3/	29	/91		Con	npany per	torming	test	ころくこ	<b>そ</b> のこく	~ でして	L A	-P TMeas	ured by _	Sux / 13 H kg	
Man N	. 1	3 -	16		Diet		numaia	a v afl	82.0	l Tuna	of toot	CONSTA	or F	ئىئ	Tout No.	ĺ
Well IV	0				UISii	ance irom	pumpin	ĉ we⊪_		туре	ortest				lest No	
Measu	ring eq			-		1										
Pump	on: Dat	e	e Data Time	e	(t <sub>o</sub> )	Static wa		r Level			How Q measi			.]	Comments on factor	s
Pump Duratio	on of aq	e uiter te	। धारा st:		( <i>F</i> <sub>C</sub> )	Measurir	ng point.				Previous pum	ping? Yes	No	- ]	affecting test data	
Pun	ping_	T	Reco	<del></del>		Elevation	of meas	suring po	oint		Duration	E	nd	· [		
Date	Clock time	Time since pump	Time since pump stopped	t/t		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate				
3-23	1112	ט				10.41			٥							
•	1:42	30				10.42			0.01							
	1:47	35				15.42			0.01							<del>-</del>
	1:57	45				15.42			0.01			<u> </u>				
	2112	60				10.42			0.01						<del></del> _	·
	2:27					10.435			0.025							
	2:37	85				10.44			0.03	<u>-</u>						
	2:47					10.44	-		0.03				<u> </u>			·-··
	2:57					10.44€			0.035			<u> </u>		<u> </u>		
	3:07	-1,5				13.445			0.035				-	<del> </del>		
	3;22					10.45			0.04					-		
-	3:32					10.45			0.04			<u> </u>		-		
	3:42					10.45			0.04							
	3:52					10.45			0.04				<del></del>			
	4:02	100				10 455			0.045					<u> </u>		
	4112					10.453			0.545				<u> </u>	<u>}</u>		
		205				10.45	i		0.04	<u> </u> 						
		210				10.45	- 1		C.C4							
	<u>4:47</u> 4:52					15.445	i		0.035			 <del> </del>	<u> </u>	<del> </del>	<u>-</u>	
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Owne	ince	7 1	-Gro	m En	٠٧_	WARR	Addre	ess	P	سعد	.1~		County _		State	CA
Date _	31	25	/91		Cor	npany per	forming	test _E	ころろ	احصر	went	×L An	. □I T <sub>Mea</sub>	sured byS	~/BHM	
Well N	o <u>_</u>	3 – 1	0	· <u> </u>	Dist	ance from	pumpin	g we!l	23'	Туре	of test	ONSTA	~>T ·	FLow	Test No	
Measu	ring eq	uipmen	it				····									
Duratio	on of ac	e e uifer te:	st:			Static was Measuring Elevation	ater leveling point				How Q meas Depth of pur Previous pur	Discharge Daurednp/air linenping? Yes E	No	_  .	nments on factor fecting test data	
Date	Clock	Time since pump started	~			Water level measure- ment			Water level change s or s'		Discharge measure- ment	Rate				
	5:12	240	Ec			10.19			0.06							
	5:17	245	65			10.13			0.06							
	5;12	25°c	70			10.185			0,055						<u>.</u>	
	5-27	255	75			10.185	<u> </u>	<u> </u>	0.055	-						
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Date .	3/	29 /	91		_ Соп	npany peri	formina :	test=	<u> </u>	2017	<u> </u>	14 4	P T M	asured by	<u> 5:~</u>	113Hn		_
50.00	C	۱	0						231	~	of test	ONST	ANT	F40	بب	Tost No.	ţ	
Weil No	o. <u> </u>	<u>, , , , , , , , , , , , , , , , , , , </u>			Dista	ance from	pumping	g well		type	or test					162( NO		-
Measu	ring eq	uipmen	ıt															_
_			Data					r Level			I How Q meas	Discharge Da			_			
				===	$-(t_0)$ $-(t_0')$	Static wa Measurin	ater level				Depth of puri Previous puri					ents on fact ting test dat		
Duration Pum	n of aq Iping —	uifer te:	st: Reco	wery		Elevation					Duration	ping : tes	No nd					_
Date	Clock time	Time since pump	Time Time since pump	t/ť	-	Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate						_
3-29	2:57	105				10,32			0.19									_
	3:02	][ 0				10.33	<u> </u>	<u> </u>	0.20									_
	1	115				10.33			c,2e									
	3:12	120				10.33			c,2c									_
	3:22	130				10.33			0.20									
	3:32	140				10:33			0.20								····	_
•	3:42	150				10.335			€.205									
	3:57.	160				10.335			0,205			]						_
		170	i			101335		ţ 	c.265						·_···			
	4:12	180				(0:335			0.205									
		181				10.33			0.20									
	4:16	184	4			10,32		į	0.19									
	4213	156	6			10.30			0.17					_				
	4:20	188	8			10.27			c.14									
	4:22	190	10			10.26			c/13			<u> </u>						
	4:74	142	12			10.255			0.125									
	4:26	194	14			10.25			0.12									
	4:25	196	16			10.245	-		ت. <u>۱</u> ۱۶									
_	4:30	138	18			10,24			0.11			<u></u>						
	4:32	200	20			10.235	-		0.165					_				
	4137	2:5	25			10.235			c.165			<u></u>						
	4:42	210	30			10.225			0.095									_
	4:47	215	35			10.215			0.085									_
	4:52	220	40			10,205			c.075	_								_
			45			1020			0.07									
	5:02					10,195			0.065	-		1.	<u> </u>				- <del>-</del>	_
	5:07	235	55			10.195		,	0.065	~				_				_
													_					
-																		

												L AUF					
Weil N	o <u>}</u>	<u> </u>	<u> </u>		Dista	ance from	pumping	g well		Туре	of test	CONST	<b>~~</b> ───	FL-0-	<u>د</u> 1	Test No	
Measu	ring eq	uipmer	nt														
Pump	oπ: Uat on of ac	e e uifer te	Ume st:	€	(٢٥)		ater level ag point .				How Q mea Depth of pu Previous pu	Discharge Da sured mp/air line mping? Yes E	No			s on factors test data	
Date	Clock time	—	Time	t/r		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate					
3-24	1:12	٤				10.41			1.05								
	4:14	152	2			11.03			1.67								
	4:16	154	4			10.69		,	1,33								
	4:18	186	6			12.60		l. L	1,24								
	4:20	133	8			10.58			1.22				ļ			·	
	4:27	190	10			10.57			1.21						<u></u>		
	4:24	192	12		<u> </u>	10.56	ļ		1,20				<u> </u>				
	4:28		16			10,54			1,118								
	4:30		15			10.53			1.17								
	ļ <u> </u>	200				10,52			1.16								
	4:34	2-2				16.52			1.16								<u></u>
	4:37		25			10.5			1,14								
		210				10,44			1.(3				<u> </u>			<u></u>	<del></del>
	4:47	215	35			10.48			1.12			<u> </u>					
	4:52	1				10.48			1.12					_			
		225				1047			1.11				<u> </u>			· · · · · · · · · · · · · · · · · · ·	<del> </del>
		230				10.47			1,11								
	5107		1			10.47			(,1)	-							
	5:17	245	65			10.46	-		1.10		· · · · · · · · · · · · · · · · · · ·	<u> </u>			<del></del>	<del></del>	
				-								<del> </del>					·
											· · · · · · · · · · · · · · · · · · ·	<u> </u>				· · · · ·	
									-		<u> </u>	<u> </u>		<u> </u>			
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			}										1	<del></del>			
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		_										1		<del> </del>			
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			1	-									<u> </u>				,·

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Date	6 (L	+ /9	ı V		Con	noanv oer	fermina 1	test E	يمرر	RON	MENTA	-L Arus	>(T Measu	red by	U.B.	
Daile _		3 — <i>'</i>	16			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			95'	_		ONSTA	NT F	= Low:	CL. B.	2
Well No	)`				Dista	ance from	baubind	g well		Typ∈	of lest				iest ivo	
Measu	ring equ	uipmen 	t													
Dumo.	ans Date		Data	-	(1)			r Level I				Discharge Dat			0	
Pump of Duratio	on: Date	₽	11me	===	— (以) — (心)	Static wa					Depth of num	p/air line ping? Yes			Comments on factor affecting test data	-
	ping			very		Elevation	of meas	suring po	int		Duration	Er	vd			
Date	COCK	Time since pump started	Time since pump	t/ť		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate				
6/4/91		├──	•	•,•		26		1(.00	·							
		5				26		(1,00	0							
		le				26		11.00	G							
		15				26		11.00	0							
		20				26.02		lloz	0.02							
		25				26,02		11,02	c.c2							
		30				26,02		11.02	0.02							
		35				26.02		11.02	0.02	ļ		<u> </u>			<del></del>	
		40				26,02		((.02	0.02	ļ				1		
		45				26.02		11.02	0,02							
		కం				26.03		11.03	0,03					1		
		55				26.03		11.03	0,03							
		60				26.03			0.03	<del> </del>				<u> </u>	<del></del>	<u>.                                    </u>
		65			ļ	26.03		-	0.03	<del>                                     </del>			<u> </u>		· · · · · · · · · · · · · · · · · · ·	
		To				26,04		i	0.04	i		<u> </u>		_		
		75				26.04			-0.04							
		రిం				26.04			0,04	<del></del> -			<u> </u>			<del></del>
		85				26.04			0.04							
		90			<u> </u>	26.04		11. df		<del>†</del>		<del> </del>		<u> </u>		
		95				26.04			0.04	···						
		100				26.05		11.05		<del></del>						
		105				26.05			5م،2					<u> </u>		
		110				26.05			v.05							
		IIS				26.05		11.05		<del> </del>			<u> </u>	<u> </u> 		
		120				26.05		(1.05	0.05					<u> </u>		
								-		<u> </u>				<u> </u>		
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Owner	mo	जि	our f	ERY	. u	U AME	≥ Addre	ess	ŗ	Surg	412		Count	у	Sta	ate <u>CA</u>
Date_	6	141	191		Con	npany per	forming '	test <u>Er</u>	VVIR	۰۲ ۰ <u>۰</u>	CNTA	L Auc	<u> </u>	easured by	UB	
Well N	o	3-	5		Dista	ance from	pumping	g well	55′	Type	of test	CONSTA	w1	Flou	Test N	io. <u>2</u>
Measu	ring eq	uipmen	ıt													·
			Data			T	Wate	r Level	Data			Discharge Da	ita		<del></del>	
Pump	on: Date off: Date	<u> </u>	— Tim	e	(t;) (t;)	0140						sured np/air line		<u>-</u> }	Comments on	
Duratio	on of aq ping	uifer te:	st:			Measurin Elevation					Previous pur Duration	nping? Yes E	No nd		affecting test	data
													T			
Date	Clock time	Time since pum	Time Since pump Stopped	} } !/r		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate				
<u> </u>	unic	129	4			26.65							<del>                                     </del>			
		130	5	_	<del>                                     </del>	26,635		<del></del>	0.135				<del> </del>			
		131	6	<u> </u>		26.635		11.635	0.135	_						
		132	7			26.635		11.635	0.135							
		133	8			26.625		11.625	0.125							
<del></del>		134	9			26.625		11.625	0./25							
		135	10			26.625	-	11.625	0.12.5							
		137	12			26.615		11.615	0.115							
		139	14			26,60		11.60	5.50				<u></u>		· -	
		141	16			26.59		11.59	0.09							
		143	18			26.58		11.58	0.08				<u></u>		<u> </u>	
		145	20			26.58		11.58	0.08	<u> </u>		<u> </u>				
		147	22			26.57		น.ร7	0.07							
		149	24			26.57		11.57	0.07							<u></u>
		151	26			26.56		11.56	0.06							
		153	28			26,56		11.56	0.06							<del></del> -
		155	30			26.55		แรร	C.05			<u> </u>				
		160	35			26.54		11.54	0.04			<u> </u>				
		165	40			26.53		11.53	0,03			ļ <u>-</u>				
		170	45			26.53		11.53	003							
		175	50			26.53			0.03							
			ธร			26.53		11.53	c.03				<u> </u>			
		185	<u> </u>		<u> </u>	26,53			c.03			<u> </u>	ļ			
<u></u>		190				26.53			c.03				<u> </u>			<del></del>
		195	70			26.53		11.53	0.03			<u> </u>	-			
					<u> </u>		-					1	-			
									<u> </u>	<u> </u>			<del> </del>	_		

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Date_	6,	141	91		_ Соп	cany per	forming t	iesi Er	IVIRO	NM	EUTAL	AUDI	T Measi	red by	CLB	
"		5- 1	15		D'ata			المسا	551	T	of took	といいっての	~~~ F	-نصن	Test No	2
Well N	D			<del></del>	UIST	ence trom	bambini	3 Meil —		_ іуре	ortest					
Measu	ring eq	uipmen	t											<u> </u>		
Pumo	on: Dat	•••	Data Time	<b>.</b>	(ts)	Static wa	•	r Levei i	-			Discharge Dat ured	a	Cor	nments on facto	ors
Pump	off: Date	ee	Time	==	141	Measurin					Depth of pum Previous pum	p/air line ping? Yes			ecting test data	
Pun	ping_		_ Reco	very		Elevation	of meas	uring po	oint		Duration	E	nd			
Date	Clock time	Time since pump	Time	1/ť		(Ft) Water level measure- ment	Correction or Conversion	Water Ievel	Water level change s or s'		Discharge measure- ment	Rate				
14/91	14:11	0				26.5		11.5	0	,						
		5				26.5		11.5	0				<u> </u>			
		10				26,51		11.51	0.01						<del></del> _	
		15				26,51		11.51	0.01							
		20				26.54	<u>-</u>	11.54	0,04							
		25				26,55			0,05							
		30				26,56			0.06							
		35		ļ		26.5		<u>                                      </u>	0.07			<u> </u>	] <del> </del> -			
		40				26.58		<del></del>	0.08				<u> </u>			
		45				26.59			0.09					<u> </u>		<del></del>
		50				26,59		····	0.09				<u> </u>			
		55				26.60			0.10			<u> </u>				
		60				26.60		<del></del>	0.10					-		
		65				26.62			0.12							
		70				26.62			0.12				<del> </del> -			
		75	<u> </u>			2662			0.12							
		సం		·		26.62	-		0.12							
		85				26,625			0.125			<u> </u>				
	<u> </u>	90				26.62		<u></u>	0.125							<del></del>
		95				26.635		<del>                                     </del>	0.135			<u> </u>	<u> </u>		<u></u>	
	<u> </u>	(60				26.635			0.135			<u> </u>	<del> </del>		<del></del>	
		105		<u> </u>		26.635		<u> </u>	0.135				<u> </u>			<del></del>
		110				26,635		<del> </del>	0.135					<u> </u>		
		115				26.635		<del> </del>	0.135		1		<u> </u>	<u> </u>		
		120				26,635		<del></del> _	0.135						<del></del>	
		125	0			26.65			0.15					<u> </u>		<del></del>
		126	1			26.65		<del>'</del>	0.15		<u> </u>	<del> </del>	<u> </u>	1		
	<u> </u>	127				26.65		<del> </del>	0./5			ļ	<del>                                     </del>	<del> </del>		
		128	3			26.65		11.65	0.18			<u></u>		1		

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Date	6	14.	/91		Con	noany peri	formina :	test 🖆	とくって	075	^E~TA	L AMF	>1 T Me	asured by	5m	
Weil No	o	ß	10		Dista	ance from	pumping	g well	69'	Туре	e of test	600 ST	T	asured by	Test No	2
Measu	ring eq	uipmen	t											<del> </del>		
			Data				Wate	r Level i	Data			Discharge Da	ata			
Pump	on: Date	e	Time	<u> </u>	(t <sub>0</sub> )	Static water level						ured np/zir line			nments on facto	
Duratio	n of aq	uifer tes	st:			Measuring point				Previous pun	nping? Yes	No	af	affecting test data		
					<del></del> -	<del> </del> -										
Date	Clock time	Time since pump	Time since pum stopped	t/t'		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate	200			
14/91	14.11	0				11.75		10,75	0							
		5				11.75		10.75	0							
		lo				11.76		10.76	0.01							
		15				11:77		10.7	0.02							
		20				11.78		(0.77 8	0,03							
		25				11.78		10.79	0.03							
		30				11.79		10.73	0.04				<u> </u>			
		35				11773		10.75	0,0							
		40				11.80		10.50	0.05		<u> </u>					
		45				11.805		308.0)	0.055							
		50				11.81		18.01	0.06							
		55				11.81		18.0)	0.06							
		60				11.81		10.81	0.06							
		65				11.815		(0.515	c 065				<u> </u>			
		70				11.815		(0.81⊆	0.065		<u> </u>				_ <del></del> -	
		75				11.82		10.82	0.07							
		ဝင်				11.825	5	10.825	0.075			<u> </u>				
		85			_	11.83		10.83	80.0							
		90				11.83		10.83	0.08							
		95				11.83		10.83	0.08							
		100				11.83		10.83	0.08							
		105				11.835		10.83	30.00	3						
		110				(1.835		10,835	0.08	<u> </u>			<u> </u>		<u>.                                    </u>	
		เเธ				11.84		10.84	0.09			<u> </u>				
		(2c				11,84		10.84	0.09			1				
		125				((,84		10.84	0.09	<del></del> ,						
								•			[					

Owner	mo	7T6	<u>5</u> 10~	ER	Υ (	~ A~~ [	≥ <sub>Addre</sub>	essţ	<u>عبر رح</u>	L1~	ر		County		State _	CA
Well No	o	B-'	<u> </u>		Dista	ence from	bambjuá	g well	<del>4-8.</del> ≤	_ <sup>l</sup> Type	of test	NSTAN	57 2	FLow	Test No	2_
Measu	ring eq	uipmen	t											<del></del> -		
		Time	Data				Wate	r Level	Data		t	Discharge Da	ta			
Pump	on: Date	e e	Time	£	(t <sub>0</sub> )	Static wa						ured p/air line			Comments on fact	
Duratio	on of ag	uifer tes	st:			Measurin Elevation					Previous pum		No		affecting test dat	a
Fuit	φg	τ		,												
Date	Clock	Time since pump	Time re since pum stopped	t/t"		Water level measure-ment	Correction or Conversion	Water level	Water level change s or s'		Discharge measure- ment	Rate				
		130	5			12.15		1	0.10							
		131	6			12.15		ILIS	0.(0							
		132	7			12.15		11.15	0.10							
		133	8			12.15		11.15	0.10							
		134	9			12,15		(1.15	0.10							······
		135	10			12,15		11.15	0.10							
		137	12			12.14		(1.14	0.09							
		135	14			12.14		11.14	0.09							
		144	16			12.13		11.13	0.08							
		143	18			12.13		(1.(3	0.08							
		145	20			12.12		11.12	0.07							
		14-1	22			12.12		(1, [2	0.07			<u> </u>				
		149	24		<u> </u>	12,11		11.11	0.06							
		121	26			12.11		11.11	0.06							·
		153	28			12.10	<u> </u>	11.10	0.05							
		155	30	<u> </u>		12.10		[1,10	0.05				ļ			
		160	35			2.095		11.095	०,०५९	\$			<u> </u>			
		165	40			12.09		11.09	0,04							
		170	4-5			12.09		11,09	0.04							
		เปร	50			12,08		11,08	0.03	<u> </u>			<u> </u>			
		180	ยร			12.08		11.08	0.03							
		185	60			12.0[5		11.515	4c2=	<u> </u>			<u> </u>		····	
		190	65			12,079		11.079	0.02	5			1			
		195	70			12.07		11.07	0.02							
													ļ			
													<u> </u>		<del></del>	
			Ì	]	]		]	]	]	]				)		

Owner	. <u>M</u> c	アン	Gon	~ <u>=</u> ~	- \(	WAR	_D <sub>Addre</sub>	ess	Due	5LIN		······································	County	/ <del></del>	Stat	e	<u>م</u>
Date	6	14	19	}	Соп	npany ber	formina	test <u></u>	NVIR	ONME	- <u>\</u> \_	-L Aus	DITME	easured by	⊃ ₩ Test No		
		3-9	5						48.5	1	د	ensta	~T 4	=L-ow	To as No	_	2
Well N	0				Dista	ance from	brubiu	g well		lype of te	est	<u>-</u>			iest ivo	)	
Measu	ring eq	uìpmer	nt														
Dumn	on: Date		Data	•	<i>(</i> + )			r Level		How		Discharge Da ured					
Pump	off: Date	e	Tim	e	(t <sub>0</sub> )	Measuring point				Dec	th of pur	np/air line nping? Yes		{ <b>_</b> {	Comments on fa affecting test of		
	on of aq oping			very_	· · · · · · · · · · · · · · · · · · ·					Di	uration		nd	-			
Date	CIOCX	Time ** since pump started	Time -t since pump stopped	1/1		Water level measure- ment	Correction or Conversion	Water level	Water level change s or s'	m	scharge easure- ment	Rate					
5/4/51	14:01	٥				12.05		11.05	0						· · · · · · · · · · · · · · · · · · ·		
		5				12.05		11.05	0								
		10				12.06		11.06	0.01								
<del></del>		15				12.07		11.07	0.02							· · · · · · · · · · · · · · · · · · ·	
		20				12.08		11.08	0,03								
		25				12.09		ilog	0.04								
		30	ļ			12,00		11.09	0.04				<u> </u>				
		35	ļ 	 		12.10	<u> </u>	11.10	0.05		_						
		40				12.105		11.105	0.055								
		45			<u> </u>	12.105		11.105	0.055								
		50				12.120		11,120	0.07								
		55				12.125		11,129	००।इ								
		60				12.125			০তার								
		65				12.13			0.08				<u> </u>				
		70				12.135			0.085							<del></del>	
		75				12.14		11.14	0.09				<u> </u>				
		80			-	12.15			0.10								
		రి5				12.15			0.10								
		<u>30</u>				12.15			0.10								
		<b>9</b> 5				12.15			0.10		<u></u>					<u>.</u>	
		100				12.155			0.105								
		105				12.155			0.105				ļ <u>.</u>				
		01)				12.155			0.105								
		115				12.16			0, []		<del></del>		ļ				
		120				12.16			0.11							<del></del>	
		125	0			12.16			0.11								
		126	1			12.16			0.11				ļ				
		127				12.16			0.11				<u> </u>				
- 1		129	4			12.16		11.16	0.(1								

APPENDIX C



# ENVIRONMENTAL AUDIT, INC.

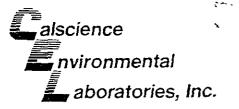
Planning, Environmental Analyses and Hazardous Substances Management and Redemption

1000-A ORTEGA WAY 714/632-8521 PLACENTIA, CA 92670-7125 FAX: 714/632-6754

# CHAIN OF CUSTODY RECORD

						<u> </u>														
PROJECT NO. 12 33 PROJECT NAME			WHE WONDAPPER	α	TYPE CONTHR		ANALYSIS						OTHER				REHARKS			
SAMPLERS: (Signature) Seged Wortze Mortagami						BLASS	PLASTIC	S/SS TUBE	HC (602)(8015)	EUM NG 418.1	1 8020	C5 674 6740	LEAD EXTRACIÁBLE DEGIRICE ESE ESTO	GELSE.	ne i ALS			KUMBER OF CONTAINERS		
SAHPLE HUHBER	ſ	ĺ			DESCRIPTION	16	7.	5RAS	FUEL	PETROL	12	OREAN]	בנואלנ	016	3 5			. ₹ S		
attridion	6-4	7:401	, 4	wher s-	lo				V								_			
B-5	6-4	7:57	Pm	-water	Suplo				V				_			_		<u> </u>	·	<del></del>
B-16	6-4	8:12	Pm .	PM water Souple					V					-	-	_ -	_ -			<u></u>
B-10	6-4	8:05	PM.	PM. water Soycle				<u> </u>	V		-			-		_		-		
B-15	6-4	8:16	10Pm water Suplo 12 PM water Suplo 05 PM water Suplo 16 PM water Suplo			-		_	1				_	-	-	-	_ -	-		
	ļ	ļ				-	-	-	-	_		_		<del>-</del>				-		<del></del>
RCT HOOF SHED	AY:(Slev			DATE/TIME	RECEIVED BY:(Signature)	¥(	r c x0	ULSH	IED B	711	l gn	lure		OF		IATI	HDER HERS		or:(Signsture)	
RELEHQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature)				RE	LEHO	ULSII	IEO 8	Y: (S	lgni	ture	)	n	DATE/TIME RECEIVED BY: (Signature)							
HETHOD OF SHIPPERT:  SHIPPED BY:(Signature)				CO	COURTER: (Signature)							HECELYED FOR LAB BY: (1510g) (Ure)  LAB: CALSCIENCE				11 :45 21 :45 :15 11 2	(ggsture)	6/6/9/		

APPENDIX D



RECE: VED
JUN 1 3 1991

EMPRICATENCE AUDIT THE

#### ANALYTICAL REPORT

Date Sampled: 06/04/91 Environmental Audit, Inc. 06/06/91 Date Received: 1000-A Ortega Way Date Extracted: N/A Placentia, CA 92670-7125 06/07/91 Date Analyzed: CEL Batch No.: 91-06-027 Seyed Mortazavi Attn: EPA 8015M Method: MGWD/Dublin/1233 RE:

All total petroleum hydrocarbon concentrations are reported in mg/L (ppm) using gasoline as a standard.

Sample Number	Concentration	Det'n Limit
Extraction Well	20	0.05
B-5	7.8	0.05
B-16	2.3	0.05
B-10	16	0.05
B-15	1.2	0.05

Reviewed and Approved

William H. Christensen

Laboratory Operations Manager

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EPA 8015M is conducted in accordance with the DHS Method for Total Petroleum Hydrocarbons.

ND denotes not detected at indicated detection limit.

Each sample was received by CEL in a chilled state, intact and with chain-of-custody attached.



### RECEIVED

JUN 1 J 1991

#### ANALYTICAL REPORT

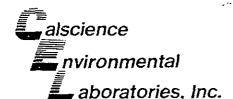
EBILIRDAMENTAL AUDITONO

Environmental Audit, Ir 1000-A Ortega Way Placentia, CA 92670-71	Date 7125 Date Date CEL I	Sampled: 06/04/91 Received: 06/06/91 Extracted: N/A Analyzed: 06/07/91 Batch No.: 91-06-027 1 of 2

Attn: Seyed Mortazavi EPA 602 Method: MGWD/Dublin/1233

All concentrations are reported in ug/L (ppb).

	<u>Concentration</u>	<u>Det'n Limit</u>
Sample Number:	Extraction Well	
Benzene Toluene Ethylbenzene Total Xylenes	2240 2960 1030 4280	1 1 1 2
Sample Number:	B-5	
Benzene Toluene Ethylbenzene Total Xylenes	2140 1030 439 764	1 1 1 2
Sample Number:	B-16	
Benzene Toluene Ethylbenzene Total Xylenes	346 50 155 407	1 1 1 2
Sample Number:	B-10	
Benzene Toluene Ethylbenzene Total Xylenes	3820 1770 933 1210	1 1 1 2



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ANALYTICAL REPORT

EN DREAMETERAL AUDIC LINE

\_\_\_\_\_\_ Date Sampled: 06/04/91
Date Received: 06/06/91

Environmental Audit, Inc. 1000-A Ortega Way

Placentia, CA 92670-7125

Date Extracted: N/A
Date Analyzed: 06/07/91
CEL Batch No.: 91-06-027

Page 2 of 2

Attn: Seyed Mortazavi

Sample Number: B-15

Benzene Toluene

Ethylbenzene

Total Xylenes

MGWD/Dublin/1233 RE:

Method:

EPA 602

2

All concentrations are reported in ug/L (ppb).

<u>Concentration</u>	Det'n Limit
43	1
21	1
34	1

Reviewed and Approved

William H. Christensen

28

on <u>C6 / /2</u> /1991.

Laboratory Operations

Manager

ND denotes not detected at indicated detection limit.

Each sample was received by CEL in a chilled state, intact and with chain-of-custody attached.