

2060 KNOLL DRIVE, SUITE 200, VENTURA, CALIFORNIA 93003 (805) 644-5892 • FAX (805) 654-0720

ALCO HAZMAT 94 OCT -4 AH 8: 34

September 27, 1994

Ms. Eva Chu, Haz. Mat. Specialist Alameda County Health Care Service Department of Environmental Health 80 Swan Way, Rm. 200 Oakland, CA 94621

Subject:

Quarterly Monitoring Report for

the property located at 2008 First Street, Livermore, CA 94550

Dear Ms. Chu:

Enclosed is the most recent Quarterly Monitoring Report for the above referenced property.

Remediation Service, Int'l. (RSI) prepared this report and is under contract to Desert Petroleum to provide environmental services. If you have any questions regarding this report, please do not hesitate to contact Mr. Rick Pilat, the program director at RSI.

Sincerely,

Heather Davis

Remediation Service, Int'l.

CC: Mr. John Rutherford Desert Petroleum, Inc.

> Mr. Sumadhu Arigala RWQCB, San Francisco Bay Area 2101 Webster St., Suite 500 Oakland, CA 94612

enclosure

D did not analyze GW pom MW. Z for vocs a TOG - weel not sampled due to free product. 2 Freeproduct semmal



2060 KNOLL DRIVE, SUITE 200, VENTURA, CALIFORNIA 93003 (805) 644-5892 • FAX (805) 654-0720

QUARTERLY MONITORING REPORT

for

2008 FIRST STREET LIVERMORE, CALIFORNIA

> Prepared for: **DESERT PETROLEUM** P.O. Box 1601 Oxnard, CA 93032 (805) 644-6784

Prepared by: RSI - REMEDIATION SERVICE, INT'L

2060 Knoll Drive, Suite 200 Ventura, CA 93003 (805) 644-5892

Michael E. Mulhern

E.G. #1507

Exp. 10/31/96

Richard W. Pilat

RSI Program Director

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1.0 INTRODUCTION

This report presents the results of quarterly groundwater monitoring for the real property located at 2008 First Street, Livermore, Alameda County, California (Figure 1). The site is currently occupied by a retail gasoline station operating under the British Petroleum trade name. Site improvements include three underground storage tanks, two pump islands and an office/garage building (Figure 2).

A site assessment conducted in February, 1988 indicated that both soil and groundwater contained elevated concentrations of petroleum hydrocarbons. One groundwater monitoring well was installed in September, 1988 and three additional wells were recently installed in June, 1994.

2.0 GROUNDWATER MONITORING

2.1 Groundwater Monitoring Procedures

On August 25 and 26, 1994, groundwater monitoring wells MW-1, MW-2, MW-3 and MW-4 were measured for depth to groundwater and checked for the presence of free product. The wells were measured to an accuracy of 0.01 feet and the measuring point was the top of the well casing. Initially no free product was found. After purging, however, free product was found in well MW-2; this well was therefore not sampled. The wells were purged using a Grundfos Rediflo pump. The pump and hose were decontaminated between each well with TSP and a standard 3-bucket wash method. Purging continued until temperature, electrical conductivity and pH stabilized and three well volumes had been removed from each well. These measurements, along with all other pertinent data were recorded on Water Sample Logs (Appendix A). The purged water was placed in 55 gallon DOT drums which were sealed, labeled as pending laboratory analysis and stored on site.

The wells were allowed to recharge to a minimum of 80 percent, then sampled using a disposable polyethylene bailer. The samples, along with a trip blank, were sealed, labeled and placed on blue ice for transportation under standard chain of custody to Coast to Coast Analytical, a state certified laboratory in San Jose, California. All samples were analyzed to minimum detection limits for TPH, BTEX and soluble lead using EPA methods 8015M, 8020 and 239.1, respectively. Laboratory Reports for Water Sample Analyses are included in Appendix B.

2.2 Groundwater Monitoring Results

The depth to groundwater on August 25, 1994 measured between 42.25to 44.13 feet bgs (Table 1 and Appendix A). Groundwater gradient was calculated to be approximately 0.028 ft/ft with groundwater flow in a northwesterly direction (Figure 3).

As reported on Table 2, Hydrocarbons were detected in the groundwater samples from all three wells sampled. Well MW-2 was not sampled due to the presence of free product. TPH concentrations ranged between 850 μ g/L (MW-4) and 41,000 μ g/L (MW-3). Benzene was also detected in all three samples at concentrations of 37 μ g/L in well MW-4, 1,600 μ g/L in MW-3 and 290 μ g/L in MW-1. These concentrations for benzene exceed the California Department of Health Services Drinking Water Action Level of 1 part per billion (CCR Title 22, Section 64444.5).

Soluble lead was not detected in the groundwater samples from wells MW-1, MW-3 and MW-4.

Analytical results for groundwater samples are summarized in Table 2 and shown graphically in Figure 4; the complete laboratory report is contained in Appendix B. State of California concentrations for drinking water standards are included in Table 2.

3.0 LIMITATIONS

The discussion, conclusion and any recommendations presented in this report are based on the professional performance of the personnel who conducted the investigations, the observations of the field personnel, the results of laboratory analyses performed by a state certified laboratory, any referenced documents and our understanding of the regulations of the State of California and any other applicable local regulations.

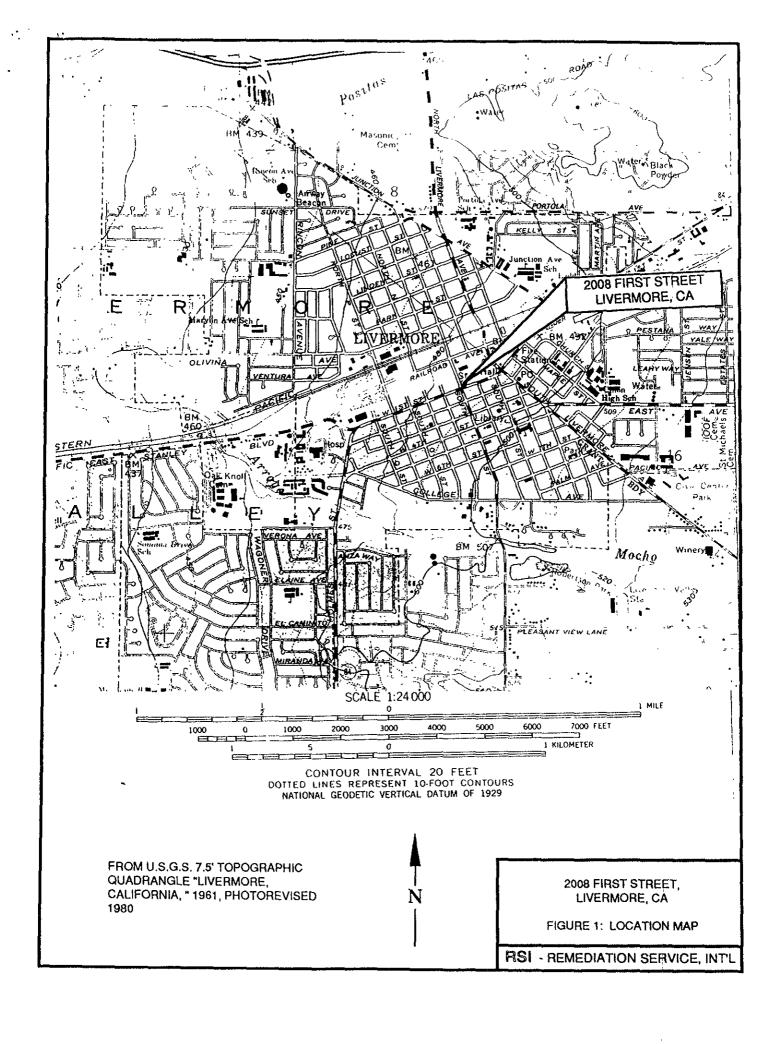
Variations in the soil and groundwater conditions may exist beyond the points explored in this investigation.

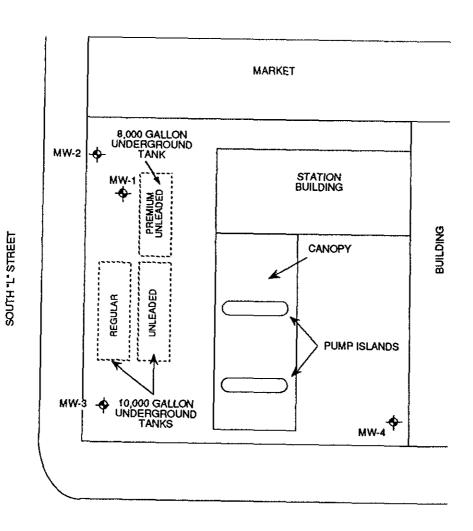
The services performed by Remediation Service, Int'l have been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the State of California.

Please note that contamination of soil and/or groundwater must be reported to the appropriate agencies in a timely manner. No other warranty, expressed or implied, is made.



FIGURES





FIRST STREET

MAP NOT TO SCALE.
SURVEYED DISTANCE BETWEEN WELLS, 1" = 25'.

LEGEND

GROUNDWATER MONITORING WELL LOCATION

2008 FIRST STREET, LIVERMORE, CA 94550

FIGURE 2: PLOT PLAN

REMEDIATION SERVICE, INT'L.

APPROXIMATE GROUNDWATER FLOW DIRECTION MARKET 8,000 GALLON UNDERGROUND) TANK 440.23 STATION BUILDING 440.80' 💠 BUILDING SOUTH "L" STREET CANOPY PUMP ISLANDS MW 10,000 GALLON UNDERGROUND TANKS MW-4 442.79' 441.931

FIRST STREET

MAP NOT TO SCALE.
SURVEYED DISTANCE BETWEEN WELLS, 1" = 25'.

LEGEND

445.71

MW-2

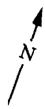
GROUNDWATER MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL.

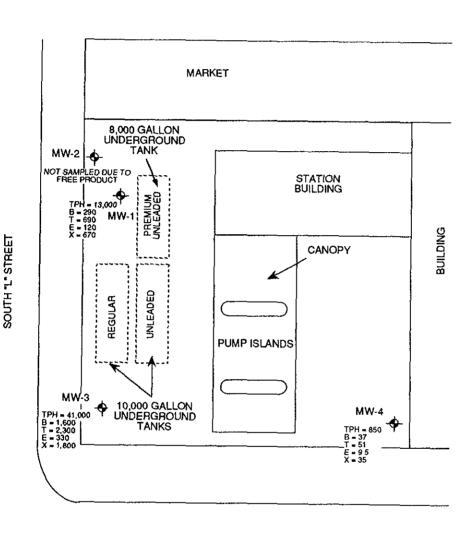
446.0' GROUNDWATER ELEVATION CONTOUR LINE

2008 FIRST STREET, LIVERMORE, CA 94550

FIGURE 3: PLOT PLAN WITH GROUNDWATER ELEVATION CONTOURS AUGUST 25, 1994







FIRST STREET

MAP NOT TO SCALE.
SURVEYED DISTANCE BETWEEN WELLS, 1" = 25'.

LEGEND

TPH = ND B = ND T = ND E = ND

GROUNDWATER MONITORING WELL LOCATION WITH TPH & BTEX CONCENTRATIONS IN $\mu g/L$

2008 FIRST STREET, LIVERMORE, CA 94550

FIGURE 4: PLOT PLAN WITH GROUNDWATER ANALYTICAL RESULTS AUGUST 26, 1994



TABLES

TABLE 1 GROUNDWATER ELEVATION DATA

2008 FIRST STREET LIVERMORE, CA

Measurements are in feet.

	Date	Depth to	Depth to	Free Product	Corrected Depth	Well Head	Water Table	Change in
Well	Measured	Free Product	Water*	Thickness	to Water Table **	Elevation*	Elevation*	Elevation
NASAC 4	0.400.400					-	<u> </u>	
MW-1	9/22/88		60.50			487.00	426.50	
	8/2/90		43.10				443.90	17.40
	10/10/91		66.39				420.61	-23.29
	1/8/92		68.72				418.28	-2.33
	5/11/93		34.76				452.24	33.96
	9/21/93		38.70				448.30	-3.94
	5/22/94	_	33.57				453.43	5.13
	6/19/94		37.51		<u></u>	484.07	446.56	J. 13
	8/25/94		43.27			404.07		
	0,20,01		40.27		***************************************		440.80	-5.76
MW-2	6/19/94		38.15			483.86	445,71	
	8/25/94	43.47	44.13	0.66	43.63		440.23	-5.48
MW-3	6/19/94		37.15			484.24	447.09	
	8/25/94		42.31				441.93	-5.16
MW-4	6/19/94	_	37.49			485.04	447.55	
	8/25/94	<u></u>	42.25			100.04	442.79	-4.76

^{*}Elevations are in feet above mean sea level.

Well Head Elevations to top of casing surveyed 6/94 to City of Livermore Bench Mark: street monument located at the intersection of 1st. street and S. L street. Bench Mark elevation = 483.82', based on USGS Sea Level Datum 1929.



^{**}Corrected depth = Depth to water - (Free product thickness x Specific gravity of product).

TABLE 2 SUMMARY OF LABORATORY ANALYSIS OF GROUNDWATER

2008 FIRST STREET LIVERMORE, CA

TPH & BTEX Concentrations are in μ g/L (parts per billion) Total Lead Concentrations are in mg/L (parts per million)

WELL#	DATE SAMPLED	TPH	BENZENE	TOLUENE	ETHYL- BENZENE	TOTAL XYLENES	TOTAL LEAD	SOLUBL LEAD
MW-1	8/2/90	24,000	1,300	1,300	400	2,700	NA	NA
	10/10/91	2,200	430	170	100	290	NA	NA
	1/8/92	1,200	200	120	30	150	NA	NA
	5/11/93	960	66	8	41	90	NA	NA
	9/21/93	1,900	311	118	33.8	112	NA	NA
	5/22/94	10,000	690	1100	340	1200	NA	NA
	8/26/94	13,000	290	690	120	670	NA	ND
MW-2	6/19/94	290,000	18,000	36,000	4,600	26,000	0,016	0.016
	8/26/94	NS*FP	NS*FP	NS* FP	NS*	NS*	NA	NS*
MW-3	6/19/94	11,000	640	580	270	790	ND	ND
	8/26/94	41,000	1,600	2,300	330	1,800	NA	ND
MW-4	6/19/94	810	12	25	ND	22	0.007	0.007
	8/26/94	850	37	51	9.5	35	NA	ND
lle 22 CCR	MCL		1		680	1,750		

TPH = Total petroleum hydrocarbons (gasoline)

NA = Not analyzed for this constituent.

ND = Not detected at or above minimum detection limit.

NS* = Not sampled due to the presence of free product.

APPENDICES

APPENDIX A WATER SAMPLE LOG

PROJECTIC	OCATION:	2008 First S	t., Livermore	, CA	DATE: 8/2	5/94	
WELL NUM	BER;	MW-1					
WEATHER C	ONDITIONS:	Sunny, winds	v. clear				
FIELD OBSER		Well in good					
						***************************************	~~~~ <u>~</u>
TOTAL DEDT							
TOTAL DEPT	HOF WELL:	78.04	feet	CASING DIAM	ETER:	2	inches
DEPTH TO M	REE PHODUCI:	NONE		ONE WELL VO	OLUME =	27.24	gallons
DEPTH TO W	ASURED FROM				THOD: Grundfo	os Rediflo	Pump
DEL LUO MEN	430MED FROW		rop of well	casing, north s	ide.		
			WELL PURG	ING DATA			
				Specific			
}	Discharge			Conductance	Comme	ente	
Time	(gallons)	Нq	Temp in F.	(µmhos/cm)		71165	
5:35	10	7.57	79.5	0.58	Clear, no odor		
5:40	20	7.58	79.8	0.58	Clear, no odor		
5:45	30	7.50	79.5	0.58	Clear, no odor	- 4 -,	
5:50	40	7.57	79.8	0.58	Clear, no odor		
5:55	50	7.50	77.6	0.58	Clear, no odor		
6:00	60	7.48	77.6	0.58	Clear, no odor		
6:05	70	7.48	75.8	0.58	Clear, no odor		
6:10	80				Clear, no odor		
						·	
TOTAL DISCH	HARGE:	82	gallons	WELL VOLUME	ES REMOVED:	3.0	
TIME SAMPLE	COLLECTED:	C-OE DM					
	ATER AT TIME		42.00	foot	חבווייייייייייייייייייייייייייייייייייי		
	SAMPLE COLLE		43.20		PERCENT RECHARGE:		100
APPEARANCE			disposable ba Clear	AIIUI			
	SIZE OF SAME			4 x 40 ml, VO	Mc		
	NSPORTED TO		Atkins Enviro		779		
SAMPLED BY		DW	THE CHAPTE	annonia.	2060 KNOLL DR., SUITE 200	, VENTURA, CA S	-,-,

PROJECT LO	DCATION:	2008 First S	t., Livermore	, CA	DATE: 8	/25/94	
WELL NUMI	BER:	MW-2					
WEATHER C	ONDITIONS: _	Sunny, windy					
FIELD OBSER	RVATIONS:	Well in good	condition				
	_	8" Free prod	luct noted in	well after purç	jing.		
TOTAL DEPT	TH OF WELL:	60.00	feet	CASING DIAM	ETER:	4	inches
DEPTH TO FF	REE PRODUCT:	43.47		ONE WELL VO	DLUME =	19.42	gallons
DEPTH TO W	ATER:	44.13	feet	PURGING MET	HOD: Grun	dfos Rediflo F	ump
DEPTHS MEA	ASURED FROM	4:	Top of well	casing, north s	ide.		<u> </u>
							
			WELL PURG	NAC DATA			
<u></u>	<u> </u>	Т	WELL PORG				
}	Dicabaras			Specific			
Time	Discharge		Tomo io C	Conductance		omments	
4:55	(gallons) 5	pH 7.21		(µmhos/cm)			
4:57	10	7.31	83.5	0.60	Silty, mod. odor		
5:05	20	7.15	82.7	0.60	Silty, mod. odor		
5:15	35	1	82.5	0.60	Silty, mod. odor		
5:25	50	7.14	81.0	0.58	Silty, mod. odor		
5:35	60	7.15	79.7	0.58	Silty, mod. odor		
3.33	80	7.17	80.3	0.59	Silty, mod. odor		
		 					
						 	
TOTAL DISCH	HARGE:	61	gallons	WELL VOLUME	ES REMOVED:	3.1	
TIME SAMPLE	E COLLECTED:	: 6:08 PM					
DEPTH TO W	ATER AT TIME	OF SAMPLE:	44.26	feet	PERCENT RECHARG	SE:	99
METHOD OF	SAMPLE COLL	ECTION:	N/A				
APPEARANC	E OF SAMPLE:		N/A				
AMOUNT AND	OSIZE OF SAM	IPLE CONTAIN	ERS:	N/A			
SAMPLE TRA	NSPORTED T	O:	N/A				
					Dal		
SAMPLED BY	/: 	DW			車を要属REM	AEDIATION SERVIC	E, INT'L.
					2060 KNOLL DR., SUITE (805) 644-5892 • FAX		1003

PROJECT LOCATION: 2008 First St., Livermore, CA						
WELL NUME	BER:	MW-3				
WEATHER CO	ONDITIONS:	Sunny, wind	v. clear			
FIELD OBSER	-		condition			
TOTAL DEPT	HOF WELL: _	60.00	feet	CASING DIAM	ETER: 4 inches	
DEPTH TO FF	REE PRODUCT:	NONE		ONE WELL VO	DLUME = 21.65 gallons	
					HOD: Grundfos Rediflo Pump	
DEPTHS MEA	ASURED FROM	•	Top of well of	casing, north s	ide.	
		**	WELL PURG	ING DATA		
1				Specific		
1 1	Discharge			Conductance	Comments	
Time	(gallons)	рН	Temp in F.	(µmhos/cm)		
8:51	10	7.15	63.5	0.60	Cloudy, no odor	
8:55	20	7.17	64.3	0.61	Cloudy, slt. odor	
9:00	32	7.20	64.3	0.62	Cloudy, sit. odor	
9:04	43	7.25	63.9	0,62	Cloudy, slt. odor	
9:07	53	7.25	65.3	0.61	Cloudy, slt. odor	
9:09	60	7.24	64.7	0.62	Cloudy, sit. odor	
9:11	65	7.25	65.1	0.62	Cloudy, slt. odor	
			_			
		<u></u>				
TOTAL DISCH	IARGE:	65	gallons	WELL VOLUMI	ES REMOVED: 3.0	
	COLLECTED;			AAA Na wa		
	ATER AT TIME				PERCENT RECHARGE: 99	
	SAMPLE COLLE	***************************************	disposable b	ailer		
APPEARANCE			slightly silty			
	SIZE OF SAMI			4 x 40 ml. VC	As	
SAMPLE TRA	NSPORTED TO):	Atkins Enviro	onmental		
					<u> PCI</u>	
SAMPLED BY	:	DW			差 室 IREMEDIATION SERVICE, INT'L.	
					2060 KNOLL DR., SUITE 200, VENTURA, CA 93003 (805) 644-5892 • FAX (805) 654-0720	

PROJECT LOCATION: 2008 First St., Livermore, CA							
WELL NUME	BER:	MW-4					
WEATHER CO	ONDITIONS:	Sunny, windy	, clear				
FIELD OBSERVATIONS: Well in good condition							
							WALRA AL-1879 - MARAIA RIA MI MANGALAN MAR. 1987
	H OF WELL:			CASING DIAM	ETER:	4	inches
DEPTH TO FF	REE PRODUCT:				DLUME =2		gallons
	'ATER:		feet		HOD: Grundfos		³ ump
DEPTHS MEA	ASURED FROM	·	Top of well	casing, north s	ide.		
			WELL PURG	ING DATA			
				Specific			
ĺ	Discharge			Conductance	Comment	s	Ì
Time	(gallons)	рН	Temp in F.	(µmhos/cm)	00111110111	-	
9:29	5	7.80	66.7	0.61	Silty, no odor		
9:31	10	7.48	67.2	0.61	Silty, no odor		
9:35	20	7.45	68.2	0.61	Silty, no odor		
9:39	30	7.33	67.9	0.61	Silty, no odor		
9:43	40	7.32	70.2	0.61	Silty, no odor	_	
9:47	50	7.33	69.0	0.61	Cloudy, no odor		
9:50	60	7.32	69.6	0.61	Cloudy, no odor		
9:52	65	7.29	69.7	0.62	Cloudy, no odor		$\overline{}$

TOTAL DISCH	IARGE:	65	gallons	WELL VOLUM	ES REMOVED:	3.0	
	COLLECTED:						
DEPTH TO WA	ATER AT TIME	OF SAMPLE:	42.62	feet	PERCENT RECHARGE:		98
METHOD OF S	SAMPLE COLLE	ECTION:	disposable b	ailer			
APPEARANCE							
AMOUNT AND	SIZE OF SAME	PLE CONTAIN	ERS:	4 x 40 ml. VO	As		
SAMPLE TRAI	NSPORTED TO):	Atkins Enviro	onmental			
OAMBIED EV		PNA 4			PCI		
SAMPLED BY	:	DW			華皇 華 REMEDIATI		
					2060 KNXLL DR., SUITE 200, VE (805) 644-5892 • FAX (805) 6		3003

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY



2889 Bunsen Ave, Suite A Ventura, CA 93003 805-644-1044

LABORATORY RESULTS

PAGE 1 OF 1

HELP LABS JOB #

Client Name:

RSI

Client Reference:

DP795

Sample Matrix:

WATER

Date Sampled:

08/26/94

Sample I.D:

SEE UNDER SAMPLE I. D. COLUMN

Date Extracted:

NA

Lab Number: 000759-000761

Date Analyzed:

09/08/94

VOLATILE ORGANIC COMPOUNDS E.P.A. METHOD 8260

WATER *MDL SAMPLE I. D.	DF	0.3 BENZENE	0.3 TOLUENE	0.3 E. BENZENE	0.6 T. XYLENE	40 T. P. H. G.	ug/L UNITS
MW-1	50	290	690	120	670	13000	ug/L
MW-3	50	1600	2300	330	1800	41000	ug/L
MW-4	1	37	51	9.5	35	850.	ug/L

Russell Teague, Laboratory Director Certificate Number: E.L.A P. #1966

THE TEST RESULTS REPORTED REPRESENT ONLY THE ITEMS BEING TESTED AND MAY NOT REPRESENT THE ENTIRE MATERIAL FROM WHICH THE SAMPLE WAS TAKEN



Hull Development Labs, Inc.

Atkins Environmental Help Labs 2889 Bunsen Ave., Suite A Ventura, CA 93003

Attn: Russell Teague

Date	9/7/94
Date Received:	8/31/94
Date Analyzed:	9/1/94
Lab #:	See Table
P.O #.	Verbal RT
Sampled By.	Client

Certified Analytical Report

Water Sample Analysis:

Test	MW-1	MW-3	MW-4	Units	Detection	EPA
					Limit	Method#
Sample Matrix	Water	Water	Water			
Sample Date	8/26/94	8/26/94	8/26/94			
Sample Time						
Lab#	A5183	A5184	A5185			
Lead (Soluble)	ND	ND	ND	mg/liter	0.50 mg/l	239.1

- 1. Sample filtered through 0.45µ filter prior to analysis
- 2. ND: None detected at specified detection limits
- 3. Analysis performed by Hull Development Labs, Inc. (CAELAP #1369)

Michael N. Golden Lab Director



4765 Calle Quetzal 7726 Moller Rd. 2059 Junction Ave. 141 Suburban Road

Camarillo, CA 93012 Indianapolis, IN 46268 San Jose, CA 95131

389-1353 (317) 875-5894 (408) 955-9077 (805) 547-3888

FAX (805) 389-1438

FAX (317) 872-6189 FAX (408) 955-9078 FAX (805) 543-2685 FAX (219) 462-2953

Chain of Costody

Page / of E

2400 Cumb	erland Dr. •	an Luis Obispo, CA 934 Valparaiso, IN 46383		(805) 547-3888 FA (219) 464-2389 FA	X (805) 543-2685 X (219) 462-2953		Page _	/ of _ _
PLEASE PRINT IN PEN 340 County I	Koad No.5	Westbrook, ME 04092	•	(207) 874-2400 FA	X (207) 775-4029			
Client RSI			C	ontact Hay her	AVIS	Phone #644-	92 FAX#	554-072
Address 7600 KNO D	P STE 200	City Vent	V 54		State (Zip	-
Project Name/Number DP 795					,	Project MC	3R	
Bill (If different than above)		Address		77.110		<u></u>		
Sampler (Print and sign)			2	Due Date	Circle for RUSH*	Copies To:	A	uth. Init.
Sample Description	Date/Time Coll'd *Matr	# of rix Containers Pres.	Filt. y/n	*	Subject to Availabil Analysis	ity	Remarks	Lab ID #
MW-1 259	8/26/19 6 W	1/4 y	n	8015-0-	15020	CTE X +5	alerie le 3	
MW-3760							/	
MW-4761	1				V	-		**
,								
2.55				,				
								·
7.,								
Relinquished By	Date/Time	Received	Ву	Relinqu	ished By	Date/Time	Received	d By
The Collen of &	126/94	Het	\geq	- Hech	(-)	8/29/1	A Literan	· ·
			. ,		_			
Shipping Method Shipping		Received By	Birth.	A Date/Time	Condition (Sec	Remarks)	* Matrix:	
Snipping Method Shipping				المتحادث المسيحي منهن مشنوان إن المرادة المتحادث المتحادث	Cold Seal		DW - Drinkir WW - Waste GW - Groun	water :
PEMARKS							SW - Surface	e Water jer
						, - , 2 - , - , - , - , - , - , - , - , - , - ,	FP Free F A/G - Air/Ga	
C (3) 90 1 (1) 8 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Trade to		SL Sludge OT Other	Soil/Solid

INVOICE