

October 7, 1992 SCI 727.001

Mr. Dante Sambajon Plant Engineer Coulter Steel and Forge Company 1494 67th Street Emeryville, California 94662-0901

Quarterly Groundwater Monitoring Sampling Event - August 1992 Coulter Steel and Forge Company 722 Folger Avenue/Diesel Fuel Area Emeryville, California

Dear Mr. Sambajon:

This letter records the results of the second sampling event conducted by Subsurface Consultants, Inc. (SCI) for the groundwater monitoring program at the referenced site. The program has been implemented in accordance with Regional Water Quality Control Board (RWQCB) guidelines due to the presence of petroleum hydrocarbons in the soil beneath a previous underground fuel storage tank.

In May 1992, SCI performed an investigation of the tank area by drilling 7 test borings, 4 of which were completed as monitoring wells. The previous tank area and well locations area shown on the attached Site Plan, Plate 1. Details regarding tank removal and SCI's investigation were recorded in a report dated August 7, 1992.

Groundwater Sampling

For this sampling event, all 4 on-site wells (MW-3, MW-4, MW-5 and MW-6) were sampled. Initially, the depth to groundwater and presence of free product were first checked with a steel tape and water and petroleum product sensitive pastes. Groundwater level measurements are presented in Table 1. The wells were then purged of at least three well volumes of water. Water temperature, pH and conductivity were recorded at various intervals during the purge process. Well sampling forms are attached.

The depth to water in each well was checked, following purging and before sampling, to assure that the wells had recharged to at least 80 percent of their initial volume. The wells were then sampled

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Mr. Dante Sambajon Coulter Steel and Forge Company SCI 727.001 October 7, 1992 Page 2

using new disposable bailers. The samples were retained in containers pre-cleaned by the supplier in accordance with EPA protocol. The samples were placed in an ice filled cooler and transmitted to Coast to Coast Analytical Services, a State of California Department of Health Services (DHS) certified laboratory for hazardous waste and water testing.

The testing program for this event included the following analyses:

- 1. Total petroleum hydrocarbons as diesel (EPA 8260/5030), and
- 2. Benzene, toluene, ethylbenzene and xylene (BTEX) (EPA 5030/602).

The results of all analytical testing events are presented on Table 2. Analytical test reports and Chain-of-Custody documents for the current event are attached.

Conclusions

Groundwater Gradient

Based on the data presented in Table 1, it appears that the groundwater flow direction is towards the southwest under a gradient of about 3.7 percent. This data is consistent with previous findings. The groundwater flow contours and direction for this event are shown on Plate 1.

Diesel Tank Releases

In general, the analytical test data indicates that groundwater has been impacted by previous diesel releases. A dissolved product plume appears to be relatively localized, impacting areas near the previous tank. Free product has not been observed during the May or August sampling events.

Ongoing Monitoring

In accordance with the monitoring program, the next SCI sampling event will be conducted during the month of December 1992. For that event, we recommend that the wells be sampled and analyzed for total petroleum hydrocarbons as diesel, and BTEX.

Mr. Dante Sambajon Coulter Steel and Forge Company SCI 727.001 October 7, 1992 Page 3

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

reigner M. alexander

Jeriann N. Alexander

Civil Engineer 40469 (expires 3/31/95)

JW: JNA: RWR: egh

2 copies submitted

Attachments: Site Plan - Plate 1

Table 1 - Groundwater Elevations

Table 2 - Summary of Contaminants in Groundwater

Analytical Test Reports Chain-of-Custody Documents Groundwater Sampling Forms

cc: Ms. Susan Hugo

Hazardous Materials Specialty

Alameda County Health Care Services Agency

80 Swan Way

Oakland, California 94612

Table 1.
Groundwater Elevation Data

Boring Well Number	TOC Elevation ⁱ <u>(feet)</u>	<u>Date</u>	Groundwater Depth ² (feet)	Groundwater Elevation <u>(feet)</u>
M₩-3	24.70	5/15/92 7/01/92 8/18/92 9//1/92	11.15 11.60 12.00	13.55 13.10 12.70
MW-4	23.92	5/15/92 7/01/92 8/18/92 9/10/92	10.00 11.26 11.58	13.92 12.66 12.34
MW-5	23.85	5/15/92 7/01/92 8/18/92 2/18/92	10.52 9.93 9.24	13.33 13.92 14.61
MW-6	22.98	5/15/92 7/01/92 8/18/92 <i>9/10/9</i> 2	12.46 12.96 13.42 13.57	10.52 10.02 9.56

Measured below TOC

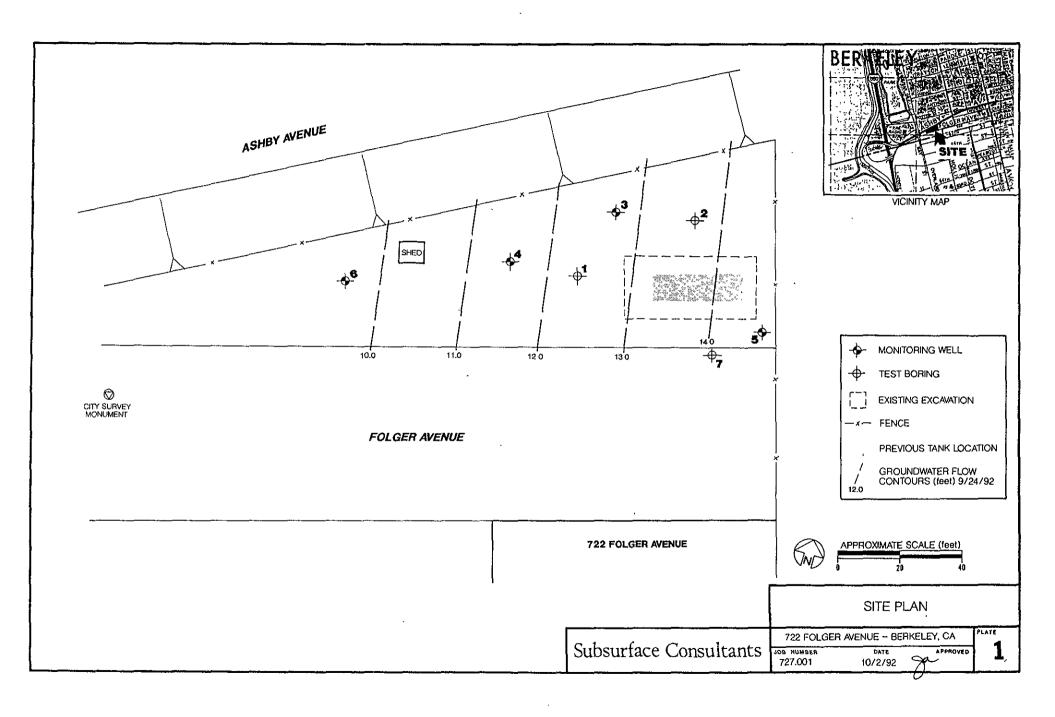
Reference datum is City of Berkeley Survey Monument in Folger Avenue as shown on Site Plan



Table 2. Contaminants in Groundwater

Boring Well/Number	<u>Date</u>	TEH as diesel ug/l	B <u>ug/1</u>	T ug/l	E <u>ug/l</u>	x <u>ug/1</u>
MW-3	5/18/92	100	<0.5	<0.5	<0.5	2.5
(82.19	8/18/92 Guol42	<50 ∠ \$ 0	<0.5	<1.0	<0.5	<0.5
MW-4	5/18/92	10,000	<0.5	<0.5	<0.5	4.0
	8/18/92	300/20210 300. lyhou	<0.5	<1.0	<0.5	<0.5
	9110192	300. Uphra				
MW-5	5/18/92	510	<0.5	<1.0	<0.5	<0.5
	8/18/92	·<50	<0.5	<1.0	<0.5	<0.5
	9113192	20				
MW-6	5/18/92	<50	<0.5	<0.5	<0.5	2.0
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	9/10/92	~ 50				

ug/l = micrograms per liter, parts per billion



Project NameC	OULTER ST	EEL	Well N	Number: MW_	3
Job No.: 72	7.001		Well (Casing Diameter: _	inch
Sampled By:	BERN	ついひごと	Date:	8/18/	93
TOC Elevation:	24	70	Weat	ner: <u>Lema</u>	SUNNY
					,
Depth to Casing Bot	tom (below To	OC)		24.00	feet
Depth to Groundwat	er (below TO	C)	1	2.00	feet
Feet of Water in We				2.33	feet
Depth to Groundwat	er When 80%	Recovered		14.4	feet
Casing Volume (fee	t of water x Ca	asina DIA² x ().0408)	3	gallons
					/ Other
Free Product	~3	Prod	407		
Purge Method		TEFIO	u Knyler		
		FIELD MI	EASUREMENT:	3	
Gallons Removed	n u	Tomp (%)	Conductivity	Salinity S%	Comments
					Water sem ilea
			110 × 10		
2	4	19-9			
3	6.73	19.8	110 410	0.5	
5		19.8	1/0 × 10	0.5	
Total Gallons Purgeo				5	gallons
Depth to Groundwate		plina (below ⁻	TOC)	12-15	feet
Sampling Method	20.0.0 عداد	· · · · · · · · · · · · · · · · · · ·	u Bailer		,,,,,,
• -	2			···	
Containers Used _	40 mi		liter	pint	
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ubsurface	Consi	шtants	JOB NUMBER	DATE	APPROVED
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16.

Project Name <u>CO</u>		Well Nu	mber:	7-7 00				
Job No.: <u>727</u> .					sing Diamete			
Sampled By:	Barn	U 553		Date: _	<u> </u>	/='à	-	
TOC Elevation:	23.9	'2		Weather	: <u>220</u> 2	<u></u>	ا مردره	<u>/</u>
Depth to Casing Botto	om (below T	OC)		30	.2)			feet
Depth to Groundwate	r (below TO	C)			58			feet
Feet of Water in Well	·		·	19.	12		7	feet
Depth to Groundwate				3	5.2			feet
Casing Volume (feet o	of water x C	asing DIA² x (0.0408)		3		<u> </u>	gailons
Depth Measurement I						\mathcal{L}_{I}	Other	
Fine Deaduck N	· p							
Free Product			J 3.	21/2-		u.		
Purge Method ———		FIELD ME	EASUREI	MENTS ctivity	Salinity Sa	γ <u> </u>	Cor	nmente
Purge Method ————————————————————————————————————	pH 5.59 6.57	FIELD ME Temp (°c) 20.0	Conduction (micromh	MENTS ctivity los/cm) X/2 X/2	<u>0,5</u>	- -		nments
Purge Method ————————————————————————————————————	pH 5.59 6.57 6.57	Temp (°c) 20.0 19-8 19.8	Conduction (micrombinate page)	MENTS ctivity los/cm) X/2 X/2 Y/2	0.5 3.5	-		
Purge Method ————————————————————————————————————	pH <u>3.59</u> <u>6.57</u> <u>6.58</u>	FIELD MI Temp (°c) 20.0 19-8 19.8	Conduction (micromh	MENTS ctivity los/cm) X/2 X/2 Y/0	0,5 3,5 3,5 2,5			
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Job No.:727	'.001		We	ell Casing Dia	meter:	<u> </u>	inch			
Sampled By:	Szeno	10g D	Da	Date:3/:8/95						
TOC Elevation:	23.	. & \$	· We	Weather: ペラカル こりんいり						
Depth to Casing Bott	tom (below TC	OC) ———		9.50			feet			
Depth to Groundwate				0.26			feet			
Feet of Water in Wel			4	-24						
				2 -1						
Depth to Groundwate										
Casing Volume (feet	of water x Ca	using DIA ² x (0.0408)				gallons			
Depth Measurement	Method	Tape &	Paste) / (E	lectronic So	under) /	Other				
Free Product			. 1 . 22							
Purge Method ——		ممو تع المست	ری دراز	o, ler						
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Gallons Removed	pH	FIELD MI	EASUREMEN Conductivity (micromhos/c	1	ity S%		ıments			
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Project NameC	OULTER ST	EEL		Well Nur	mber: Mi)	,	
Job No.:	7.001		·	Well Cas	sing Diameter:	<u> </u>	inch
Sampled By:	BERM	マジンビニ		Date: _	2/18	<u> </u>	<u> </u>
TOC Elevation:				Weather	: <u>1,500</u>	SUNNY	
Depth to Casing Bot	tom (below T	OC) ———		=	9.00		feet
Depth to Groundwat					-42		,
Feet of Water in We							
Depth to Groundwat					2.7		
Casing Volume (fee	t of water x C	asing DIA ² x (0.0408)	(Ø • [····	gallons
Depth Measuremen			Paste /	Electro	nic Sounder	/ Other	
Free Product	سکر	ع کد <i>ن ا</i>			<u>. </u>		
Purge Method		753	2/010	KAI	<u> </u>		
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	<u>\$. 58</u>	<u>19.3</u>		<u> </u>	0-1		
<u>3</u>	<u>6-63</u>	19.4	100	X/2	0.5		
	10.66	19.3					
Total Gallons Purged	i			<u>5</u>			- gailons
Depth to Groundwate	er Before Sam	•	•		13-99		feet
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Subsurface Consultants, Inc.

171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607 (510) 268-0461 • FAX: 510-268-0137



Subsurface Consultants

171 12th Street STE-201

Oakland, CA 94607-4411

Air, Water & Hazardous Waste Sampling, Analysis & Consultation Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Goleta, CA • Benicia, CA • Camarillo, CA Newport Beach, CA • Valparaiso, IN • Westbrook, ME

Benicia Division

6006 Egret Court, Benicia, California 94510

(707) 747-2757 FAX (707)747-2765

Lab Number : BD-0519-1

Project

: 727.001 Coulter Steel -

722 Folger Avenue - Emeryville

: 08/20/92 Analyzed

Analyzed by: HC

Method : EPA 602

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAME	LED DATE	RECEIVED		
MN-3	Aqueous	Jose Bermudez	08	18/92	02 08/19/92		
CONSTITUENT		(CAS RN)	*PQL	RESULI µg/L	r note		
BTEX (PURGEABLE AROMATICS)					1		
Benzene			0.5	ND			
Toluene			1.	ND			
Ethylbenzene			0.5	ND			
Xylenes (total)			0.5	ND			

Benicia Division Lab Certifications: CAFLAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) EXTRACTED by EPA 5030 (purge-and-trap)

08/25/92 INCOS 50-387 MH/trk/htc BDH2011

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek Ph.D.

President



Subsurface Consultants

171 12th Street STE-201

Oakland, CA 94607-4411

Air, Water & Hazardous Waste Sampling, Analysis & Consultation Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Goleta, CA • Benicia, CA • Camarillo, CA Newport Beach, CA . Valparaiso, IN . Westbrook, ME

Benicia Division 6006 Egret Court, Benicia, California 94510

(707) 747-2757 FAX (707)747-2765

Lab Number : BD-0519-1

: 727.001 Coulter Steel -Project

722 Folger Avenue - Emeryville

: 08/24/92 Analyzed

Analyzed by: JK

Method : EPA 8270

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMP	LED DATE	RECEIVED				
MW-3	Aqueous	Jose Bermudez	08	08/18/92 08/					
CONSTITUENT		(CAS RN)	*PQL μg/L	RESULI µg/L	NOTE				
TOTAL SEMIVOLATHE PETROLEUM HYDR Total Petroleum Hydrocarbons	OCARBONS		200.	ND	1				

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) Sample Preparation on 08/20/92 by JLK using 625

08/27/92 MSD #9 MH/trk/jlk BDH20M92

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek Ph.D.
President



Subsurface Consultants

171 12th Street STE-201

Oakland, CA 94607-4411

Air, Water & Hazardous Waste Sampling, Analysis & Consultation Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

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Lab Number : BD-0519-2

: 727.001 Coulter Steel -Project

722 Folger Avenue - Emeryville

Analyzed : 08/20/92

Analyzed by: HC Method : EPA 602

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMP	LED DATE	RECEIVED		
MN-4	Aqueous	Jose Bermudez	80	3/18/92	08/19/92		
CONSTITUENT		(CAS RN)	*PQL µg/L	RESULI µg/L	r Note		
BTEX (PURGEABLE AROMATICS) Benzene Toluene Ethylbenzene Xylenes (total)			0.5 1. 0.5 0.5	ND ND ND	1		

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) EXTRACTED by EPA 5030 (purge-and-trap)

08/25/92 INCOS 50-387 MH/trk/htc BDH20I1

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

May Havlicek, Ph.D.
President



Subsurface Consultants

171 12th Street STE-201

Oakland, CA 94607-4411

Air, Water & Hazardous Waste Sampling, Analysis & Consultation Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Goleta, CA • Benicia, CA • Camarillo, CA Newport Beach, CA • Valparaiso, IN • Westbrook, ME

Benicia Division 6006 Egret Court, Benicia, California 94510

(707) 747-2757 FAX (707)747-2765

Lab Number: BD-0519-2

Project : 727.001 Coulter Steel -

722 Folger Avenue - Emeryville

Analyzed : 08/24/92

Analyzed by: JK

Method : EPA 8270

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAM	RECEIVED	
MW-4	Aqueous	Jose Bermudez	0	3/18/92	08/19/92
CONSTITUENT		(CAS RN)	*PQL µg/L	RESULI µg/L	NOTE
TOTAL SEMIVOLATILE PETROLEUM HYDROCAR Total Petroleum Hydrocarbons (Diesel		:	200.	200.	1,2

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

- (1) Sample Preparation on 08/20/92 by JLK using 625
- (2) Diesel #2 as reported represents a hydrocarbon range of C8 to C16. The quantitative value is based on Diesel #2 Standard.

08/27/92 MSD #9 MH/trk/jlk BDH20M92

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

May Havlicek Ph.D.



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(707) 747-2757 FAX (707)747-2765

Lab Number: BD-0519-3

Project

: 727.001 Coulter Steel -

722 Folger Avenue - Emeryville

Analyzed

: 08/20/92

Analyzed by: HC

Method

: EPA 602

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAME	LED DATE	RECEIVED
₩-5	Aqueous	Jose Bermudez	08	3/18/92	08/19/92
CONSTITUENT		(CAS RN)	*PQL µg/L	RESUL! µg/L	r note
BTEX (PURGEABLE AROMATICS)					1
Benzene			0.5	ND	
Toluene			1.	ИD	
Ethylbenzene			0.5	ND	
Xylenes (total)			0.5	ND	

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) EXTRACTED by EPA 5030 (purge-and-trap)

08/25/92 INCOS 50-387 MH/trk/htc BDH2011

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.
President



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FAX (707)747-2765

Lab Number : BD-0519-3

Project : 727.001 Coulter Steel -

722 Folger Avenue - Emeryville

Analyzed : 08/24/92

Analyzed by: JK

Method : EPA 8270

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAME	LED DATE	RECEIVED
MA-5	Aqueous	Jose Bermudez	08	3/18/92	08/19/92
CONSTITUENT		(CAS RN)	*PQL μg/L	RESULI µg/L	r note
TOTAL SEMIVOLATILE PETROLEUM HYDROCARBO Total Petroleum Hydrocarbons	ONS		200.	ND	1

Benicia Division Lab Certifications: CAETAP #1719; L.A.Co.CSD#10185
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) Sample Preparation on 08/20/92 by JLK using 625

08/27/92 MSD #9 MH/trk/jlk BDH20M92 Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek Ph.D.



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Benicia Division 6006 Egret Court, Benicia, California 94510

(707) 747-2757 FAX (707)747-2765

Lab Number : BD-0519-4

: 727.001 Coulter Steel -Project

722 Folger Avenue - Emeryville

Analyzed : 08/20/92

Analyzed by: HC : EPA 602 Method

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED BY SAMPLED DATE				
MW-6	Aqueous	Jose Bermudez	08	/18/92	08/19/92		
CONSTITUENT		(CAS RN)	*PQL µg/L	RESULI µg/L	NOTE		
BTEX (PURGEABLE AROMATICS)					1		
Benzene			0.5	ND			
Toluene			1.	ND			
Ethylbenzene			0.5	ND			
Xylenes (total)			0.5	ИD			

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) EXTRACTED by EPA 5030 (purge-and-trap)

08/25/92 INCOS 50-387 MH/trk/htc BDH20I1

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.



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QC Batch ID: BDH20I1

CLIENT: Coast-to-Coast Analytical Services, Inc.

: 08/20/92 Analyzed

Analyzed by: HC

Method : EPA 602

METHOD BLANK

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMPLED BY SAMPLED DAT			
METHOD BLANK	Aqueous					
CONSTITUENT		(CAS RN)	*PQL μg/L	RESULT µg/L	NOTE	
BTEX (PURGEABLE AROMATICS)					1	
Benzene			0.5	ND		
Toluene			1.	ND		
Ethylbenzene			0.5	ND		
Xylenes (total)			0.5	ND 		

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) EXTRACTED by EPA 5030 (purge-and-trap)

08/25/92 INCOS 50-387 MH/trk/htc BD0519-4

Respectfully submitted,

Mary Havlicek, Ph.D.

President COAST-TO-COAST ANALYTICAL SERVICES, INC.



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QC Batch ID: BDH20I1

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 08/20/92 Analyzed by: HC

: EPA 602 Method

OC SPIKE REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED	BY	SAMPLED DATE RECEIV			
QC SPIKE	Aqueous						
CONSTITUENT		*PQL µg/L	SPIKE AMOUNT	RESULT µg/L	%REC	NOTE	
BTEX (PURGEABLE AROMATICS)						1	
Benzene		0.5	170.	180.	106.		
Toluene		1.	840.	900.	107.		
Ethylbenzene		0.5	150.	150.	100.		
Xylenes (total)		0.5	780.	810.	104.		

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) EXTRACTED by EPA 5030 (purge-and-trap)

08/25/92 INCOS 50-387 MH/trk/htc BD0519-4

Respectfully submitted,

Mary Havlicek Ph.D.

President COAST-TO-COAST ANALYTICAL SERVICES, INC.



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QC Batch ID: BDH20I1

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 08/20/92

Analyzed by: HC

Method : EPA 602

QC SPIKE

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		SAMPLED DATE RECEIVE			IVED
QC SPIKE DUPLICATE	Aqueous						
CONSTITUENT		*PQL µg/L	SPIKE AMOUNT	result µg/l	%REC	%DIFF	NOTE
BTEX (PURGEABLE AROMATICS)							1
Benzene		0.5	170.	180.	106.	0.	
Toluene		1.	840.	900.	107.	0.	
Ethylbenzene		0.5	150.	150.	100.	0.	
Xylenes (total)		0.5	780.	800.	103.	1.2	

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) EXTRACTED by EPA 5030 (purge-and-trap)

08/25/92 INCOS 50-387 MH/trk/htc BD0519-4 Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek Ph.D.



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Lab Number: BD-0519-4

Project : 727.001 Coulter Steel -

722 Folger Avenue - Emeryville

: 08/24/92 Analyzed

Analyzed by: JK

Method : EPA 8270

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAME	LED DATE	RECEIVED
MW-6 :	Aqueous	Jose Bermudez	. 08	3/18/92	08/19/92
CONSTITUENT		(CAS RN)	*PQL µg/L	RESULI µg/L	r note
TOTAL SEMIVOLATILE PETROLEUM HYDROCARB Total Petroleum Hydrocarbons	ONS		200.	NĎ	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) Sample Preparation on 08/20/92 by JLK using 625

08/27/92 MSD #9 MH/trk/jlk BDH20M92

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek Ph.D.

President



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QC Batch ID: BDH20M92

CLIENT: Coast-to-Coast Analytical Services, Inc.

: 08/24/92 Analyzed

Analyzed by: JK

Method : EPA 8270

INSTRUMENT BLANK REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		MPLED DATE RE	CEIVED
INSTRUMENT BLANK	Aqueous				
CONSTITUENT		(CAS RN)	*PQL µg/L	result µg/l	NOTE
TOTAL SEMIVOLATILE PETROLEUM HYDRO Total Petroleum Hydrocarbons	CARBONS		200.	ND	

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)

08/27/92 MSD #9 MH/trk/jlk BD0519-4

Respectfully submitted, COAST-TO-COAST ANALYTICAL SERVICES, INC.

May Havlicek Ph.D.

President



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QC Batch ID: BDH20M92

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 08/24/92

Analyzed by: JK

Method : EPA 8270

METHOD BLANK

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SA	MPLED DATE	RECEIVED
METHOD BLANK	Aqueous				
CONSTITUENT		(CAS RN)	*PQL μg/L	RESULT µg/L	NOTE
TOTAL SEMIVOLATILE PETROLEUM HI Total Petroleum Hydrocarbons	/DROCARBONS		200.	ND	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) Sample Preparation on 08/20/92 by JLK using 625

08/27/92 MSD #9 MH/trk/jlk BD0519-4

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC. Mary Havlicek Ph.D.

President



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QC Batch ID: BDH20M92

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 08/24/92

Analyzed by: JK

: EPA 8270 Method

QC SPIKE

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED I	BY	SAMPLED DA	TE RECE	IVED
QC SPIKE	Aqueous					
CONSTITUENT		*PQL µg/L	SPIKE AMOUNT	result µg/l	%REC	NOTE
TOTAL SEMIVOLATILE PETROLEUM HYDROCARBON Total Petroleum Hydrocarbons (Diesel #2		200.	10000.	7800.	78.	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) Sample Preparation on 08/20/92 by JLK using 625

08/27/92 MSD #9 MH/trk/jlk BD0519-4

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Elevery Ph.D.

President



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(707) 747-2757 FAX (707)747-2765

QC Batch ID: BDH20M92

CLIENT: Coast-to-Coast Analytical Services, Inc.

: 08/24/92 Analyzed

Analyzed by: JK

Method : EPA 8270

QC SPIKE

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SA	MPLED BY	SAMPI	LED DA	IVED	
QC SPIKE DUPLICATE	Aqueous						
CONSTITUENT		*PQL μg/L	SPIKE AMOUNT	result µg/l	%REC	*DIFF	NOTE
TOTAL SEMIVOLATHE PETROLEUM HYDI Total Petroleum Hydrocarbons (D		200.	10000.	7300.	73.	6.6	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) Sample Preparation on 08/20/92 by JLK using 625

08/27/92 MSD #9 MH/trk/jlk BD0519~4

Respectfully submitted,

Mary Havlicek, Ph.D.
President COAST-TO-COAST ANALYTICAL SERVICES, INC.

DULTER ST	reel		Well Num	ber: <u>3</u>		
7.001	<u>.</u>		Well Casi	ng Diameter:	_ 	ich
Jse 35	emunë 3		Date:	9/10/52		
24	4.70		Weather:	50,2004	CLEAR	
tom (below T	OC)		24.0	υ	fe	eet
er (below TO)C)		12.16		fe	eet
				_		
						1112
		The state of the s				
	FIELD ME	EASURE	MENTS			
рН	Temp (°c)			Salinity S%	Comments	5
6.58	• • •	•	× /2	0	WATERCL	ر جہ زیج
		100	¥ 10		اطفات	
6:58	200	100	K/3	<i>O</i>	CLEA	
-	***		<u></u>			
		 -				
		· · · · · · · · · · · · · · · · · · ·			gall	ons
er Before San	npling (below)	ГОС) — —	14.	39		feet
bail	ex	•		,		
		/	. <u>—</u> —			
40 mi		liter		pint		
	<u>-</u>				PL	ATE
~	ultants	722 FO	_GER AVE	NUE - EMERYV		
	tom (below Toer (below Toer When 80%) of water x Coeff Method pH 6.58 6.63 6.55	FIELD ME pH Temp (°c) 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5 6.58 20.5	FIELD MEASUREN PH Temp (°C) (micromhold 5.5% 20.5 100 10.5% 20.1 100 10.5% 20.0 100 100 100 100 100 100 100 100 100	Pose 3 = 2 m and 2 = 24.70 Tom (below TOC)	Well Casing Diameter: Date: 9/10/53 24.70 Weather: SUNNY tom (below TOC)	Well Casing Diameter:

	WEL	L SAMPLING I	FORM		
Project Name CO	OULTER STEEL	We	ell Number:	4	
Job No.:	'. 001	We	ell Casing Diameter	: <u> </u>	inch
Sampled By: Vosa	Bermunez	Da	te:	10/92	
TOC Elevation:	23.92	We	eather: <u>≤८००</u> ०	/	
Depth to Casing Bott	tom (below TOC) ———	30	0.00		- feet
Depth to Groundwate	er (below TOC)				
Feet of Water in Wel	l		3.27		- feet
Depth to Groundwate	er When 80% Recovered		5.38		feet
Casing Volume (feet	of water x Casing DIA ² >	(0.0408)			gallons
Depth Measurement	Method Tape 8	Paste E	lectronic Sounder	/ Other	
	NO Pro				
	Teflon				
Gallons Removed D /	pH Temp (°c) 7.20 21-4 7.45 213 6.94 20.3	120 V	m) Salinity S%		
Depth to Groundwate	r Before Sampling (below	/TOC) —	14.23		feet
Containers Used _		1			
	40 ml	liter	pint		
ibaurface	Congultant	722 FOLGE	R AVENUE - EMEI	RYVILLE, CA	PLATE
insuitance	Consultants	JOB NUMBER	DATE	APPROVE	٥

727.001

`9/9/92

		WELL	SAMPLING FOR	RM	
Project NameCC	OULTER ST	EEL	Well N	umber:5	-
Job No.: 727	. .001		Well Ca	asing Diameter: _	inch
Sampled By: Vos				9/10/92	
TOC Elevation:	23	.85	Weath	er: <u>ජයයෙග</u>	(407)
Depth to Casing Bott	tom (below T	OC)	19.50		feet
Depth to Groundwate	er (below TO	C)	10.46	····-	feet
Feet of Water in Wel					
Depth to Groundwate					
Casing Volume (feet				_	
					_
Depth Measurement Free Product		***************************************	*= ·		
Purge Method ——					
		FIELD MI	EASUREMENTS		
Gallons Removed	•		Conductivity (micromhos/cm)		
~	,			<u></u>	
<u>3</u>	6.53	20.7	132 × +		
					
Total Gallons Purged			3		callans
Depth to Groundwate				14.82	gallons
		\mathbf{o}			
Sampling Method —		1084 10	/ /		
Containers Used _	40 ml		liter	pint	
				•	
			722 FOI GED A1	VENUE - EMERY	/ILLE CA
ibsurface	Consu	iltants	100 MINUSED	DATE	APPROVED

727.001

9/9/92

Project Name COUL	LTER STEEL	···	Well Nur	mber:	6
Job No.: 727.00					inch
Sampled By:	J. Bern	war	_ Date: _	9/10/9	ــــــــــــــــــــــــــــــــــــــ
TOC Elevation:	7 (") () ()	8 0	_ Weather	<u> </u>	
Depth to Casing Bottom	n (below TOC)		79.00		feet
Depth to Groundwater (3.55		feet
Feet of Water in Well -			5,45		feet
Depth to Groundwater \			16.6	1	feet
		•	-	_	gallons
Casing Volume (feet of					-
Depth Measurement Me		Tape & Paste			
Free Product					
Purge Method ———	5	ailer			
	6.54 2	mp (°c) (micro	ductivity mhos/cm) x/O	Salinity S%	Comments SEMY CLE AR TURBERLANCE
<u> </u>	12.62 _1	19.6 120	<u> </u>	0	TURSERLAN
Total Gallons Purged					gallons
Depth to Groundwater B	efore Sampling	j (below TOC) —		.82	feet
Sampling Method		rilese.		<u></u>	
Containers Used	40 ml	liter		pint	
	2			•	
····		722	EOLGER AV	ENUE - EMERY\	/ILLE CA
ubsurface C	Tonovil+	anta 122	OLULITAY.	CINOL - CIVICITIA	ALLE, OA

CHAIN OF CUSTODY FORM				PAGE	1 of 1
PROJECT NAME: Coulter Stee)	722 Fal	are Allemie	Emeryville	ANALY	SIS REQUESTED
JOB NUMBER: 727.001				/5030	
PROJECT CONTACT: 4/cxxxx00	TURI	NAROUND:Norm	sal		
SAMPLED BY: Jose Bermudes	, REQ	QUESTED BY:	oun Wolfe	0928	
MA	TRIX CONTAINE	ERS METHOD PRESERVED	SAMPLING DATE	الدر الادر	
LABORATORY SAMPLE CONTINUE CON					
I.D. NUMBER NUMBER HIS NUMBER	AIR VOA LITTER PIINT TUBE	HOL HNO3 ICE	MONTH DAY YEAR TIME	NOTES TPH	
					_ - - -
MW-3 X	81	 	91092	 	
mw-4 X	81		91002		
					_ _ - -
mw-2 X	8-1	- - X-	91092	- -	
mw-6	1 21		91092		

COM	MENTS	& NOTES:						
*	Anal	ysis t	o be	perform	ed !	Pace.	£ 6	Vc. was
				m co				~
		~						CK
	W.E	Soot	7 Kc	ssler.	9/9	192		
				•	•		•'	
						//		

No VOA'S PECENED LOX 9/10/	No	VOA'S	PECEIVE D	107	9/10/4
----------------------------	----	-------	-----------	-----	--------

CHAIN OF CUS	STODY RECORD
RELEASED BY: (Signature) DATE/TIME	RECEIVED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME
RELEASED BY: (Signature) DATE/TIME	RECEIVED BY: (Signature) DATE/TIME

Subsurface Consultants, Inc.

171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607 (510) 268-0461 • FAX: 510-268-0137



Subsurface Consultants

171 12th Street STE-201 Oakland, CA 94607-4411

Air, Water & Hazardous Waste Sampling, Analysis & Consultation Certified Hazardous Waste, Chemistry, Bacteriology & Bioassay Laboratories

San Luis Obispo, CA • Benicia, CA • Camarillo, CA • Goleta, CA Anaheim, CA • Tempe, AZ • Valparaiso, IN • Westbrook, ME • Indianapolis, IN

Benicia Division

6006 Egret Court, Benicia, California 94510

(707) 747-2757 FAX (707)747-2765

Lab Number: BD-0559-1

Project :

: 727.001 Coulter Steel,

722 Folger Avenue, Emeryville

: 09/13/92

Analyzed by: AZ

Method

Analyzed

: EPA 8260

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMP	LED DATE	RECEIVED
MA-3	Aqueous	Jose Bermudez	09	/10/92	09/10/92
CONSTITUENT		(CAS RN)	*PQL µg/L	RESUL µg/L	T NOTE
Total Petroleum Hydrocarbons (Diesel)			50.	ND	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)

09/17/92 INCOS 50-387 MH/trk/htc BD11311 Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

y Havlick



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Lab Number : BD-0559-2

Project

: 727.001 Coulter Steel,

722 Folger Avenue, Emeryville

Analyzed : 09/13/92

Analyzed by: AZ

: EPA 8260 Method

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAME	PLED DATE	RECEIVED
MW-4	Aqueous	Jose Bermudez	09	/10/92	09/10/92
CONSTITUENT		(CAS RN)	*PQL µg/L	resul µg/L	T NOTE
Total Petroleum Hydrocarbons (Diesel)			50.	300.	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185 *RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit) (1) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)

09/17/92 INCOS 50-387 MH/trk/htc BDI13I1

Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Haulicek, Ph.D.

President



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FAX (707)747-2765

Lab Number : BD-0559-3

Project

: 727.001 Coulter Steel,

722 Folger Avenue, Emeryville

Analyzed : 09/13/92

Analyzed by: AZ

Method: EPA 8260

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMP	SAMPLED DATE RECEIVED			
№ -5	Aqueous	Jose Bermudez			09/10/92		
CONSTITUENT		(CAS RN)	*PQL	resuli µg/l	NOTE		
Total Petroleum Hydrocarbons (Diesel)			50.	ND	1		

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)

09/17/92 INCOS 50-387 MH/trk/htc BD11311 Respectfully submitted,

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Mary Havlicek, Ph.D.



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Lab Number: BD-0559-4

Project : 727.001 Coulter Steel,

722 Folger Avenue, Emeryville

Analyzed : 09/13/92

Analyzed by: AZ

Method: EPA 8260

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY	SAMP	LED DATE	RECEIVED	
M4-6	Aqueous	Jose Bermudez	z 09/10/92		09/10/92	
CONSTITUENT		(CAS FN)	*PQL µg/L	RESULI µg/L	r NOTE	
Total Petroleum Hydrocarbons (Diesel)			50.	MD	1	

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)

09/17/92 INCOS 50-387 MH/trk/htc BDI13I1 Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D.



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QC Batch ID: BDI13I1

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 09/13/92

Analyzed by: AZ

Method: EPA 8260

METHOD BLANK

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED BY		MPLED DATE	RECEIVED
METHOD BLANK	Aqueous				
CONSTITUENT		(CAS RN)	*PQL µg/L	RESULT µg/L	NOTE
Total Petroleum Hydrocarbons (Diesel)	<u> </u>		50.	ND	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)

09/18/92 INCOS 50-387 MH/trk/htc BD0559-4 Respectfully submitted,

COAST-TO-COAST ANALYTICAL SERVICES, INC.

Mary Havlicek, Ph.D. President



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QC Batch ID: BDI13I1

CLIENT: Coast-to-Coast Analytical Services, Inc.

Analyzed : 09/13/92

Analyzed by: AZ

Method: EPA 8260

QC SPIKE

REPORT OF ANALYTICAL RESULTS

Page 1 of 1

SAMPLE DESCRIPTION	MATRIX	SAMPLED B	Y	SAMPLED DA	TE RECE	IVED
QC SPIKE	Aqueous					
CONSTITUENT		*PQL µg/L	SPIKE AMOUNT	result <i>µ</i> g/l	%REC	NOTE
Total Petroleum Hydrocarbons (Diesel)	· · · · · · · · · · · · · · · · · · ·	50.	44000.	34000.	77.	1

Benicia Division Lab Certifications: CAELAP #1719; L.A.Co.CSD#10185
*RESULTS listed as 'ND' were not detected at or above the listed PQL (Practical Quantitation Limit)
(1) ANALYZED by CAL DHS DRAFT TPH (modified) and EPA 8260 (GC/MS)

09/18/92 INCOS 50-387 MH/trk/htc BD0559-4 Respectfully submitted,

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Mary Havlicek Ph.D.