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110 New Stone Road, Suite E  
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**LIVERMORE**

Lawrence Livermore National Laboratory  
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**URIBE & ASSOCIATES**  
ENVIRONMENTAL CONSULTING SERVICES

DATE 10/1/93

PAGES 3 INCLUDING COVER PAGE  
(If you did not receive any of these pages, please contact U&A immediately)

ATTENTION Jennifer Eberle  
phone # \_\_\_\_\_

COMPANY Alameda County  
FAX # \_\_\_\_\_

FROM Tom Barnes  
 Oakland  Palo Alto  Bakersfield  Washington DC  Livermore

SHIPPERS IMPERIAL TANK FILL  
part of Oakland

SUBJECT/  
COMMENTS: Enclosed are remaining results  
for soil samples S-4 and P-5  
from the waste oil tank excavation  
I will call the lab to change the  
Report of BTEX for W-1 and W-2  
to ug/L rather than ug/kg.  
Further excavation begins Tuesday  
10/5/93

Original will not follow  
 Original will follow via: \_\_\_\_\_ Code: \_\_\_\_\_

LABORATORY NUMBER: 112436-2  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL  
 SAMPLE ID: S-5

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE ANALYZED: 09/24/93  
 DATE REPORTED: 09/28/93

EP7. 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	10
Trichlorofluoromethane	ND	20
1,1-Dichloroethane	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethane	ND	5
trans-1,2-Dichloroethane	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	5
Tetrachloroethene	ND	10
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND - Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %

COMPOUND	READING	RECOVERY	STATUS	LIMITS
<b>SPIKE COMPOUNDS</b>				
1,1-Dichloroethane	20.2	101 %	OK	59 - 172
Trichloroethane	23.0	115 %	OK	62 - 137
Chlorobenzene	23.0	115 %	OK	60 - 133
<b>SPIKE DUP COMPOUNDS</b>				
1,1-Dichloroethane	23.6	118 %	OK	59 - 172
Trichloroethane	28.2	141 %	NOT OK	62 - 137
Chlorobenzene	26.7	134 %	NOT OK	60 - 133
<b>SURROGATES</b>				
Bromobenzene (MS)	114.2	114 %	OK	59 - 172
Bromobenzene (MSD)	107.1	107 %	OK	59 - 172
<b>MATRIX RESULTS</b>				
1,1-Dichloroethane	0			
Trichloroethane	0			
Chlorobenzene	0			

**RPD DATA**

8010 COMPOUNDS



LABORATORY NUMBER: 112436-METHOD BLANK  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE ANALYZED: 09/24/93  
 DATE REPORTED: 09/28/93

*Sample ?*

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	10
Trichlorofluoromethane	ND	20
1,1-Dichloroethane	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethane	ND	5





LCS SUMMARY SHEET FOR EPA 8010

Laboratory Number: 112441  
Client: Uribe & Associates  
Analysis date: 09/25/93  
Sample type: Water

LCS spike file: 267w003

8010 LCS DATA (spiked at 20 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	16.7	84 %	OK	61 - 14
Trichloroethene	20.0	100 %	OK	71 - 12
Chlorobenzene	19.5	98 %	OK	75 - 13
<b>SURROGATES</b>				
Bromobenzene (LCS)	99.2	99 %	OK	75 - 12!



LABORATORY NUMBER: 112436-1  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL  
 SAMPLE ID: S-4

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE ANALYZED: 09/27/93  
 DATE REPORTED: 09/28/93

*but S-5 was waste oil UST! → ok*

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
		<i>STLC</i>		
Cadmium	ND	mg/Kg	0.3	EPA 6010
Chromium	28	5	0.5	EPA 6010
Lead	ND	mg/Kg	5	EPA 7420
Nickel	36	20	2	EPA 6010
Zinc	22	250	1	EPA 6010

*all < 10x STLC*

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	Recovery, %
Cadmium	<1	
Chromium	3	93
Lead	4	99
Nickel	4	98
Zinc	1	100
		96



LABORATORY NUMBER: 112436-2  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL  
 SAMPLE ID: S-5

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE ANALYZED: 09/27/93  
 DATE REPORTED: 09/28/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Cadmium	ND	mg/Kg	0.3	EPA 6010
Chromium	33	mg/Kg	0.5	EPA 6010
Lead	ND	mg/Kg	5	EPA 7420
Nickel	36	mg/Kg	2	EPA 6010
Zinc	18	mg/Kg	1	EPA 6010

OK

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

	RPD, %	Recovery, %
Cadmium	<1	
Chromium	2	93
Lead	4	99
Nickel	4	98
Zinc	1	100
		96



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112436  
CLIENT: URIBE & ASSOCIATES  
PROJECT ID: 96-209  
LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
DATE RECEIVED: 09/24/93  
DATE EXTRACTED: 09/24/93  
DATE ANALYZED: 09/28/93  
DATE REPORTED: 09/28/93

*method?*

Extractable Petroleum Hydrocarbons in Soils & Wastes  
California DONS Method  
LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	MOTOR OIL RANGE (mg/Kg)
112436-1	S-4	ND(1)	ND(1)	ND(30)
112436-2	S-5	ND(1)	ND(1)	ND(30)

ND = Not detected at or above reporting limit. Reporting limit indicated in parentheses.

QA/QC SUMMARY

RPD, %	10
RECOVERY, %	103



Client: Uribe & Associates

Laboratory Login Number: 112436

Project Name: Shipper Imperial  
Project Number: 96-209

Report Date: 28 September 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric) METHOD: BMW 17:552087

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	GC Batch
112436-001	8-1	Soil	23-SEP-93	24-SEP-93	27-SEP-93	ND	mg/Kg	50	TR	10720
112436-002	8-2	Soil	23-SEP-93	24-SEP-93	27-SEP-93	ND	mg/Kg	50	TR	10720

ND = Not Detected at or above Reporting Limit (RL).





QC Batch Report

Client: Uribe & Associates  
Project Name: Shipper Imperial  
Project Number: 96-209

Laboratory Login Number: 112436  
Report Date: 28 September 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 10720

Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	50	mg/kg	SMWW 17:5520EF	27-SEP-93

Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
	III	SMWW 17:5520EF	27-SEP-93

Average Spike Recovery	85%	Control Limits
Relative Percent Difference	7.0%	80% - 120%
		< 20%



LABORATORY NUMBER: 112436  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/24/93  
 DATE ANALYZED: 09/28/93  
 DATE REPORTED: 09/28/93

Total Volatile Hydrocarbons as Gasoline in Soils & Wastes  
 California DOHS Method  
 LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (mg/Kg)	REPORTING LIMIT (mg/Kg)
112436-1	S-4	ND	1
112436-2	S-5	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %  
 RECOVERY, %

9  
 92

U&A OAKLAND TEL: 1-510-832-2237 Oct 01, 93 16:07 No. 014 P. 10



U&A ASSOCIATES  
2950 LAKESHORE AVENUE  
SUITE TWO HUNDRED  
OAKLAND, CALIFORNIA 94610  
510-832-2233  
FAX 510-832-2237

11436

### CHAIN OF CUSTODY RECORD

PROJECT NO.		PROJECT NAME				NO.	COMMENTS	ANALYSE	TPH - Methyl	TPH - Gaseous	TPH - Benzene	Oil/Grease	PID	BZID	STLC Lead	Calibration, Maintenance, Lead Time, Method (CENAP)	REMARKS
96-209		Shoppers Emporium															
NO.	DATE	TIME	COMP.	ONAR	SAMPLE LR.												
1	9/23			1	S-4	1		X	X	X	X	X	X	X			
2	"			1	S-5	1		X	X	X	X	X	X	X			
<p>Cancel STLC Lead until TPH Pb results are established</p> <p>By: Tom Barnes 11/1</p>																	

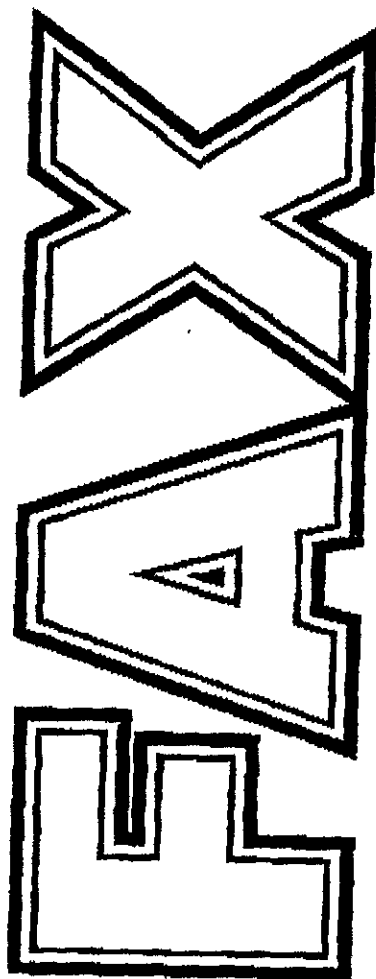
  

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Relinquished by: (Signature)	Date/Time	Received by: (Signature)

Signature	Date/Time	NAME
[Signature]	9/23/93	0925
		ADDRESS

CHECK IF RUSH  
476  
RUSH



PORT OF OAKLAND  
ENVIRONMENTAL  
DEPARTMENT  
530 WATER STREET,  
5TH FLOOR  
OAKLAND, CA 94607  
FAX (510) 465-3755  
PHONE (510) 272-1174

FACSIMILE TRANSMITTAL	
TO:	Jennifer Eberle
ATTENTION	Alameda County Health Care
FROM	MICHAEL JAMES
DATE & TIME	10/25/93 10:30 AM
FAX NUMBER <sup>(510)</sup>	465-3755
NO. OF PAGES:	26

Jennifer,

Sorry I thought that I had sent these to you. Any-way this is a copy of/or Fax of the Shippers Imperial Stockpile Soil Sample Analysis results.

Please look for my letter in the mail concerning SP-1-9 & SP-6 for 3-4, & 3-5.

I will be in the office most of the week. Next week I will be gone for out for a little over a month.

Thanks



PORT OF OAKLAND



URIBE & ASSOCIATES  
2730 LAKESHORE AVENUE  
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OAKLAND, CALIFORNIA 94610  
STD. 832-2236  
FAX 810-832-2237

ENVIRONMENTAL CONSULTING SERVICES

October 15, 1993

RECEIVED  
NOV 10 1993

Michael James  
Port of Oakland  
530 Water Street  
Oakland, California 94607

**SUBJECT: Shippers Imperial Stockpiled Soil Sample Analysis Results**

Dear Mr. James:

This letter transmits the soil sample analysis results for the stockpiled soils at the Shippers Imperial tank removal site. The samples were collected on the day of the tank removal. I have already faxed a copy of these results to PTS Environmental (the contractor) to determine disposal options. If you have any questions, please give me a call.

Sincerely,

Tom Barnes  
URIBE & ASSOCIATES





**Curtis & Tompkins, Ltd.**, Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710. Phone (510) 486-0900

**A N A L Y T I C A L   R E P O R T**

**Prepared for:**

**Uribe & Associates  
2930 Lakeshore Avenue  
Suite Two Hundred  
Oakland, CA 94610**

**Date: 05-OCT-93  
Lab Job Number: 112460  
Project ID: 96-209  
Location: Shipper Imperial**

Reviewed by: *Lois Brown*

Reviewed by: *Kathy O'Brien*

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Curtis &amp; Tompkins, Ltd.

LABORATORY NUMBER: 112460  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE ANALYZED: 10/03,04/93  
 DATE REPORTED: 10/05/93

Total Volatile Hydrocarbons with BTXE in Soils & Wastes  
 TVH by California DOHS Method/LUFT Manual October 1989  
 BTXE by EPA 5030/8020

LAB ID	SAMPLE ID	TVH AS GASOLINE (mg/Kg)	BENZENE (ug/Kg)	TOLUENE (ug/Kg)	ETHYL BENZENE (ug/Kg)	TOTAL XYLENES (ug/Kg)
112460-11	SPT-1,2	49	10	11	41	3,300
112460-12	SPT-3,4	ND(300)	ND(300)	ND(300)	ND(300)	2,900
112460-13	SPT-7,8	ND(300)	ND(300)	400	1,000	11,000
112460-14	SPT-6,9	ND(300)	ND(300)	6	ND(5)	220
112460-15	SPT-5,10	ND(300)	ND(300)	ND(300)	ND(300)	6,000

NOTE: Benzene, Toluene, Ethyl Benzene and Xylenes have not been confirmed with second column.

ND = Not detected at or above reporting limit; Reporting limit indicated in parentheses.

#### QA/QC SUMMARY

LCS RECOVERY, %

100



Curtis &amp; Tompkins, Ltd

LABORATORY NUMBER: 112460  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE EXTRACTED: 09/30/93  
 DATE ANALYZED: 10/02/93  
 DATE REPORTED: 10/04/93

Extractable Petroleum Hydrocarbons in Soils & Wastes  
 California DOHS Method  
 LUFT Manual October 1989

LAB ID	SAMPLE ID	KEROSENE RANGE (mg/Kg)	DIESEL RANGE (mg/Kg)	REPORTING LIMIT* (mg/Kg)
112460-11	SPT-1,2	320	***	10
112460-12	SPT-3,4	**	200	10
112460-13	SPT-7,8	**	200	10
112460-14	SPT-6,9	**	200	10
112460-15	SPT-5,10	**	200	10

\* Reporting limit applies to all analytes.

\*\* Kerosene range not reported due to overlap of hydrocarbon ranges.

\*\*\* Diesel range not reported due to overlap of hydrocarbon ranges.

QA/QC SUMMARY

RPD, %	8
RECOVERY, %	92





CLIENT: Uribe & Associates  
JOB NUMBER: 112460

DATE REPORTED: 10/04/93

**BATCH QC REPORT  
PRFP BLANK**

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Cadmium	ND	0.25	mg/Kg	10727	EPA 6010	09/29/93
Chromium (total)	ND	0.5	mg/Kg	10727	EPA 6010	09/29/93
Lead	ND	5	mg/Kg	10727	EPA 7420	09/29/93
Nickel	ND	1.6	mg/Kg	10727	EPA 6010	09/29/93
Zinc	ND	1	mg/Kg	10727	EPA 6010	09/29/93

ND = Not detected at or above reporting limit



CLIENT: Uribe & Associates  
JOB NUMBER: 112460

DATE REPORTED: 10/04/93

**BATCH QC REPORT  
BLANK SPIKE/BLANK SPIKE DUPLICATE**

Compound	Spike Amount	BS Result	BSD Result	Units	BS % Recovery	BSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Cadmium	50	48.2	50.1	ug/L	96	100	98	4	10727	EPA 6010	09/29/93
Chromium (total)	200	193.7	198.6	ug/L	97	99	98	3	10727	EPA 6010	09/29/93
Lead	500	410	400	ug/L	82	80	81	2	10727	EPA 7420	09/29/93
Nickel	500	470.2	485.1	ug/L	94	97	96	3	10727	EPA 6010	09/29/93
Zinc	500	457.6	470.2	ug/L	92	94	93	3	10727	EPA 6010	09/29/93

ND = Not detected at or above reporting limit



SAMPLE ID: SPT-6,9  
 LAB ID: 112460-014  
 CLIENT: Uribe & Associates  
 PROJECT ID: 96-209  
 LOCATION: Shipper Imperial  
 MATRIX: Soil

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REPORTED: 10/04/93

*sample ?*

**METALS ANALYTICAL REPORT**

Compound	Result (mg/Kg)	Reporting Limit (mg/Kg)	QC Batch	Method	Analysis Date
Cadmium	0.94 <i>ok</i>	0.25	10727	EPA 6010	09/29/93
Chromium (total)	32 <i>ok</i>	0.50	10727	EPA 6010	09/29/93
Lead	48 <i>ok</i>	5.0	10727	EPA 7420	09/29/93
Nickel	34 <i>ok</i>	1.6	10727	EPA 6010	09/29/93
Zinc	75 <i>ok</i>	0.99	10727	EPA 6010	09/29/93

ND = Not detected at or above reporting limit



Curtis &amp; Tompkins, Ltd.

LABORATORY NUMBER: 112460-METHOD BLANK  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL

DATE ANALYZED: 09/29/93  
 DATE REPORTED: 10/04/93

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	ND	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	3
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %

95



Curtis &amp; Tompkins Ltd

LABORATORY NUMBER: 112460-14  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-6,9

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE ANALYZED: 09/29/93  
 DATE REPORTED: 10/04/93

EPA 8010: Volatile Halocarbons in Soil & Wastes  
 Extraction Method: EPA 5030 - Purge & Trap

Compound	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Chloromethane	ND	10
Bromomethane	ND	10
Vinyl chloride	ND	10
Chloroethane	ND	10
Methylene chloride	60	20
Trichlorofluoromethane	ND	5
1,1-Dichloroethene	ND	5
1,1-Dichloroethane	ND	5
cis-1,2-Dichloroethene	ND	5
trans-1,2-Dichloroethene	ND	5
Chloroform	ND	5
Freon 113	ND	5
1,2-Dichloroethane	ND	5
1,1,1-Trichloroethane	ND	5
Carbon tetrachloride	ND	5
Bromodichloromethane	ND	5
1,2-Dichloropropane	ND	5
cis-1,3-Dichloropropene	ND	5
Trichloroethene	ND	5
1,1,2-Trichloroethane	ND	5
trans-1,3-Dichloropropene	ND	5
Dibromochloromethane	ND	5
Bromoform	ND	10
Tetrachloroethene	ND	5
1,1,2,2-Tetrachloroethane	ND	5
Chlorobenzene	ND	5
1,3-Dichlorobenzene	ND	5
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5

ND = Not detected at or above reporting limit.

#### QA/QC SUMMARY

=====

Surrogate Recovery, %

=====

67



Curtis &amp; Tompkins, Ltd.

LABORATORY NUMBER: 112460-14  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-6,9

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE EXTRACTED: 09/27/93  
 DATE ANALYZED: 09/28/93  
 DATE REPORTED: 10/04/93

EPA 8270: Base/Neutral and Acid Extractables in Soils & Wastes  
 Extraction Method: EPA 3550 Sonication

ACID COMPOUNDS	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Phenol	ND	3,000
2-Chlorophenol	ND	3,000
Benzyl Alcohol	ND	3,000
2-Methylphenol	ND	3,000
4-Methylphenol	ND	3,000
2-Nitrophenol	ND	20,000
2,4-Dimethylphenol	ND	3,000
Benzoic Acid	ND	20,000
2,4-Dichlorophenol	ND	20,000
4-Chloro-3-methylphenol	ND	3,000
2,4,6-Trichlorophenol	ND	3,000
2,4,5-Trichlorophenol	ND	20,000
2,4-Dinitrophenol	ND	20,000
4-Nitrophenol	ND	20,000
4,6-Dinitro-2-methylphenol	ND	20,000
Pentachlorophenol	ND	20,000
BASE/NEUTRAL COMPOUNDS		
N-Nitrosodimethylamine	ND	3,000
Aniline	ND	3,000
Bis(2-chloroethyl) ether	ND	3,000
1,3-Dichlorobenzene	ND	3,000
1,4-Dichlorobenzene	ND	3,000
1,2-Dichlorobenzene	ND	3,000
Bis(2-chloroisopropyl) ether	ND	3,000
N-Nitroso-di-n-propylamine	ND	3,000
Hexachloroethane	ND	3,000
Nitrobenzene	ND	3,000
Isophorone	ND	3,000
Bis(2-chloroethoxy) methane	ND	3,000
1,2,4-Trichlorobenzene	ND	3,000
Naphthalene	ND	3,000
4-Chloroaniline	ND	3,000
Hexachlorobutadiene	ND	3,000
2-Methylnaphthalene	ND	3,000
Hexachlorocyclopentadiene	ND	3,000
2-Chloronaphthalene	ND	3,000
2-Nitroaniline	ND	20,000



Curtis &amp; Tompkins, Ltd

LABORATORY NUMBER: 112460-14  
 SAMPLE ID: COMP SPT-6,9

EPA 8270

## BASE/NEUTRAL COMPOUNDS

	RESULT ug/Kg	REPORTING LIMIT ug/Kg
Dimethylphthalate	ND	3,000
Acenaphthylene	ND	3,000
2,6-Dinitrotoluene	ND	3,000
3-Nitroaniline	ND	20,000
Acenaphthene	ND	3,000
Dibenzofuran	ND	3,000
2,4-Dinitrotoluene	ND	3,000
Diethylphthalate	ND	3,000
4-Chlorophenyl-phenylether	ND	3,000
Fluorene	ND	3,000
4-Nitroaniline	ND	20,000
N-Nitrosodiphenylamine	ND	3,000
Azobenzene	ND	3,000
4-Bromophenyl-phenylether	ND	3,000
Hexachlorobenzene	ND	3,000
Phenanthrene	ND	3,000
Anthracene	ND	3,000
Di-n-butylphthalate	ND	3,000
Fluoranthene	ND	3,000
Pyrene	ND	3,000
Butylbenzylphthalate	ND	3,000
3,3'-Dichlorobenzidine	ND	20,000
Benzo(a)anthracene	ND	3,000
Chrysene	ND	3,000
Bis(2-ethylhexyl)phthalate	ND	3,000
Di-n-octylphthalate	ND	3,000
Benzo(b)fluoranthene	ND	3,000
Benzo(k)fluoranthene	ND	3,000
Benzo(a)pyrene	ND	3,000
Indeno(1,2,3-cd)pyrene	ND	3,000
Dibenzo(a,h)anthracene	ND	3,000
Benzo(g,h,i)perylene	ND	3,000

ND = Not detected at or above reporting limit.

## QA/QC SUMMARY: % SURROGATE RECOVERIES

2-Fluorophenol	117	Nitrobenzene-d5	114
Phenol-d6	130	2-Fluorobiphenyl	116
2,4,6-Tribromophenol	132	Terphenyl-d14	111



Curtis &amp; Tompkins, Ltd.

## Q C B a t c h R e p o r t

Client: Uribe & Associates  
 Project Name: Shipper Imperial  
 Project Number: 96-209

Laboratory Login Number: 112460  
 Report Date: 04 October 93

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

QC Batch Number: 10798

## Blank Results

Sample ID	Result	MDL	Units	Method	Date Analyzed
BLANK	ND	50	mg/Kg	SMWW 17:5520EF	01-OCT-93

## Spike/Duplicate Results

Sample ID	Recovery	Method	Date Analyzed
BS	88%	SMWW 17:5520EF	01-OCT-93
BSD	87%	SMWW 17:5520EF	01-OCT-93

Average Spike Recovery  
 Relative Percent Difference

87%  
 1.4%

Control Limits  
 80% - 120%  
 < 20%





Curtis & Tompkins, Ltd.

Client: Uribe & Associates

Laboratory Login Number: 112460

Project Name: Shipper Imperial

Report Date: 04 October 93

Project Number: 96-209

ANALYSIS: Hydrocarbon Oil & Grease (Gravimetric)

METHOD: SMWW 17:5520EF

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Result	Units	RL	Analyst	QC Batch
112460-014	SPT-6,9	Soil	23-SEP-93	27-SEP-93	01-OCT-93	ND	mg/Kg	50	TR	10798

ND = Not Detected at or above Reporting Limit (RL).



## MS/MSD SUMMARY SHEET FOR EPA 8010

Laboratory Number: 112460

Client: Uribe &amp; Associates

Analysis date: 09/29/93

Sample type: Soil

Spike file: 270W038

Spike dup file: 270W039

## 8010 MS/MSD DATA (spiked at 20 ppb)

SPIKE COMPOUNDS	READING	RECOVERY	STATUS	LIMITS
1,1-Dichloroethene	23.27	116 %	OK	59 - 172
Trichloroethene	24.44	122 %	OK	62 - 137
Chlorobenzene	24.60	123 %	OK	60 - 133
SPIKE DUP COMPOUNDS				
1,1-Dichloroethene	22.27	111 %	OK	59 - 172
Trichloroethene	24.44	122 %	OK	62 - 137
Chlorobenzene	21.67	108 %	OK	60 - 133
SURROGATES				
Bromobenzene (MS)	101.46	101 %	OK	59 - 172
Bromobenzene (MSD)	103.53	104 %	OK	59 - 172

## MATRIX RESULTS

1,1-Dichloroethene	0
Trichloroethene	0.034
Chlorobenzene	0

## RPD DATA

8010 COMPOUNDS	SPIKE	SPIKE DUP	RPD	STATUS	LIMITS
1,1-Dichloroethene	23.27	22.27	4 %	OK	≤ 22
Trichloroethene	24.44	24.44	0 %	OK	≤ 24
Chlorobenzene	24.60	21.67	13 %	OK	≤ 21

**AQUATIC BIOASSAY AND CONSULTING LABORATORIES, INC.**

22 North Olive Street  
 Ventura, CA 93001  
 (805) 845-5871

DUNSMUIR WASTE (Title 22)

**SAMPLE INFORMATION**

CLIENT:	Curtis & Tompkins, Ltd.	Date:	10/04/93
SAMPLE I.D.:	Control	LAB #:	C&T1532.807

**WATER QUALITY**

DILUTION WATER: Recomb. Fresh		AERATION: Single Bubble Air	
CONTROL HARDNESS		CONTROL ALKALINITY	
Seq.: 41 mg/l	End: 48 mg/l	Seq.: 30 mg/l	End: 32 mg/l
SAMPLE HARDNESS		SAMPLE ALKALINITY	
Seq.: 44 mg/l	End: 50 mg/l	Seq.: 38 mg/l	End: 40 mg/l

**ORGANISM INFORMATION**

SPECIES:	Pimephales promelas	DATE REC'D:	9/22/93
COMMON NAME:	Fathead Minnow	AVERAGE LNTH:	36 mm
SOURCE:	Thomas Fish Co.	AVERAGE WT:	0.88 gm
CARRIER:	Grayhound Bus Co.	NO. FISH / TANK:	10

**TEST DATA**

DATE: TIME:	INITIAL				24 HOURS				48 HOURS				72 HOURS				96 HOURS			
	10/04/93				10/05/93				10/05/93				10/07/93				10/08/93			
	1700		1700		1830		1830		1800		1630		1630		1700		1700			
CONC.	Diss. Oxy.	Temp. dg.C	pH	Diss. Oxy.	Temp. dg.C	pH	#Fish Dead	Diss. Oxy.	Temp. dg.C	pH	#Fish Dead	Diss. Oxy.	Temp. dg.C	pH	#Fish Dead	Diss. Oxy.	Temp. dg.C	pH	#Fish Dead	
0 (Control)	8.6	22.0	7.6	8.5	22.0	7.3	0	8.2	20.8	7.4	0	8.1	21.3	7.8	0	8.0	20.5	7.4	0	
400 mg/l	8.4	22.0	7.8	8.1	21.8	7.2	0	8.1	21.0	7.4	0	8.0	20.6	7.7	0	7.9	20.8	7.2	0	
400 mg/l	8.4	22.0	7.5	8.1	21.8	7.2	0	8.0	21.0	7.4	0	8.0	20.6	7.7	0	8.0	20.2	7.3	0	
750 mg/l	8.5	22.0	7.5	8.1	21.8	7.2	0	8.0	21.0	7.4	0	8.0	20.8	7.7	0	8.0	20.2	7.3	0	
750 mg/l	8.4	22.0	7.5	8.2	21.8	7.2	0	8.1	21.1	7.4	0	8.0	20.7	7.7	0	8.0	20.3	7.3	0	

**FINAL DATA**

TOTAL MORTALITIES	
0 (Control)	0
400 mg/l	0
400 mg/l	0
750 mg/l	0
750 mg/l	0

**FINAL RESULTS**

96 HOUR LC50 =	> 750 mg/l
STATUS =	
CALCULATION METHOD =	Binomial Test

Martha Meyer, Chief Biologist

Date 10/11/93



CLIENT: Uribe & Associates  
JOB NUMBER: 112552

DATE REPORTED: 10/12/93

**BATCH QC REPORT  
PREP BLANK**

Compound	Result	Reporting Limit	Units	QC Batch	Method	Analysis Date
Antimony	ND	3	mg/Kg	10820	EPA 6010	10/05/93
Barium	ND	0.5	mg/Kg	10820	EPA 6010	10/05/93
Beryllium	ND	0.1	mg/Kg	10820	EPA 6010	10/05/93
Cadmium	ND	0.25	mg/Kg	10820	EPA 6010	10/05/93
Chromium (total)	ND	0.5	mg/Kg	10820	EPA 6010	10/05/93
Cobalt	ND	0.9	mg/Kg	10820	EPA 6010	10/05/93
Copper	ND	0.5	mg/Kg	10820	EPA 6010	10/05/93
Molybdenum	ND	0.7	mg/Kg	10820	EPA 6010	10/05/93
Nickel	ND	1.6	mg/Kg	10820	EPA 6010	10/05/93
Silver	ND	0.5	mg/Kg	10820	EPA 6010	10/05/93
Vanadium	ND	0.5	mg/Kg	10820	EPA 6010	10/05/93
Zinc	ND	1	mg/Kg	10820	EPA 6010	10/05/93
Arsenic	ND	2.5	mg/Kg	10821	EPA 7060	10/06/93
Lead	ND	1.5	mg/Kg	10821	EPA 7421	10/06/93
Selenium	ND	2.5	mg/Kg	10821	EPA 7740	10/06/93
Thallium	ND	2.5	mg/Kg	10821	EPA 7841	10/06/93
Mercury	ND	0.1	mg/Kg	10830	EPA 7471	10/06/93

ND = Not detected at or above reporting limit



CLIENT: Uribe & Associates  
 JOB NUMBER: 112552

DATE REPORTED: 10/12/93

**BATCH QC REPORT  
 BLANK SPIKE/BLANK SPIKE DUPLICATE**

Compound	Spike Amount	SS Result	SSD Result	Units	SS % Recovery	SSD % Recovery	Average Recovery	RPD	QC Batch	Method	Analysis Date
Antimony	300	429.8	459.1	ug/L	86	92	89	7	10820	EPA 6010	10/05/93
Barium	2000	1786	1800	ug/L	89	90	90	1	10820	EPA 6010	10/05/93
Beryllium	50	43.5	43.7	ug/L	87	87	87	1	10820	EPA 6010	10/05/93
Cadmium	50	48.6	49.4	ug/L	97	99	98	2	10820	EPA 6010	10/05/93
Chromium (total)	200	187.1	186.2	ug/L	94	93	94	1	10820	EPA 6010	10/05/93
Cobalt	500	440.3	449.9	ug/L	88	90	89	2	10820	EPA 6010	10/05/93
Copper	250	229.1	230	ug/L	92	92	92	0	10820	EPA 6010	10/05/93
Molybdenum	400	353.7	364.3	ug/L	85	91	88	3	10820	EPA 6010	10/05/93
Nickel	500	464	479.8	ug/L	93	96	95	3	10820	EPA 6010	10/05/93
Silver	50	48.2	46.4	ug/L	96	93	95	4	10820	EPA 6010	10/05/93
Vanadium	500	439.1	443.8	ug/L	88	89	89	1	10820	EPA 6010	10/05/93
Zinc	500	432.3	433.9	ug/L	87	87	87	0	10820	EPA 6010	10/05/93
Arsenic	40	60.02	63.46	ug/L	100	109	105	8	10821	EPA 7060	10/06/93
Lead	30	30.68	31.17	ug/L	102	104	105	2	10821	EPA 7421	10/06/93
Selenium	30	31.49	32.16	ug/L	109	107	106	2	10821	EPA 7740	10/06/93
Selenium	30	32.53	32.16	ug/L	108	107	106	2	10821	EPA 7740	10/06/93
Thallium	40	41.53	42.64	ug/L	104	107	106	3	10821	EPA 7841	10/06/93



**Q C Batch Report**

Client: Uribe & Associates  
 Project Name: Shipper Imperial  
 Project Number: 96-209

Laboratory Login Number: 112552  
 Report Date: 12 October 93

QC Batch Number: 10076

**Calibration Verification Results**

Sample	Result	TV	Difference	Limit	Analyzed
ICV	10.02	10.00	.02	< 0.10	07-OCT-93
CCV	10.02	10.00	.02	< 0.10	07-OCT-93

**Sample Duplicate Results**

Sample	Duplicate	RPD	Analyzed
8.60	8.61	.1%	07-OCT-93



Client: Uriebe & Associates

Laboratory Login Number: 112552

Project Name: Shipper Imperial  
Project Number: 96-209

Report Date: 12 October 93

ANALYSIS: pH

Lab ID	Sample ID	Matrix	Sampled	Received	Analyzed	Units	Method	Analyst	QC Bench
112552-001	[REDACTED]	Soil	25-SEP-93	27-SEP-93	07-OCT-93	[REDACTED]	EPA 9045	TR	10876
112552-002	[REDACTED]	Soil	25-SEP-93	27-SEP-93	07-OCT-93	[REDACTED]	EPA 9045	TR	10876
112552-003	[REDACTED]	Soil	25-SEP-93	27-SEP-93	07-OCT-93	[REDACTED]	EPA 9045	TR	10876
112552-004	[REDACTED]	Soil	25-SEP-93	27-SEP-93	07-OCT-93	[REDACTED]	EPA 9045	TR	10876
112552-005	[REDACTED]	Soil	25-SEP-93	27-SEP-93	07-OCT-93	[REDACTED]	EPA 9045	TR	10876

Soil pH measured as water



Curtis &amp; Tompkins, Ltd.

LABORATORY NUMBER: 112552-5  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: ~~CONF 87-1-100~~

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--





LABORATORY NUMBER: 112552-4  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-9,6

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RPD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--



Curtis &amp; Tompkins, Ltd.

LABORATORY NUMBER: 112552-3  
 CLIENT: URIBE & ASSOCIATES  
 PROJECT ID: 96-209  
 LOCATION: PORT OF OAKLAND, SHIPPERS IMPERIAL  
 SAMPLE ID: COMP SPT-7,8

DATE SAMPLED: 09/23/93  
 DATE RECEIVED: 09/27/93  
 DATE REQUESTED: 09/30/93  
 DATE REPORTED: 10/12/93

PARAMETER	RESULT	UNITS	REPORTING LIMIT	METHOD
Releasable Cyanide	ND	mg/Kg	1	SW-846 Section 7.3.3.2
Releasable Sulfide	ND	mg/Kg	1	SW-846 Section 7.3.4.1
Ignitability	Does Not Ignite			SW-846 Section 7.1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY	Analysis Date	RFD, %	RECOVERY, %
Cyanide	10/05/93	7	79
Sulfide	10/05/93	7	76
Ignitability	10/05/93	--	--



**Curtis & Tompkins, Ltd.**  
 2323 Fifth Street  
 Berkeley, CA 94710  
 (510) 486-0900 Phone  
 (510) 486-0532 Fax

Sampler: Tom Barnes

Report to: Tom Barnes

Company: Orbe Assoc.

Project No: 96-209

Project Name: Port Oakland Shipyards Superfund Site Telephone: 832-2233

Turnaround Time: 5 days Fax: 832-2237

Analyses

Laboratory Number	Sample ID	Sampling Date	Time	Matrix			# of Containers	Preservation				Field Notes	TPH - Gas phase	STEX	TPH - Dissolved	TPH - Lead, Cadmium, Chromium, Nickel	TPH - Major Oil	Oil - Gas phase	Oil	OZ	
				Sed	Water	Soil		None	None	None	None										None
	SPT-1	9/23	9:50				1						X	X	X						
	SPT-2	"	9:55				1						X	X	X						
	SPT-3	"	9:59				1						X	X	X						
	SPT-4	"	10:10				1						X	X	X						
	SPT-5																				
	SPT-7	"	10:45				1						X	X	X						
	SPT-8	"	10:50				1						X	X	X	X	X	X	X	X	X
	SPT-9	"	12:30				1						X	X	X	X	X	X	X	X	X
	SPT-6	"	10:20				1						X	X	X						
	SPT-10	"	4:00				1						X	X	X						
	SPT-5	"	10:15				1						X	X	X						

THIS INFORMATION IS UNCLASSIFIED

NOTES:  
**FILE**

RELINQUISHED BY:		RECEIVED BY:	
<u>Tom Barnes</u>	DATE/TIME	<u>[Signature]</u>	9-27-93 10:30 P.M. DATE/TIME
	DATE/TIME		DATE/TIME
	DATE/TIME		DATE/TIME

OCT 12 '93 13:51 CURTIS & TOMPKINS BERKELEY

P.24  
 OCT 25 '93 10:50AM PORT OF OAKLAND ENVIRON DEPT

VERBAL ADDITIONS / CANCELLATIONS TO ANALYSIS REQUEST SHEET

CLIENT: Units & Associates DATE: 9/30/93  
 REQUESTED BY: Tom Barnes TIME: am 15:45 pm  
 RECORDED BY: J. Brown Normal TAT

Current Lab ID (Previous Lab ID)	Client ID	Circle matrix	Specify add or cancel	Analysis	Due date
112552-1 112460-11	Comp SPT-1,2	soil water other	+	T26 net 4240 I quit React CN + SO4	
112552-2 112460-12	Comp SPT-3,4	soil water other	+		
112552-3 112460-13	Comp SPT-7,8	soil water other	+	Biomass	
112552-5 112460-15	Comp SPT 5,10	soil water other	+		
112552-4 112460-14	Comp SPT-9,6	soil water other	+	React concentr + ign	
		soil water other			
		soil water other			
		soil water other			

Original in job jacket.

Copies to analytical departments.