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ANALYTICAL REPORT
Prepared by
Lockheed Martin

South Central Terminal
Pana, IL

EPA Work Assignment # 0-072
LOCKHEED MARTIN Work Order # R1A00072
EPA Contract # 68-C99-223

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Appendices will be furnished on request.

Introduction

REAC in response to WA 0-072, provided analytical support for environmental samples collected from South Central Terminal, located in Pana, IL as described in the following table. The support also included QA/QC, data review, and preparation of an analytical report containing a summary of the analytical methods, the results, and the QA/QC results.

The samples were treated with procedures consistent with those specified in SOP #1008.

COC #	Number of Samples	Sampling Date	Date Received	Matrix	Analysis	Laboratory
01396	14	7/16/99	7/26/99	Drum Liquid	VOC	REAC
01537	6	7/16/99	7/26/99	Drum Liquid	PCB	REAC
07162	20	7/16/99	7/26/99	Drum Liquid	PCB	REAC
07148	10	7/28/99	7/30/99	Drum Liquid	Total Organic Halides	GPL
07148	4	7/28/99	7/30/99	Drum Liquid	Total Organic Halides, BTU	GPL
07148	2	7/28/99	7/30/99	Drum Liquid	Total Organic Halides, BTU, Sulfides	GPL,
07148	6	7/28/99	7/30/99	Drum Liquid	Sulfur	Core
07148	4	7/28/99	7/30/99	Drum Liquid	Sulfides, Ammonia	GPL
07149	8	7/28/99	7/30/99	Drum Liquid	Total Organic Halides	GPL
07149	4	7/28/99	7/30/99	Drum Liquid	Total Organic Halides, BTU	GPL
07149	1	7/28/99	7/30/99	Drum Liquid	Sulfides, Ammonia	GPL
07149	8	7/28/99	7/30/99	Drum Liquid	Sulfur	Core

The sample table is continued on the next page

Sample Table (Cont)

COC #	Number of Samples	Sampling Date	Date Received	Matrix	Analysis	Laboratory
07149	7	7/28/99	7/30/99	Drum Liquid	Total Organic Halides, BTU, Sulfides	GPL
07150	3	7/28/99	7/30/99	Drum Liquid	Total Organic Halides	GPL
07150	1	7/28/99	7/30/99	Drum Liquid	Total Organic Halides, BTU	GPL
07150	3	7/28/99	7/30/99	Drum Liquid	Total Organic Halides, BTU, Sulfides	GPL
07150	3	7/28/99	7/30/99	Drum Liquid	Sulfur	Core
06563	15	7/16/99	8/2/99	Drum Liquid/ Oil	TAL: Metals	GPL Laboratories

Case Narrative

The data in this report have been validated to two significant figures. Any other representation of the data is the responsibility of the user.

VOC in Waste Oil Package I 274

The samples were collected on 7/16/99 and analyzed on 8/2/99 through 8/3/99. Holding time criteria were not applied.

The acceptable QC limit for the response factor for 1,2-dibromo-3-chloropropane was exceeded in the initial calibration of 7/29/99 (0.033), and the continuing calibration check standards of 8/2/99 (0.026) and 8/3/99 (0.028). The concentrations of 1,2-dibromo-3-chloropropane in lab blank #1, lab blank #2 and samples 26255, 26256, 26265, 26266, 26267, 26260, 26257, 26258, 26259, 26261, 26262, 26263, 26264 and 26268 should be regarded as unusable.

The acceptable QC limit for the response factor for 2-hexanone was exceeded in the continuing calibration check standard of 8/2/99 (0.041) and 8/3/99 (0.041). The concentrations of 2-hexanone in lab blank #1, lab blank #2 and samples 26255, 26256, 26265, 26266, 26267, 26260, 26257, 26258, 26259, 26261, 26262, 26263, 26264 and 26268 should be regarded as unusable.

In the initial calibration of 7/29/99 the acceptable QC limit for the %RSD was exceeded for 1,2,4-trichloronaphthalene (30.5%), naphthalene (33%) and 1,2,3-trichlorobenzene (31%). The naphthalene results for samples 26255, 26256, 26265, 26266, 26267 and 26263 should be regarded as estimated. The data for 1,2,4-trichloronaphthalene and 1,2,3-trichlorobenzene are not affected because these analytes were not detected in the associated samples.

In the continuing calibration check standard of 8/3/99 the acceptable QC limit was exceeded for chloromethane (33%) and vinyl chloride (49%). The data are not affected because these analytes were not detected in the associated samples.

QC limits for soil were used for the surrogate and MS/MSD percent recoveries and the MS/MSD RPDs for these samples.

The acceptable QC limit for one internal standard area was exceeded for sample 26266. The concentrations of all compounds quantified by this internal standard should be regarded as estimated.

Sample 26258 was analyzed at a dilution of 100x, but the MS/MSD pair for this sample was analyzed at a dilution of 500x.

PCB in Waste Oil Package I 272

The samples were collected on 7/16/99, extracted on 7/27/99 and analyzed on 8/2/99 through 8/4/99. Holding time criteria were not applied.

Percent Sulfur in Waste Oil Package I 294

This analysis was not requested on the original chains of custody. It was added at a later date at the client's request.

With the permission of REAC, the subcontract laboratory analyzed the samples with ASTM Method D-129 instead of the requested method ASTM D-4294.
The following samples did not completely combust and were filtered prior to the addition of barium chloride:

Sample	Location
26291	Tank 119
26294	Tank 302
26300	Tank 311
26302	Tank 313
26286	Tank 113
26287	Tank 115
26288	Tank 116
26289	Tank 117

Metals in Waste Oil Package I 306

The method blank contained 0.885 mg/kg zinc. The concentrations of zinc in samples 26240, 26241, 26250, 26251 and 26253 should be regarded as not detected because the concentrations of zinc in these samples is less than five times that of the associated method blank.

The acceptable QC limits for the matrix spike recovery was exceeded in the non-REAC sample for mercury (73%), and antimony (38.9%) and copper (140.2%)in the MS/MSD pair 26252. The concentration of mercury, copper and antimony in sample 26252 should be regarded as estimated.

Sulfides in Waste Oil Package I 303

The sulfide content for samples 26274, 26287, 26288, 26289 and 26304 was not determined because of matrix interference. The sulfide content was determined by another method and this data will be reported in a later report. They were also analyzed for percent sulfur.

BTU in Waste Oil Package I 304

The data were examined and were found to be acceptable.

With the permission of REAC, the subcontract laboratory analyzed the samples with ASTM Method D-240 instead of the requested method , ASTM D-1989.

Ammonia and Total Extractable Halides in Waste Oil Package I 302/305

The data were examined and were found to be acceptable.

Summary of Abbreviations

AA	Atomic Absorption
B	The analyte was found in the blank
BFB	Bromofluorobenzene
C	Centigrade
D	(Surrogate Table) this value is from a diluted sample and was not calculated (Result Table) this result was obtained from a diluted sample
Dioxin PCDD	denotes Polychlorinated Dibenzo-p-dioxins and Polychlorinated Dibenzofurans and/or and PCDF
CLP	Contract Laboratory Protocol
COC	Chain of Custody
CONC	Concentration
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
DFTPP	Decafluorotriphenylphosphine
DL	Detection Limit
E	The value is greater than the highest linear standard and is estimated
EMPC	Estimated maximum possible concentration
ICAP	Inductively Coupled Argon Plasma
ISTD	Internal Standard
J	The value is below the method detection limit and is estimated
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MDL	Method Detection Limit
MI	Matrix Interference
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MW	Molecular Weight
NA	either Not Applicable or Not Available
NC	Not Calculated
NR	Not Requested
NS	Not Spiked
% D	Percent Difference
% REC	Percent Recovery
PPB	Parts per billion
PPBV	Parts per billion by volume
PPMV	Parts per million by volume
PQL	Practical Quantitation Limit
QL	Quantitation Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SIM	Selected Ion Monitoring
TCLP	Toxic Characteristics Leaching Procedure
U	Denotes not detected
W	Weathered analyte; the results should be regarded as estimated

m^3	cubic meter	kg	kilogram	μg	microgram
L	liter	g	gram	pg	picogram
mL	milliliter	mg	milligram	ng	nanogram
μL	microliter				

*	denotes a value that exceeds the acceptable QC limit
	Abbreviations that are specific to a particular table are explained in footnotes on that table

Revision 1/15/99

Section I

Analytical Procedure for VOC in Waste Oil

A modified 524.2 method for the analysis of Volatile Organic Compounds in water was used. Samples were diluted and then purged, trapped, and desorbed to a GC/MS system. Prior to purging, the samples were spiked with a three component surrogate mixture consisting of toluene-d_8, 4-bromofluorobenzene and 1,2-dichloroethane-d_4 and a three component internal standard mixture consisting of bromochloromethane, 1,4-difluorobenzene, and chlorobenzene-d_5.

The purge and trap unit consisted of: A Tekmar concentrator (3000 series) equipped with an Archon autosampler (Dynateck Corp.) and a trap consisting of either a VOCARB 4000 or a VOCARB 3000 (Supelco). The VOCARB 4000 contained four adsorbent beds: Carbopack B (graphitized carbon 60/80 mesh), Carbopack C (graphitized carbon 60/80 mesh), Carboxen-1000 (60/80 mesh), and Carboxen-1001 (60/80 mesh).

The purge and trap instrument conditions were:

Purge	10 min at 25° C
Dry Purge	2 min at 25° C
Desorb Preheat	230° C
Desorb	4 min at 230° C
Purge Flow Rate	40 mL/min
Bake	8 min at 250° C

A Hewlett Packard 5973 GC/MSD equipped with an HP CHEM STATION data system was used to analyze the data.

The instrument conditions were:

Column:	30 meter x 0.25 mm ID, RTx-Volatiles (Restek Corp.) column with 3.0 μm thickness.
Temperature:	4 min at 35° C 6° C/min to 180° C 10 min at 180° C
Flow Rate	Helium at 1.0 mL/min.
Mass Spectrometer:	Electron Impact Ionization at a nominal electron energy of 70 electron volts, scanning from 35-350 amu at one scan/sec.

Computer: Preprogrammed to plot Extracted Ion Current Profile (EICP); capable of integrating ions and plotting abundances vs time or scan number. A library search (NBS-Wiley) for tentatively identified compounds was performed on samples.

The GC/MS system was calibrated using 6 VOC standards at 5, 20, 50, 100, 150, and 200 μg/l. Before analysis each day, the system was tuned with 50-ng BFB and passed a continuing calibration check when analyzing a 50 μg/l standard mixture in which the responses were evaluated by comparison to the average response of the calibration curve.

The results are in Table 1.1; the tentatively identified compounds are listed in Table 1.2. The concentrations of the analytes were calculated using the following equation:

$$C_u = \frac{A_x \times I_{is} \times D}{A_{is} \times RF \text{ (or } RF_{ave})}$$

where

C_u	= Concentration of target analyte (µg/L)
A_x	= Area of the target analyte
I_{is}	= Concentration of specific internal standard (µg/L)
A_{is}	= Area of the specific internal standard
RF	= Response Factor
RF_{ave}	= average Response Factor
D	= Dilution factor

The average Response Factor is used when a sample is associated with an initial calibration curve. The Response Factor is used when a sample is associated with a continuing calibration curve.

Response Factor calculation:

The response factor (RF) for each specific analyte is quantitated based on the area response from the continuing calibration check as follows:

$$RF = \frac{A_c \times I_{is}'}{A_{is}' \times I_c}$$

where,

RF	= Response factor for a specific analyte
A_c	= Area of the analyte in the standard
I_{is}'	= Concentration of the specific internal standard
A_{is}'	= Area of the specific internal standard
I_c	= Concentration of the analyte in the standard

$$RF_{ave} = \frac{RF_1 + \ldots + RF_n}{n}$$

and

n = number of Samples

Revision of 5/4/99

Analytical Procedure for PCBs in Waste Oil

Extraction Procedure

A one gram aliquot was diluted with 10 mL hexane and analyzed.

Gas Chromatographic Analysis

The extract was analyzed for PCBs using simultaneous dual column injections. The analysis was done on an HP 6890 GC/ECD system, equipped with an HP 6890 automatic sampler, and controlled with an HP Chem-Station. The following conditions were employed:

First Column	DB-608, 30 meter, 0.32mm fused silica capillary, 0.50 µm film thickness
Injector Temperature	200° C
Detector Temperature	325° C
Second Column	RTX-CLPesticides, 30 meter, 0.32mm fused silica capillary, 0.50 µm film thickness
Injector Temperature	200° C
Detector Temperature	325° C
Temperature Program-(both columns)	120 ° C for 1 minute 9 °C/min to 285°C, 10 min at 285°C
Injection volume	1 µL

The gas chromatographs were calibrated using 5 PCB standards at 250 ppb, 500 ppb, 1 ppm, 2 ppm and 5 ppm. The results from each mixture were used to calculate the response factor (RF) of each analyte and the average Response Factor was used to calculate the concentration of pesticide in the sample. Quantification was based on the DB-608 column (signal 1) and the identity of the analyte was confirmed using the RTx-CLPesticides column (signal 2). A fingerprint chromatogram was run using each of the seven Aroclor mixtures; calibration curves were run only if a particular Aroclor was found in the sample.

The PCB results, listed in Table 1.3, are calculated by using the following formula:

$$C_u = \frac{DF x A_u x V_t}{RF_{ave} x V_i x W x D}$$

where

C_u	=	Concentration of analyte (μg/kg)
DF	=	Dilution Factor
A_u	=	Area or peak height
V_t	=	Volume of sample (mL)
RF_{ave}	=	Average response factor
V_i	=	Volume of extract injected (μL)
W	=	Weight of sample (g)
D	=	Decimal percent solids

Response Factor calculation:

The RF for each specific analyte is quantitated based on the area response from the continuing calibration check as follows:

$$RF = \frac{A_u}{total\ pg\ injected}$$

where

A_u = Area or peak height

and

$$RF_{ave} = \frac{RF_1 + \ldots + RF_n}{n}$$

where

n = number of samples

Revision 7/22/97

Analytical Procedure for Percent Sulfur in Waste Oil

The subcontract laboratory determined the percent sulfur in the samples by analyzing them according to ASTM Method D 129. The results of the analysis are listed in Table 1.4.

Analytical Procedure for Sulfides in Waste Oil

The subcontract laboratory determined the percent sulfur in the samples by analyzing them according to USEPA Method 9031. The results of the analysis are listed in Table 1.5.

Analytical Procedure for Total Organic Halides in Waste Oil

The subcontract laboratory determined the concentration of total organic halides in the samples by analyzing them according to USEPA Method 9040 M. The results of the analysis are listed in Table 1.5.

Analytical Procedure for BTU in Waste Oil

The subcontract laboratory determined the BTU of the samples by analyzing them according to ASTM Method D 420. The results of the analysis are listed in Table 1.5.

Analytical Procedure for Ammonia in Waste Oil

The subcontract laboratory determined the concentration of ammonia in the samples by analyzing them according to USEPA Method 350.3. The results of the analysis are listed in Table 1.5.

Analytical Procedure for Metals in Waste Oil, Solids and Waste Solids

The subcontract laboratory determined the metals concentration in the samples by analyzing them according to USEPA Methods 6010 and 7471. The results of the analysis are listed in Table 1.6, 1.7 and 1.8.

Table 1.1 Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab BLK #1	26255	26256	26265	26266
Location :		Tank 13	Tank 100	Tank 300	Tank 304
Collected :		07/16	07/16	07/16	07/16
Analyzed :	2 Aug 1999	2 Aug 1999	2 Aug 1999	2 Aug 1999	2 Aug 1999
Injected :	3:24 pm	4:14 pm	5:05 pm	5:56 pm	6:47 pm
File :	BV0258.D	BV0259.D	BV0260.D	BV0261.D	BV0262.D
Dil. Fact. :	1.0	100000	100000	50000	200000

Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Dichlorodifluoromethane	U	1.0	U	100000	U	100000	U	50000	U	200000
Chloromethane	U	1.0	U	100000	U	100000	U	50000	U	200000
Vinyl Chloride	U	1.0	U	100000	U	100000	U	50000	U	200000
Bromomethane	U	2.0	U	200000	U	200000	U	100000	U	400000
Chloroethane	U	1.0	U	100000	U	100000	U	50000	U	200000
Trichlorofluoromethane	U	1.0	U	100000	U	100000	U	50000	U	200000
1,1-Dichloroethene	U	1.0	U	100000	U	100000	U	50000	U	200000
trans-1,2-Dichloroethene	U	1.0	U	100000	U	100000	U	50000	U	200000
Acetone	U	2.0	U	200000	U	200000	U	100000	U	400000
Carbon Disulfide	U	1.0	U	100000	U	100000	U	50000	U	200000
Methylene Chloride	U	1.0	U	100000	U	100000	U	50000	U	200000
Methyl-t-butyl Ether	U	1.0	U	100000	U	100000	U	50000	U	200000
cis-1,2-Dichloroethene	U	1.0	U	100000	U	100000	U	50000	U	200000
1,1-Dichloroethane	U	1.0	U	100000	U	100000	U	50000	345000	200000
2,2-Dichloropropane	U	1.0	U	100000	U	100000	U	50000	U	200000
2-Butanone	U	4.0	U	400000	U	400000	U	200000	U	800000
Chloroform	U	1.0	U	100000	U	100000	U	50000	U	200000
1,1-Dichloropropene	U	1.0	U	100000	U	100000	U	50000	U	200000
1,2-Dichloroethane	U	1.0	U	100000	U	100000	U	50000	U	20000
1,1,1-Trichloroethane	U	1.0	U	100000	U	100000	U	50000	U	200000
Carbon Tetrachloride	U	1.0	U	100000	U	100000	U	50000	U	200000
Benzene	U	1.0	U	100000	U	100000	U	50000	4800000	200000
Trichloroethene	U	1.0	U	100000	U	100000	U	50000	900000	200000
1,2-Dichloropropane	U	1.0	U	100000	U	100000	U	50000	U	200000
Dibromomethane	U	1.0	U	100000	U	100000	U	50000	U	200000
Bromodichloromethane	U	1.0	U	100000	U	100000	U	50000	U	200000
cis-1,3-Dichloropropene	U	1.0	U	100000	U	100000	U	50000	U	20000
trans-1,3-Dichloropropene	U	1.0	U	100000	U	100000	U	50000	U	20000
1,1,2-Trichloroethane	U	1.0	U	100000	U	100000	U	50000	U	200000
1,3-Dichloropropane	U	1.0	U	100000	U	100000	U	50000	U	200000
Dibromochloromethane	U	1.0	U	100000	U	100000	U	50000	U	200000
1,2-Dibromoethane	U	1.0	U	100000	U	100000	U	50000	U	200000

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab BLK #1		26255		26256		26265		26266	
Location :			Tank 13		Tank 100		Tank 300		Tank 304	
Collected :			07/16		07/16		07/16		07/16	
Analyzed :	2 Aug 1999		2 Aug 1999		2 Aug 1999		2 Aug 1999		2 Aug 1999	
Injected :	3:24 pm		4:14 pm		5:05 pm		5:56 pm		6:47 pm	
File :	BV0258.D		BV0259.D		BV0260.D		BV0261.D		BV0262.D	
Dil. Fact. :	1.0		100000		100000		50000		200000	
Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Bromoform	U	1.0	U	100000	U	100000	U	50000	U	200000
4-Methyl-2-Pentanone	U	2.0	U	200000	U	200000	U	100000	U	400000
Toluene	U	1.0	2480000	100000	156000	100000	174000	50000	17300000	200000
Tetrachloroethene	U	1.0	421000	100000	U.	100000	U	50000	2950000	200000
2-Hexanone	U	2.0	U	200000	U	200000	U	100000	U	400000
Chlorobenzene	U	1.0	U	100000	U	100000	U	50000	U	200000
Ethylbenzene	U	1.0	1740000	100000	1260000	100000	307000	50000	6940000	200000
1,1,1,2-Tetrachloroethane	U	1.0	U	100000	U	100000	U	50000	U	200000
p&m-Xylene	U	1.0	5780000	100000	4110000	100000	379000	50000	9670000	200000
o-Xylene	U	1.0	5110000	100000	5550000	100000	400000	50000	13800000	200000
Styrene	U	1.0	844000	100000	U	100000	U	50000	24800000	200000
Isopropylbenzene	U	1.0	1100000	100000	540000	100000	262000	50000	900000	200000
Bromobenzene	U	1.0	U	100000	U	100000	U	50000	U	200000
1,1,2,2-Tetrachloroethane	U	1.0	U	100000	U	100000	U	50000	U	200000
n-Propylbenzene	U	1.0	1400000	100000	4270000	100000	399000	50000	1080000	200000
1,2,3-Trichloropropane	U	1.0	U	100000	U	100000	U	50000	U	200000
2-Chlorotoluene	U	1.0	U	100000	U	100000	U	50000	U	200000
1,3,5-Trimethylbenzene	U	1.0	3270000	100000	13900000	100000	471289	50000	2500000	200000
4-Chlorotoluene	U	1.0	U	100000	U	100000	U	50000	U	200000
tert-Butylbenzene	U	1.0	U	100000	U	100000	U	50000	U	200000
1,2,4-Trimethylbenzene	U	1.0	15200000	100000	40900000	100000	1800000	50000	7580000	200000
sec-Butylbenzene	U	1.0	854000	100000	U	100000	544000	50000	388000	200000
p-Isopropyltoluene	U	1.0	1490000	100000	486000	100000	357000	50000	577000	200000
1,3-Dichlorobenzene	U	1.0	U	100000	U	100000	U	50000	U	200000
1,4-Dichlorobenzene	U	1.0	U	100000	U	100000	U	50000	U	200000
n-Butylbenzene	U	1.0	U	100000	3140000	100000	399000	50000	402000	200000
1,2-Dichlorobenzene	U	1.0	U	100000	U	100000	U	50000	U	200000
1,2-Dibromo-3-chloropropane	U	1.0	U	100000	U	100000	U	50000	U	200000
1,2,4-Trichlorobenzene	U	1.0	U	100000	U	100000	U	50000	U	200000
Hexachlorobutadiene	U	1.0	U	100000	U	100000	U	50000	U	200000
Naphthalene	U	1.0	1700000	100000	18700000	100000	2310000	50000	1180000	200000
1,2,3-Trichlorobenzene	U	1.0	U	100000	U	100000	U	50000	U	200000

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab BLK #1	26267
Location :		Tank 307
Collected :		07/16
Analyzed :	2 Aug 1999	2 Aug 1999
Injected :	3:24 pm	7:38 pm
File :	BV0258.D	BV0263.D
Dil. Fact. :	1.0	200000

Analyte	Conc ug/l	MDL ug/l	Conc ug/l		MDL ug/l
Dichlorodifluoromethane	U	1.0	U		200000
Chloromethane	U	1.0	U		200000
Vinyl Chloride	U	1.0	U		200000
Bromomethane	U	2.0	U		400000
Chloroethane	U	1.0	U		200000
Trichlorofluoromethane	U	1.0	U		200000
1,1-Dichloroethene	U	1.0	U		200000
trans-1,2-Dichloroethene	U	1.0	U		200000
Acetone	U	2.0	322000	J	400000
Carbon Disulfide	U	1.0	U		200000
Methylene Chloride	U	1.0	355000		200000
Methyl-t-butyl Ether	U	1.0	U		200000
cis-1,2-Dichloroethene	U	1.0	U		200000
1,1-Dichloroethane	U	1.0	478000		200000
2,2-Dichloropropane	U	1.0	U		200000
2-Butanone	U	4.0	U		800000
Chloroform	U	1.0	U		200000
1,1-Dichloropropene	U	1.0	U		200000
1,2-Dichloroethane	U	1.0	U		200000
1,1,1-Trichloroethane	U	1.0	U		200000
Carbon Tetrachloride	U	1.0	U		200000
Benzene	U	1.0	4620000		200000
Trichloroethene	U	1.0	1080000		200000
1,2-Dichloropropane	U	1.0	U		200000
Dibromomethane	U	1.0	U		200000
Bromodichloromethane	U	1.0	U		200000
cis-1,3-Dichloropropene	U	1.0	U		200000
trans-1,3-Dichloropropene	U	1.0	U		200000
1,1,2-Trichloroethane	U	1.0	U		200000
1,3-Dichloropropane	U	1.0	U		200000
Dibromochloromethane	U	1.0	U		200000
1,2-Dibromoethane	U	1.0	U		200000

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab BLK #1	26267
Location :		Tank 307
Collected :		07/16
Analyzed :	2 Aug 1999	2 Aug 1999
Injected :	3:24 pm	7:38 pm
File :	BV0258.D	BV0263.D
Dil. Fact. :	1.0	200000

Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Bromoform	U	1.0	U	200000
4-Methyl-2-Pentanone	U	2.0	U	400000
Toluene	U	1.0	8130000	200000
Tetrachloroethene	U	1.0	1360000	200000
2-Hexanone	U	2.0	U	400000
Chlorobenzene	U	1.0	U	200000
Ethylbenzene	U	1.0	5700000	200000
1,1,1,2-Tetrachloroethane	U	1.0	U	200000
p&m-Xylene	U	1.0	5850000	200000
o-Xylene	U	1.0	7370000	200000
Styrene	U	1.0	18400000	200000
Isopropylbenzene	U	1.0	587000	200000
Bromobenzene	U	1.0	U	200000
1,1,2,2-Tetrachloroethane	U	1.0	U	200000
n-Propylbenzene	U	1.0	793000	200000
1,2,3-Trichloropropane	U	1.0	U	200000
2-Chlorotoluene	U	1.0	U	200000
1,3,5-Trimethylbenzene	U	1.0	1370000	200000
4-Chlorotoluene	U	1.0	U	200000
tert-Butylbenzene	U	1.0	U	200000
1,2,4-Trimethylbenzene	U	1.0	7980000	200000
sec-Butylbenzene	U	1.0	355000	200000
p-Isopropyltoluene	U	1.0	585000	200000
1,3-Dichlorobenzene	U	1.0	U	200000
1,4-Dichlorobenzene	U	1.0	U	200000
n-Butylbenzene	U	1.0	461000	200000
1,2-Dichlorobenzene	U	1.0	U	200000
1,2-Dibromo-3-chloropropane	U	1.0	U	200000
1,2,4-Trichlorobenzene	U	1.0	U	200000
Hexachlorobutadiene	U	1.0	U	200000
Naphthalene	U	1.0	1250000	200000
1,2,3-Trichlorobenzene	U	1.0	U	200000

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab Blank #2	26260	26257	26258	26259
Location :		TANK 115	TANK 102	TANK 108	TANK 113
Collected :		07/16	07/16	07/16	07/16
Analyzed :	3 Aug 1999	3 Aug 1999	3 Aug 1999	3 Aug 1999	3 Aug 1999
Injected :	11:40 AM	3:05 pm	3:56 pm	4:47 pm	5:38 pm
File :	BV0268.D	BV0272.D	BV0273.D	BV0274.D	BV0275.D
Dil. Fact. :	1.0	100	100	100	100

Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Dichlorodifluoromethane	U	1.0	U	100	U	100	U	100	U	100
Chloromethane	U	1.0	U	100	U	100	U	100	U	100
Vinyl Chloride	U	1.0	U	100	U	100	U	100	U	100
Bromomethane	U	2.0	U	200	U	200	U	200	U	200
Chloroethane	U	1.0	U	100	U	100	U	100	U	100
Trichlorofluoromethane	U	1.0	U	100	U	100	U	100	U	100
1,1-Dichloroethene	U	1.0	U	100	U	100	U	100	U	100
trans-1,2-Dichloroethene	U	1.0	U	100	U	100	U	100	U	100
Acetone	U	2.0	4270	200	U	200	U	200	5400	200
Carbon Disulfide	U	1.0	U	100	U	100	U	100	U	100
Methylene Chloride	U	1.0	U	100	U	100	U	100	U	100
Methyl-t-butyl Ether	U	1.0	U	100	U	100	U	100	U	100
cis-1,2-Dichloroethene	U	1.0	U	100	U	100	U	100	U	100
1,1-Dichloroethane	U	1.0	U	100	U	100	U	100	U	100
2,2-Dichloropropane	U	1.0	U	100	U	100	U	100	U	100
2-Butanone	U	4.0	U	400	U	400	U	400	3360	400
Chloroform	U	1.0	U	100	U	100	U	100	U	100
1,1-Dichloropropene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dichloroethane	U	1.0	U	100	U	100	U	100	U	100
1,1,1-Trichloroethane	U	1.0	U	100	U	100	U	100	U	100
Carbon Tetrachloride	U	1.0	U	100	U	100	U	100	U	100
Benzene	U	1.0	U	100	U	100	U	100	U	100
Trichloroethene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dichloropropane	U	1.0	U	100	U	100	U	100	U	100
Dibromomethane	U	1.0	U	100	U	100	U	100	U	100
Bromodichloromethane	U	1.0	U	100	U	100	U	100	U	100
cis-1,3-Dichloropropene	U	1.0	U	100	U	100	U	100	U	100
trans-1,3-Dichloropropene	U	1.0	U	100	U	100	U	100	U	100
1,1,2-Trichloroethane	U	1.0	U	100	U	100	U	100	U	100
1,3-Dichloropropane	U	1.0	U	100	U	100	U	100	U	100
Dibromochloromethane	U	1.0	U	100	U	100	U	100	U	100
1,2-Dibromoethane	U	1.0	U	100	U	100	U	100	U	100

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab Blank #2	26260	26257	26258	26259
Location :		TANK 115	TANK 102	TANK 108	TANK 113
Collected :		07/16	07/16	07/16	07/16
Analyzed :	3 Aug 1999	3 Aug 1999	3 Aug 1999	3 Aug 1999	3 Aug 1999
Injected :	11:40 AM	3:05 pm	3:56 pm	4:47 pm	5:38 pm
File :	BV0268.D	BV0272.D	BV0273.D	BV0274.D	BV0275.D
Dil. Fact. :	1.0	100	100	100	100

Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Bromoform	U	1.0	U	100	U	100	U	100	U	100
4-Methyl-2-Pentanone	U	2.0	U	200	U	200	U	200	U	200
Toluene	U	1.0	U	100	U	100	U	100	U	100
Tetrachloroethene	U	1.0	U	100	U	100	U	100	U	100
2-Hexanone	U	2.0	U	200	U	200	U	200	U	200
Chlorobenzene	U	1.0	U	100	U	100	U	100	U	100
Ethylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,1,1,2-Tetrachloroethane	U	1.0	U	100	U	100	U	100	U	100
p&m-Xylene	U	1.0	U	100	U	100	U	100	U	100
o-Xylene	U	1.0	U	100	U	100	U	100	U	100
Styrene	U	1.0	U	100	U	100	U	100	U	100
Isopropylbenzene	U	1.0	U	100	U	100	U	100	U	100
Bromobenzene	U	1.0	U	100	U	100	U	100	U	100
1,1,2,2-Tetrachloroethane	U	1.0	U	100	U	100	U	100	U	100
n-Propylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,2,3-Trichloropropane	U	1.0	U	100	U	100	U	100	U	100
2-Chlorotoluene	U	1.0	U	100	U	100	U	100	U	100
1,3,5-Trimethylbenzene	U	1.0	U	100	U	100	U	100	U	100
4-Chlorotoluene	U	1.0	U	100	U	100	U	100	U	100
tert-Butylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,2,4-Trimethylbenzene	U	1.0	U	100	U	100	U	100	U	100
sec-Butylbenzene	U	1.0	U	100	U	100	U	100	U	100
p-Isopropyltoluene	U	1.0	U	100	U	100	U	100	U	100
1,3-Dichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
1,4-Dichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
n-Butylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dibromo-3-chloropropane	U	1.0	U	100	U	100	U	100	U	100
1,2,4-Trichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
Hexachlorobutadiene	U	1.0	U	100	U	100	U	100	U	100
Naphthalene	U	1.0	U	100	U	100	U	100	U	100
1,2,3-Trichlorobenzene	U	1.0	U	100	U	100	U	100	U	100

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab Blank #2	26261	26262	26263	26264
Location :		TANK 116	TANK 117	TANK 118	TANK 119
Collected :		07/16	07/16	07/16	07/16
Analyzed :	3 Aug 1999	3 Aug 1999	3 Aug 1999	3 Aug 1999	3 Aug 1999
Injected :	11:40 AM	6:29 pm	7:21 pm	8:13 pm	9:05 pm
File :	BV0268.D	BV0276.D	BV0277.D	BV0278.D	BV0279.D
Dil. Fact. :	1.0	100	100	100	100

Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Dichlorodifluoromethane	U	1.0	U	100	U	100	U	100	U	100
Chloromethane	U	1.0	U	100	U	100	U	100	U	100
Vinyl Chloride	U	1.0	U	100	U	100	U	100	U	100
Bromomethane	U	2.0	U	200	U	200	U	200	U	200
Chloroethane	U	1.0	U	100	U	100	U	100	U	100
Trichlorofluoromethane	U	1.0	U	100	U	100	U	100	U	100
1,1-Dichloroethene	U	1.0	U	100	U	100	U	100	U	100
trans-1,2-Dichloroethene	U	1.0	U	100	U	100	U	100	U	100
Acetone	U	2.0	1800	200	700	200	3200	200	2800	200
Carbon Disulfide	U	1.0	U	100	U	100	U	100	U	100
Methylene Chloride	U	1.0	U	100	U	100	U	100	U	100
Methyl-t-butyl Ether	U	1.0	U	100	U	100	U	100	U	100
cis-1,2-Dichloroethene	U	1.0	U	100	U	100	U	100	U	100
1,1-Dichloroethane	U	1.0	U	100	U	100	U	100	U	100
2,2-Dichloropropane	U	1.0	U	100	U	100	U	100	U	100
2-Butanone	U	4.0	U	400	U	400	U	400	U	400
Chloroform	U	1.0	U	100	U	100	U	100	U	100
1,1-Dichloropropene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dichloroethane	U	1.0	U	100	U	100	U	100	U	100
1,1,1-Trichloroethane	U	1.0	U	100	U	100	U	100	U	100
Carbon Tetrachloride	U	1.0	U	100	U	100	U	100	U	100
Benzene	U	1.0	U	100	U	100	U	100	U	100
Trichloroethene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dichloropropane	U	1.0	U	100	U	100	U	100	U	100
Dibromomethane	U	1.0	U	100	U	100	U	100	U	100
Bromodichloromethane	U	1.0	U	100	U	100	U	100	U	100
cis-1,3-Dichloropropene	U	1.0	U	100	U	100	U	100	U	100
trans-1,3-Dichloropropene	U	1.0	U	100	U	100	U	100	U	100
1,1,2-Trichloroethane	U	1.0	U	100	U	100	U	100	U	100
1,3-Dichloropropane	U	1.0	U	100	U	100	U	100	U	100
Dibromochloromethane	U	1.0	U	100	U	100	U	100	U	100
1,2-Dibromoethane	U	1.0	U	100	U	100	U	100	U	100

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab Blank #2		26261		26262		26263		26264	
Location :			TANK 116		TANK 117		TANK 118		TANK 119	
Collected :			07/16		07/16		07/16		07/16	
Analyzed :	3 Aug 1999		3 Aug 1999		3 Aug 1999		3 Aug 1999		3 Aug 1999	
Injected :	11:40 AM		6:29 pm		7:21 pm		8:13 pm		9:05 pm	
File :	BV0268.D		BV0276.D		BV0277.D		BV0278.D		BV0279.D	
Dil. Fact. :	1.0		100		100		100		100	
Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Bromoform	U	1.0	U	100	U	100	U	100	U	100
4-Methyl-2-Pentanone	U	2.0	U	200	U	200	U	200	U	200
Toluene	U	1.0	U	100	U	100	U	100	U	100
Tetrachloroethene	U	1.0	U	100	U	100	U	100	U	100
2-Hexanone	U	2.0	U	200	U	200	U	200	U	200
Chlorobenzene	U	1.0	U	100	U	100	U	100	U	100
Ethylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,1,1,2-Tetrachloroethane	U	1.0	U	100	U	100	U	100	U	100
p&m-Xylene	U	1.0	U	100	U	100	U	100	U	100
o-Xylene	U	1.0	U	100	U	100	U	100	U	100
Styrene	U	1.0	U	100	U	100	U	100	U	100
Isopropylbenzene	U	1.0	U	100	U	100	U	100	U	100
Bromobenzene	U	1.0	U	100	U	100	U	100	U	100
1,1,2,2-Tetrachloroethane	U	1.0	U	100	U	100	U	100	U	100
n-Propylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,2,3-Trichloropropane	U	1.0	U	100	U	100	U	100	U	100
2-Chlorotoluene	U	1.0	U	100	U	100	U	100	U	100
1,3,5-Trimethylbenzene	U	1.0	U	100	U	100	U	100	U	100
4-Chlorotoluene	U	1.0	U	100	U	100	U	100	U	100
tert-Butylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,2,4-Trimethylbenzene	U	1.0	U	100	U	100	U	100	U	100
sec-Butylbenzene	U	1.0	U	100	U	100	U	100	U	100
p-Isopropyltoluene	U	1.0	U	100	U	100	U	100	U	100
1,3-Dichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
1,4-Dichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
n-Butylbenzene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
1,2-Dibromo-3-chloropropane	U	1.0	U	100	U	100	U	100	U	100
1,2,4-Trichlorobenzene	U	1.0	U	100	U	100	U	100	U	100
Hexachlorobutadiene	U	1.0	U	100	U	100	U	100	U	100
Naphthalene	U	1.0	U	100	U	100	750	100	U	100
1,2,3-Trichlorobenzene	U	1.0	U	100	U	100	U	100	U	100

Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab Blank #2	26268
Location :		TANK 408
Collected :		07/16
Analyzed :	3 Aug 1999	3 Aug 1999
Injected :	11:40 AM	9:56 pm
File :	BV0268.D	BV0280.D
Dil. Fact. :	1.0	100

Analyte	Conc ug/l	MDL ug/l	Conc ug/l	MDL ug/l
Dichlorodifluoromethane	U	1.0	U	100
Chloromethane	U	1.0	U	100
Vinyl Chloride	U	1.0	U	100
Bromomethane	U	2.0	U	200
Chloroethane	U	1.0	U	100
Trichlorofluoromethane	U	1.0	U	100
1,1-Dichloroethene	U	1.0	U	100
trans-1,2-Dichloroethene	U	1.0	U	100
Acetone	U	2.0	U	200
Carbon Disulfide	U	1.0	U	100
Methylene Chloride	U	1.0	U	100
Methyl-t-butyl Ether	U	1.0	U	100
cis-1,2-Dichloroethene	U	1.0	U	100
1,1-Dichloroethane	U	1.0	U	100
2,2-Dichloropropane	U	1.0	U	100
2-Butanone	U	4.0	U	400
Chloroform	U	1.0	U	100
1,1-Dichloropropene	U	1.0	U	100
1,2-Dichloroethane	U	1.0	U	100
1,1,1-Trichloroethane	U	1.0	U	100
Carbon Tetrachloride	U	1.0	U	100
Benzene	U	1.0	U	100
Trichloroethene	U	1.0	U	100
1,2-Dichloropropane	U	1.0	U	100
Dibromomethane	U	1.0	U	100
Bromodichloromethane	U	1.0	U	100
cis-1,3-Dichloropropene	U	1.0	U	100
trans-1,3-Dichloropropene	U	1.0	U	100
1,1,2-Trichloroethane	U	1.0	U	100
1,3-Dichloropropane	U	1.0	U	100
Dibromochloromethane	U	1.0	U	100
1,2-Dibromoethane	U	1.0	U	100

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Table 1.1 (Cont) Results of the Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample # :	Lab Blank #2		26268	
Location :			TANK 408	
Collected :			07/16	
Analyzed :	3 Aug 1999		3 Aug 1999	
Injected :	11:40 AM		9:56 pm	
File :	BV0268.D		BV0280.D	
Dil. Fact. :	1.0		100	
Analyte	Conc	MDL	Conc	MDL
Bromoform	U	1.0	U	100
4-Methyl-2-Pentanone	U	2.0	U	200
Toluene	U	1.0	U	100
Tetrachloroethene	U	1.0	U	100
2-Hexanone	U	2.0	U	200
Chlorobenzene	U	1.0	U	100
Ethylbenzene	U	1.0	U	100
1,1,1,2-Tetrachloroethane	U	1.0	U	100
p&m-Xylene	U	1.0	U	100
o-Xylene	U	1.0	U	100
Styrene	U	1.0	U	100
Isopropylbenzene	U	1.0	U	100
Bromobenzene	U	1.0	U	100
1,1,2,2-Tetrachloroethane	U	1.0	U	100
n-Propylbenzene	U	1.0	U	100
1,2,3-Trichloropropane	U	1.0	U	100
2-Chlorotoluene	U	1.0	U	100
1,3,5-Trimethylbenzene	U	1.0	U	100
4-Chlorotoluene	U	1.0	U	100
tert-Butylbenzene	U	1.0	U	100
1,2,4-Trimethylbenzene	U	1.0	U	100
sec-Butylbenzene	U	1.0	U	100
p-Isopropyltoluene	U	1.0	U	100
1,3-Dichlorobenzene	U	1.0	U	100
1,4-Dichlorobenzene	U	1.0	U	100
n-Butylbenzene	U	1.0	U	100
1,2-Dichlorobenzene	U	1.0	U	100
1,2-Dibromo-3-chloropropane	U	1.0	U	100
1,2,4-Trichlorobenzene	U	1.0	U	100
Hexachlorobutadiene	U	1.0	U	100
Naphthalene	U	1.0	U	100
1,2,3-Trichlorobenzene	U	1.0	U	100

Table 1. 2 Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	Compound
Lab. Blank # 1	NO PEAKS FOUND
26257	NO PEAKS FOUND
26260	NO PEAKS FOUND
26258	NO PEAKS FOUND
26259	NO PEAKS FOUND
26261	NO PEAKS FOUND
26262	NO PEAKS FOUND
26268	NO PEAKS FOUND
Lab Blank # 2	NO PEAKS FOUND

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	26255	Unit	µg/L
LabFile#	BV0259	Con. Factor	100000

	CAS#	Compound	Q	RT	Conc*
1		Unknown		14.64	8290000
2		Unknown		15.56	9971000
3		Unknown		16.77	5100000
4		Unknown		16.91	15125000
5		Trimethylcyclohexane Isomer		17.71	6221000
6	000 592-27-8	2-Methylheptane	90	18.09	11391000
7		Unknown		18.42	9332000
8		Dimethylcyclohexanone Isomer		19.01	17130000
9		Dimethylcyclohexane Isomer		19.85	6328000
10	001678-91-7	Ethylcyclohexane	86	21.14	9199000
11		Unknown		21.24	11325000
12		Unknown		23.76	6626000
13		Unknown		24.36	11150000
14		Unknown		24.45	6016000
15		Ethylmethylbenzene Isomer		26.05	21000000
16		Ethylmethylbenzene Isomer		26.80	5655000
17		Trimethylbenzene Isomer		28.30	6532000
18		Unknown		28.99	8194000
19		Tetramethylbenzene Isomer		31.40	6024000
20		Tetramethylbenzene Isomer		32.86	13853000

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	26256	Unit	µg/L
LabFile#	BV0260	Con. Factor	100000

	CAS#	Compound	Q	RT	Conc*
1		Unknown		26.06	33650000
2		Ethylmethylbenzene Isomer		26.13	9785000
3		Ethylmethylbenzene Isomer		26.80	11654000
4		Unknown		28.30	15871000
5		Methylpropylbenzene Isomer		28.77	17703000
6		Unknown		28.84	9704000
7		Ethyldimethylbenzene Isomer		28.93	33070000
8		Ethyldimethylbenzene Isomer		29.69	14400000
9		Ethyldimethylbenzene Isomer		29.79	13404000
10		Ethyldimethylbenzene Isomer		29.99	24304000
11		Unknown		30.41	13488000
12		Tetramethylbenzene Isomer		31.22	13515000
13		Tetramethylbenzene Isomer		31.40	19460000
14		Unknown		32.25	23060000
15		Unknown		32.85	12483000
16		Unknown		32.95	23202000
17		Unknown		34.09	10692000
18		Unknown		34.34	9454000
19		Unknown		34.76	10676000
20		Methylnaphthalene Isomer		41.86	9939000

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	26265	Unit	µg/L
LabFile#	BV0261	Con. Factor	50000

	CAS#	Compound	Q	RT	Conc*
1		Ethylmethylbenzene Isomer		26.05	2857500
2		Ethylmethylbenzene Isomer		26.80	1433000
3	001074-43-7	1-Methyl-3-propylbenzene	91	28.77	1394500
4		Unknown		28.92	1876500
5		Unknown		29.47	1308500
6		Ethyldimethylbenzene Isomer		29.69	1346000
7		Unknown		30.39	3055000
8		Unknown		32.12	1860000
9		Unknown		32.33	2777500
10		Unknown		32.57	1494000
11		Unknown		32.86	2865000
12		Unknown		32.94	2109000
13		Unknown		34.76	1472000
14		Unknown		36.25	1976500
15		Unknown		38.36	2037500
16		Unknown		39.42	1392000
17		Unknown		40.32	1353000
18		Unknown		41.42	1502000
19		Methylnaphthalene Isomer		41.87	4060000
20		Methylnaphthalene Isomer		43.17	1536000

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	26266	Unit	µg/L
LabFile#	BV0262	Con. Factor	200000

	CAS#	Compound	Q	RT	Conc*
1	000107-83-5	2-Methylpentane	87	10.42	6236000
2	000096-14-0	3-Methylpentane	90	10.99	4538000
3	000110-54-3	Hexane	91	11.60	13740000
4	000096-37-7	Methylcyclopentane	91	13.02	13052000
5		Unknown		14.24	11054000
6	000110-82-7	Cyclohexane	72	14.47	17866000
7		Unknown		14.64	15880000
8		Unknown		14.83	3892000
9		Unknown		15.19	3754000
10		Unknown		15.45	5738000
11		Alkane		15.56	10722000
12		Unknown		16.77	4390000
13		Unknown		16.91	19178000
14		Unknown		18.09	6254000
15		Unknown		18.42	6312000
16		Unknown		19.01	9702000
17		Unknown		19.84	3746000
18		Unknown		21.14	4738000
19		Unknown		21.24	4680000
20		Ethylmethylbenzene Isomer		26.06	7092000

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	26267	Unit	µg/L
LabFile#	BV0263	Con. Factor	200000

	CAS#	Compound	Q	RT	Conc*
1		Alkane		7.35	3880000
2		Alkane		8.07	8868000
3		Alkane		10.41	10998000
4	000096-14-0	3-Methylpentane	86	10.99	7382000
5	000110-54-3	Hexane	91	11.59	18326000
6	000096-37-7	Methylcyclopentane	91	13.02	18814000
7		Unknown		14.25	7622000
8		Unknown		14.47	15354000
9		Alkane		14.64	13878000
10		Unknown		14.83	3978000
11		Unknown		15.18	4434000
12		Unknown		15.43	6926000
13		Alkane		15.56	7738000
14		Unknown		16.77	3950000
15		Unknown		16.91	13970000
16		Unknown		18.09	3594000
17		Unknown		19.01	6672000
18		Unknown		21.15	3434000
19		Ethylmethylbenzene Isomer		26.05	4794000
20		Ethylmethylbenzene Isomer		32.86	5558000

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	26263	Unit	µg/L
LabFile#	BV0278	Con. Factor	100

	CAS#	Alkane	Q	RT	Conc*
1		Tetradecane		29.01	887
2		Unknown		30.78	611
3	000112-40-3	Dodecane	94	32.32	5137
4		Unknown		32.58	669
5		Tetramethylbenzene Isomer		32.85	3777
6	025550-13-4	Diethylmethylbenzene	93	34.22	710
7		Unknown		34.76	1651
8		Unknown		34.87	1200
9		Unknown		35.29	1614
10		Unknown		35.47	684
11	000629-50-5	Tridecane	94	36.56	5698
12		Unknown		37.11	678
13		Unknown		39.02	1453
14		Unknown		39.76	972
15		Unknown		40.07	718
16		Unknown		40.29	1704
17		Unknown		41.00	1267
18		Methylnaphthalene Isomer		41.87	3164
19		Alkane		42.43	3188
20		Methylnaphthalene Isomer		43.18	1976

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	26264	Unit	µg/L
LabFile#	BV0279	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Dimethylnaphthalene Isomer		29.75	897
2		Dimethylnaphthalene Isomer		30.19	667
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23038	Unit	µg/L
LabFile#	BV0191	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.31	4232
2		Unknown		7.08	503
3		Alcohol		8.60	592
4		Unknown acid		10.31	8135
5		Unknown siloxane		25.20	643
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23047	Unit	µg/L
LabFile#	BV0192	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.31	949
2		Unknown acid		10.31	671
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23060	Unit	µg/L
LabFile#	BV0193	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.33	1071
2		Unknown acid		10.31	1111
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23061	Unit	µg/L
LabFile#	BV0194	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.31	1141
2		Unknown acid		10.31	4934
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23062	Unit	µg/L
LabFile#	BV0195	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.32	954
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23063	Unit	µg/L
LabFile#	BV0196	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.31	961
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23064	Unit	µg/L
LabFile#	BV0197	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.31	921
2		Unknown acid		10.29	761
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23065	Unit	µg/L
LabFile#	BV0198	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.31	578
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.2 (cont.) Results of TIC for VOC in Waste Oil
WA # 0-072 South Central Terminal

Sample #	23066	Unit	µg/L
LabFile#	BV0199	Con. Factor	100

	CAS#	Compound	Q	RT	Conc*
1		Unknown aldehyde		6.31	734
2		Unknown acid		10.29	941
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

*Estimated Concentration (Response Factor = 1.0)

Table 1.3 Results of the Analysis for PCBs in Waste Oil
WA # 0-072 South Central Terminal
Reported on an "as received " basis

Client ID	OBLK072799		26210		26211		26212		26213	
Location	-		Tank 6		Tank 13		Tank 32		Tank 40	
Analyte	Conc. µg	MDL µg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg
Aroclor 1016	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1221	U	5000	U	5000	U	5000	U	5000	U	5000
Aroclor 1232	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1242	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1248	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1254	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1260	U	2500	3800	2500	560 JW	2500	U	2500	U	2500
Aroclor 1268	U	2500	U	2500	U	2500	U	2500	U	2500

Client ID	26214		26215		26216		26217		26218	
Location	Tank 41		Tank 42		Tank 90		Tank 113		Tank 115	
Analyte	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg
Aroclor 1016	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1221	U	5000	U	5000	U	5000	U	5000	U	5000
Aroclor 1232	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1242	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1248	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1254	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1260	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1268	U	2500	U	2500	U	2500	U	2500	U	2500

Client ID	26219		26220		26221		26222		26223	
Location	Tank 116		Tank 117		Tank 118		Tank 119		Tank 304	
Analyte	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg
Aroclor 1016	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1221	U	5000	U	5000	U	5000	U	5000	U	5000
Aroclor 1232	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1242	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1248	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1254	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1260	U	2500	U	2500	U	2500	U	2500	1700 JW	2500
Aroclor 1268	U	2500	U	2500	U	2500	U	2500	U	2500

Table 1.3 (cont.) Results of the Analysis for PCBs in Waste Oil
WA # 0-072 South Central Terminal
Reported on an "as received " basis

Client ID	26224		26225		26226		26227		26228	
Location	Tank 307		Tank 311		Tank 313		Tank 401		Tank 402	
Analyte	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg
Aroclor 1016	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1221	U	5000	U	5000	U	5000	U	5000	U	5000
Aroclor 1232	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1242	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1248	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1254	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1260	U	2500	U	2500	1100 JW	2500	U	2500	U	2500
Aroclor 1268	U	2500	U	2500	U	2500	U	2500	U	2500

Client ID	26229		26230		26231		26232		26233	
Location	Tank 403		Tank 404		Tank 407		Tank 409		Tank 411	
Analyte	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg
Aroclor 1016	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1221	U	5000	U	5000	U	5000	U	5000	U	5000
Aroclor 1232	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1242	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1248	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1254	U	2500	U	2500	U	2500	U	2500	U	2500
Aroclor 1260	U	2500	4600	2500	U	2500	1800 J	2500	U	2500
Aroclor 1268	U	2500	U	2500	U	2500	U	2500	U	2500

Client ID	26234		26235	
Location	Tank 4013		T1, T2, T3	
Analyte	Conc. µg/kg	MDL µg/kg	Conc. µg/kg	MDL µg/kg
Aroclor 1016	U	2500	U	2500
Aroclor 1221	U	5000	U	5000
Aroclor 1232	U	2500	U	2500
Aroclor 1242	U	2500	U	2500
Aroclor 1248	U	2500	U	2500
Aroclor 1254	U	2500	U	2500
Aroclor 1260	U	2500	U	2500
Aroclor 1268	U	2500	U	2500

Table 1.4 Results of the Analysis for Percent Sulfur in Waste Oil
WA # 0-072 South Central Terminal

Sample Number	Sampling Location	Sulfur Wt %	MDL Wt %
26304	Tank 401	0.2	0.1
26305	Tank 402	0.3	0.1
26306	Tank 403	0.3	0.1
26286	Tank 113	1.7	0.1
26287	Tank 115	4.4	0.1
26288	Tank 116	3.1	0.1
26289	Tank 117	U	0.1
26311	Tank 409	2.1	0.1
26313	Tank 411	0.3	0.1
26315	Tank 413	0.6	0.1
26307	Tank 404	0.1	0.1
26274	Tank 32A	2.8	0.1
26280	Tank 90	0.6	0.1
26291	Tank 119	3.0	0.1
26294	Tank 302	U	0.1
26300	Tank 311	0.4	0.1
26302	Tank 313	U	0.1

Table 1.5 Results of the Analysis for Extractable Organic Halides**, BTU, NH_3 and Sulfides in Waste Oil
WA # 0-C72 South Central Terminal

Sample Number	Sampling Location	TOX** mg/kg	MDL mg/kg	BTU BTU/lb	MDL BTU/lb	NH_3 mg/kg	MDL mg/kg	Sulfide mg/L	MDL mg/L
Blank***		NR	NA	NR	NA	U	0.1	NR	NA
Method Blank	-	U	46.4	NR	NA	NR	NA	NR	NA
26270	Tank 6	118	44	NR	NA	NR	NA	NR	NA
26271	Tank 13	297	48.6	108000	3200	NR	NA	NR	NA
26272	Tank 30	U	31.9	NR	NA	NR	NA	NR	NA
26273	Tank 31	U	39.5	NR	NA	NR	NA	NR	NA
26274	Tank 32A	708	42.5	58400	480	NR	NA	MI	NA
26275	Tank 34	396	39.8	NR	NA	NR	NA	NR	NA
26276	Tank 40	500	41.5	NR	NA	NR	NA	NR	NA
26277	Tank 41	1190	37.0	NR	NA	NR	NA	NR	NA
26278	Tank 42	788	49.5	NR	NA	NR	NA	NR	NA
26279	Tank 43	568	47.7	NR	NA	NR	NA	NR	NA
26280	Tank 90	1760	38.3	16200	330	NR	NA	U	2.0
26281	Tank 100	1170	36.2	15500	290	NR	NA	NR	NA
26282	Tank 102	U	42.9	U	230	NR	NA	NR	NA
26283	Tank 103	U	38.3	NR	NA	NR	NA	NR	NA
26284	Tank 108	U	40.2	U	460	NR	NA	NR	NA
26285	Tank 111	1190	48.6	NR	NA	NR	NA	NR	NA
26286	Tank 113	NR	NA	NR	NA	14400	1350	4.0	2.0
26287	Tank 115	NR	NA	NR	NA	5110	1190	MI	NA
26288	Tank 116	NR	NA	NR	NA	4650	1320	MI	NA
26289	Tank 117	NR	NA	NR	NA	6090	1390	MI	NA
Blank***		NR	NA	NR	NA	U	0.1	NR	NA
Method Blank	-	U	46.4	NR	NA	NR	NA	NR	NA
26290	Tank 118	U	45.9	U	820	NR	NA	NR	NA
26291	Tank 119	NR	NA	NR	NA	6400	1320	U	2.0
26292	Tank 300	808	45.1	16200	1000	NR	NA	NR	NA
26293	Tank 301	84.3	50.0	NR	NA	NR	NA	NR	NA
26294	Tank 302	U	35.9	1140	510	NR	NA	16	2.0
26295	Tank 304	2640	45.5	15400	700	NR	NA	NR	NA
26296	Tank 305	122	41.5	NR	NA	NR	NA	NR	NA
26297	Tank 307	2300	48.1	14600	620	NR	NA	NR	NA
26298	Tank 309	574	45.5	NR	NA	NR	NA	NR	NA
26299	Tank 310	246	60.0	NR	NA	NR	NA	NR	NA
26300	Tank 311	1440	44.7	12700	1700	NR	NA	8.0	2.0
26301	Tank 312	742	43.2	NR	NA	NR	NA	NR	NA
26302	Tank 313	274	34.5	U	720	NR	NA	7.0	2.0
26303	Tank 314	U	40.8	NR	NA	NR	NA	NR	NA
26304	Tank 401	1470	49.5	17100	430	NR	NA	MI	NA
26305	Tank 402	100	47.7	15700	820	NR	NA	2.0	2.0
26306	Tank 403	793	101	U	880	NR	NA	U	2.0
26307	Tank 404	96.7	48.6	2920	1200	NR	NA	U	2.0
26308	Tank 406	1030	42.0	NR	NA	NR	NA	NR	NA
26309	Tank 407	1070	38.1	NR	NA	NR	NA	NR	NA
Method Blank	-	U	46.4	NR	NA	NR	NA	NR	NA
26310	Tank 408	U	41.5	U	630	NR	NA	NR	NA
26311	Tank 409	620	105	U	5800	NR	NA	2.0	2.0
26312	Tank 410	1040	38.6	NR	NA	NR	NA	NR	NA
26313	Tank 411	829	45.5	9820	970	NR	NA	U	2.0
26314	Tank 412	621	88.7	NR	NA	NR	NA	NR	NA
26315	Tank 413	682	52.0	14400	510	NR	NA	4.0	2.0
26316	Tank 414	338	40.2	NR	NA	NR	NA	NR	NA

** TOX and Extractable Organic Halides are equivalent terms
NR denotes Not Requested
NA denotes Not Applicable
*** The units for this blank are mg/L

Table 1.6 Results of the Analysis for Metals in Waste Liquid
WA # 0-072 South Central Terminal

Sample No.	Method Blank 1		26242		26243		26244		26245	
Sample Location	-		TANK 102		TANK 108		TANK 113		TANK 115	
Metal	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L
Silver	U	3	U	30	U	30	U	30	U	30
Aluminum	U	200	U	2000	U	2000	11000	2000	U	2000
Arsenic	U	5	U	50	292	50	196	50	283	50
Barium	U	5	U	50	U	50	321	50	85.5	50
Beryllium	U	3	U	30	U	30	U	30	U	30
Calcium	U	500	U	5000	26300	5000	324000	5000	287000	5000
Cadmium	U	3	U	30	U	30	60.6	30	U	30
Cobalt	U	5	U	50	U	50	613	50	90.5	50
Chromium	U	5	U	50	165	50	344	50	855	50
Copper	U	5	260	50	57.1	50	997	50	957	50
Iron	U	100	17700	1000	95100	1000	2000000	1000	1860000	1000
Mercury	U	0.2	U	2	U	2	U	2	U	2
Potassium	U	500	U	5000	593000	5000	1470000	5000	5630000	5000
Magnesium	U	250	U	2500	76000	2500	1360000	2500	1260000	2500
Manganese	U	5	U	50	3260	50	47200	50	17600	50
Sodium	U	1000	138000	10000	2430000	10000	207000	10000	1320000	10000
Nickel	U	5	U	50	72.2	50	1460	50	1420	50
Lead	U	3	237	30	62.4	30	110	30	260	30
Antimony	U	5	U	50	U	50	U	50	U	50
Selenium	U	5	U	50	U	50	U	50	371	50
Thallium	U	10	U	100	U	100	U	100	U	100
Vanadium	U	5	U	50	U	50	239	50	U	50
Zinc	U	5	165	50	81.6	50	1850	50	22400	50

Table 1.6 (Cont) Results of the Analysis for Metals in Waste Liquid
WA # 0-072 South Central Terminal

Sample No.	Method Blank 1		26246		26247		26249		26254	
Sample Location	-		TANK 116		TANK 117		TANK 119		TANK 408	
Metal	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L	Conc ug/L	MDL ug/L
Silver	U	3	U	30	U	30	U	30	U	30
Aluminum	U	200	4630	2000	U	2000	U	2000	U	2000
Arsenic	U	5	138	50	U	50	199	50	50.9	50
Barium	U	5	96.6	50	U	50	111	50	3780	50
Beryllium	U	3	U	30	U	30	U	30	U	30
Calcium	U	500	193000	5000	89000	5000	228000	5000	628000	5000
Cadmium	U	3	U	30	U	30	U	30	U	30
Cobalt	U	5	126	50	U	50	U	50	U	50
Chromium	U	5	246	50	273	50	226	50	U	50
Copper	U	5	877	50	193	50	283	50	U	50
Iron	U	100	176000	1000	401000	1000	94000	1000	219000	1000
Mercury	U	0.2	U	2	4.4	2	4.4	2	U	2
Potassium	U	500	3400000	50000	1360000	50000	4110000	50000	106000	50000
Magnesium	U	250	938000	2500	261000	2500	1040000	2500	286000	2500
Manganese	U	5	24700	50	6610	50	10600	50	1580	50
Sodium	U	1000	757000	10000	287000	10000	831000	10000	7270000	10000
Nickel	U	5	548	50	212	50	547	50	U	50
Lead	U	3	176	30	U	30	268	30	U	30
Antimony	U	5	U	50	U	50	74.4	50	U	50
Selenium	U	5	228	50	64.5	50	310	50	U	50
Thallium	U	10	U	100	U	100	U	100	U	100
Vanadium	U	5	93.8	50	U	50	U	50	U	50
Zinc	U	5	13700	50	710	50	16700	50	57.7	50

Table 1.7 Results of the Analysis for Metals in Solid
WA # 0-072 South Central Terminal
(based on dry weight)

Sample No.	Method Blank 1		26252	
Sample Location	-		TANK 305	
% Solid			82.8	
Metal	**Conc mg/kg**	**MDL mg/kg**	**Conc mg/kg**	**MDL mg/kg**
Silver	U	0.3	U	0.7
Aluminum	U	20	27600	46.5
Arsenic	U	0.5	2.2	1.2
Barium	U	0.5	62.5	1.2
Beryllium	U	0.3	1.8	0.7
Calcium	U	50	22100	116
Cadmium	U	0.3	2.1	0.7
Cobalt	U	0.5	6.1	1.2
Chromium	U	0.5	82.1	1.2
Copper	U	0.5	14.5	1.2
Iron	U	10	21800	23.2
Mercury	U	0.03	U	0.04
Potassium	U	50	2360	116
Magnesium	U	25	30000	58.1
Manganese	U	0.5	468	1.2
Sodium	U	100	264	232
Nickel	U	0.5	17.6	1.2
Lead	U	0.3	214	0.7
Antimony	U	0.5	U	1.2
Selenium	U	0.5	U	1.2
Thallium	U	1	U	2.3
Vanadium	U	0.5	69.2	1.2
Zinc	U	0.5	108	1.2

Table 1.8 Results of the Analysis for Metals in Solid Waste
WA # 0-072 South Central Terminal

Sample No.	Method Blank 1		26240		26241		26248	
Sample Location	-		TANK 13		TANK 100		TANK 118	
Metal	Conc mg/kg	MDL mg/kg	Conc mg/kg	MDL mg/kg	Conc mg/kg	MDL mg/kg	Conc mg/kg	MDL mg/kg
Silver	U	0.3	U	0.29	U	0.29	U	0.3
Aluminum	U	20	22.7	19	U	19	U	20
Arsenic	U	0.5	U	0.48	0.85	0.48	U	0.5
Barium	U	0.5	U	0.48	U	0.48	U	0.5
Beryllium	U	0.3	U	0.29	U	0.29	U	0.3
Calcium	U	50	U	47.6	U	47.6	225	50
Cadmium	U	0.3	U	0.29	U	0.29	U	0.3
Cobalt	U	0.5	U	0.48	U	0.48	U	0.5
Chromium	U	0.5	U	0.48	U	0.48	0.88	0.5
Copper	U	0.5	U	0.48	U	0.48	2.1	0.5
Iron	U	10	U	9.5	U	9.5	1310	10
Mercury	U	0.03	U	0.03	0.50	0.03	U	0.03
Potassium	U	50	U	47.6	U	47.6	3310	50
Magnesium	U	25	U	23.8	U	23.8	725	25
Manganese	U	0.5	U	0.48	0.60	0.48	14.1	0.5
Sodium	U	100	U	95.2	U	95.2	798	100
Nickel	U	0.5	U	0.48	U	0.48	0.89	0.5
Lead	U	0.3	U	0.29	223	0.29	0.40	0.3
Antimony	U	0.5	U	0.48	U	0.48	U	0.5
Selenium	U	0.5	0.63	0.48	1.7	0.48	U	0.5
Thallium	U	1	U	0.95	U	0.95	U	1
Vanadium	U	0.5	U	0.48	U	0.48	U	0.5
Zinc	0.885	0.5	0.98	0.48	1.4	0.48	15.8	0.5

Table 1.8 (Cont) Results of the Analysis for Metals in Solid Waste
WA # 0-072 South Central Terminal

Sample No.	Method Blank 1		26250		26251		26253	
Sample Location	-		TANK 300		TANK 304		TANK 307	
Metal	Conc mg/kg	MDL mg/kg	Conc mg/kg	MDL mg/kg	Conc mg/kg	MDL mg/kg	Conc mg/kg	MDL mg/kg
Silver	U	0.3	U	0.3	U	0.3	U	0.3
Aluminum	U	20	U	20	36.9	20	U	20
Arsenic	U	0.5	U	0.5	U	0.5	U	0.5
Barium	U	0.5	U	0.5	U	0.5	U	0.5
Beryllium	U	0.3	U	0.3	U	0.3	U	0.3
Calcium	U	50	U	50	U	50	U	50
Cadmium	U	0.3	U	0.3	U	0.3	U	0.3
Cobalt	U	0.5	U	0.5	U	0.5	U	0.5
Chromium	U	0.5	U	0.5	U	0.5	U	0.5
Copper	U	0.5	U	0.5	U	0.5	U	0.5
Iron	U	10	12.5	10	10.6	10	14.1	10
Mercury	U	0.03	0.04	0.03	0.18	0.03	U	0.03
Potassium	U	50	U	50	U	50	U	50
Magnesium	U	25	U	25	U	25	U	25
Manganese	U	0.5	U	0.5	U	0.5	U	0.5
Sodium	U	100	U	100	U	100	U	100
Nickel	U	0.5	U	0.5	U	0.5	U	0.5
Lead	U	0.3	0.66	0.3	U	0.3	U	0.3
Antimony	U	0.5	U	0.5	U	0.5	U	0.5
Selenium	U	0.5	0.86	0.5	U	0.5	U	0.5
Thallium	U	1	U	1	U	1	U	1
Vanadium	U	0.5	U	0.5	U	0.5	U	0.5
Zinc	0.885	0.5	0.76	0.5	0.83	0.5	2.4	0.5

Section II

QA/QC for VOC

Each sample was spiked with a three component mixture of CLP surrogate standards consisting of toluene-d_8, 4-bromofluorobenzene and 1,2-dichloroethane-d_4. The surrogate percent recoveries, listed in Table 2.1, ranged from 88 to 120. All fifty-seven were within the acceptable QC limits.

The internal standard areas (for bromochloromethane, 1,4-difluorobenzene, and chlorobenzene-d_5) are also listed in Table 2.1. Fifty-six out of fifty-seven areas are within the acceptable QC limits.

Sample 26258 (500x) was chosen for the matrix spike/matrix spike duplicate (MS/MSD) analyses. The percent recoveries, ranging from 92 to 110, are listed in Table 2.2. All ten values were within the acceptable QC limits. The relative percent differences, also listed in Table 2.2, ranged from 1 to 2, and all five values were within the acceptable QC limits.

Table 2.1 Results of the Surrogate Recoveries and Internal Standards Areas
for VOC in Waste Oil
MA # 0-072 South Central Terminal

File	Sample	(DCE) Surrogate Recovery %	(TOL)	(BFB)	(BCM) Internal Standard Responses	(DFB)	(CBZ)
BV0254.D	50 ug/mL	NA	NA	NA	133204	1158371	1223947
BV0258.D	Lb Blank#1	99	99	99	175373	1593824	1610659
BV0259.D	26255	103	95	120	169903	1520238	1698147
BV0260.D	26256	90	94	106	239660	2033502	2127010
BV0261.D	26265	88	95	103	261789	2224608	2290364
BV0262.D	26266	90	94	108	272234*	2304300	2408850
BV0263.D	26267	94	93	108	260290	2200689	2318653
BV0267.D	50 ug/mL	NA	NA	NA	198499	1678346	1721481
BV0268.D	Lb Blank#2	105	100	97	184964	1665683	1714788
BV0269.D	26258 MS	107	100	96	179606	1675580	1710736
BV0270.D	26258 MSD	108	101	96	178233	1658680	1683922
BV0271.D	26256	108	100	101	175248	1544105	1599264
BV0272.D	26260	105	100	96	199160	1761103	1774298
BV0273.D	26257	106	100	95	186795	1651756	1669707
BV0274.D	26258	108	101	96	177856	1600903	1617089
BV0275.D	26259	109	101	96	172437	1564462	1581846
BV0276.D	26261	110	101	95	169690	1537873	1553310
BV0277.D	26262	111	102	95	166300	1501585	1516393
BV0278.D	26263	113	102	95	158178	1462816	1488751
BV0279.D	26264	105	99	98	201624	1780786	1823991
BV0280.D	26268	104	99	96	195462	1752209	1777586

Surrogate		QC Limit (Soil)
Dichloroethylene	(DCE)	70-121
Toluene-d8	(TOL)	81-117
Bromofluorobenzene	(BFB)	74-121

Table 2.2 Results of the MS/MSD Analysis for VOC in Waste Oil
WA # 0-072 South Central Terminal

Spiked Sample: 26258 (500x)

(The results of non-spiked sample 26258 were reported at 100x)

Compound	Sample Conc µg/L	Spike Added µg/L	Spike Res µg/L	Dup Res µg/L	Spike %Rec	Dup %Rec	RPD	QC Limits RPD	QC Limits % Rec
1,1-Dichloroethene	U	50	54	55	108	110	2	22	59-172
Benzene	U	50	49	50	98	99	2	21	66-142
Trichloroethene	U	50	46	47	92	93	2	24	62-137
Toluene	U	50	49	50	97	99	2	21	59-139
Chlorobenzene	U	50	48	49	97	97	1	21	60-133

Results of the Analysis of the Laboratory Control Sample for Percent Sulfur in Waste Oil

The percent recovery of the laboratory control sample, listed in Table 2.5, was 121. QC limits are not available for this analysis.

Results of the Duplicate Analysis for Percent Sulfur in Waste Oil

Samples 26305 and 26311 were analyzed in duplicate. The relative percent differences (RPDs), listed in Table 2.4, were both 0 (zero). QC limits are not available for this analysis.

Table 2.3 Results of the Analysis of the Laboratory Control Sample for Percent Sulfur in Waste Oil WA # 0-072 South Central Terminal

Analyte	Certified Value %	Result %	% Rec
Sulfur	1.0	0.9	90

Table 2.4 Results of the Duplicate Analysis
for Percent Sulfur in Waste Oil
WA # 0-072 South Central Terminal

Analyte	Sample ID	Initial Analysis Wt %	Duplicate Analysis Wt %	RPD
Sulfur	26305	0.3	0.3	0
Sulfur	26311	2.1	2.1	0

Results of the Analysis of the Laboratory Control Sample for Ammonia in Waste Oil

The percent recovery of the laboratory control sample, listed in Table 2.5, was 127. QC limits are not available for this analysis.

Results of the MS Analysis for Ammonia in Waste Oil

Sample 26288 waas chosen for the matrix spike analysis (MS). The percent recovery, listed in Table 2.6, was 111. QC limits are not available for this analysis.

Results of the Duplicate Analysis for Ammonia in Waste Oil

Sample 26288 was analyzed in duplicate. The relative percent difference (RPD), listed in Table 2.7, was 5. QC limits are not available for this analysis.

Table 2.5 Results of the Analysis
of the Laboratory Control Sample
for Ammonia in Waste Oil
WA # 0-072 South Central Terminal

Analyte	Analyzed Value mg/kg	Accepted Value mg/kg	% Rec
Ammonia	86.1	67.8	127

Table 2.6 Results of the Matrix Spike Analysis
for Ammonia in Waste Oil
WA # 0-072 South Central Terminal

Analyte	Sample ID	Sample Conc mg/kg	Spike Conc mg/kg	Rec Conc mg/kg	% Rec
Ammonia	26288	4650	10500	16400	111

Table 2.7 Results of the Duplicate Analysis
for Ammonia in Waste Oil
WA # 0-072 South Central Terminal

Analyte	Sample	Initial Analysis mg/kg	Duplicate Analysis mg/kg	RPD
Ammonia	26288	4650	4900	5

QA/QC for Extractable Organic Halides

Results of the MS Analysis for Extractable Organic Halides in Waste Oil

Samples 26270 and 26290 were chosen for the matrix spike analysis (MS). The percent recoveries, listed in Table 2.8, ranged from 97 to 99. QC limits are not available for this analysis.

Results of the Duplicate Analysis for Extractable Organic Halides in Waste Oil

Sample 26270, 26290 were analyzed in duplicate. The relative percent difference (RPD), listed in Table 2.9, was 16. The RPD for one sample was not calculated because the analyte was not detected in either analysis. QC limits are not available for this analysis.

Table 2.8 Results of the Matrix Spike Analysis
for Extractable Organic Halides** in Waste Oil
WA # 0-072 South Central Terminal

Analyte	Sample ID	Sample Conc mg/kg	Spike Conc mg/kg	Rec Conc mg/kg	% Rec
TOX**	26270	118	4655	4713	99
TOX**	26290	U	2339	2264	97

**TOX and Extractable Organic Halides are equivalent terms

Table 2.9 Results of the Duplicate Analysis for Extractable Organic Halides** in Waste Oil WA # 0-072 South Central Terminal

Analyte	Sample	Initial Analysis mg/kg	Duplicate Analysis mg/kg	RPD
TOX**	26270	118	138	16
TOX**	26290	U	U	NC

**TOX and Extractable Organic Halides are equivalent terms

Results of the Duplicate Analysis for Sulfides in Waste Oil

Samples 26302 was analyzed in duplicate. The relative percent difference (RPD), listed in Table 2.10, was 13. QC limits are not available for this analysis.

Table 2.10 Results of the Duplicate Analysis
for Sulfides in Waste Oil
WA # 0-072 South Central Terminal

Analyte	Sample ID	Initial Analysis mg/L	Duplicate Analysis mg/L	RPD
Sulfides	26302	7	8	13

Results of the Duplicate Analysis for the BTU of Waste Oil

Sample 26271 was analyzed in duplicate. The relative percent difference (RPD), listed in Table 2.10, was 154. QC limits are not available for this analysis.

Table 2.11 Results of the Duplicate Analysis
for BTU in Waste Oil
WA # 0-072 South Central Terminal

Analyte	Sample ID	Initial Analysis BTU/lb	Duplicate Analysis BTU/lb	RPD
BTU	26271	108488	14060	154

Results of the Matrix Spike Analysis for Metals in Waste Liquid

Sample 26242 was chosen for the matrix spike (MS) for metals in waste liquids. The percent recovery, listed in Table 2.12, was 106 and it was within the acceptable QC limits.

Results of the Duplicate Analysis for Metals in Waste Liquid

The results of the duplicate analysis for metals in waste liquids are reported in Table 2.13. The relative percent difference was not calculated because the analyte was not detected in either analysis.

Results of the Analysis of the Laboratory Control Sample for Metals in Waste Liquid

The results of the analysis of the laboratory control sample for metals in waste liquids are listed in Table 2.14. The percent recoveries ranged from 95 to 107. QC limits are not available for this analysis.

Results of the Matrix Spike Analysis for Metals in Solid

Sample 26252 and a non-REAC sample were chosen for the matrix spike analysis (MS) for metals in solids. The percent recoveries, listed in Table 2.15, ranged from 39 to 140 and thirteen out of sixteen values were within the acceptable QC limits. Three other values were not calculated because the concentration of analyte in the sample was greater than four times the concentration spiked.

Results of the Duplicate Analysis for Metals in Solid

The results of the duplicate analysis for metals in solids are reported in Table 2.16. The relative percent differences ranged from 1 to 85 and fifteen out of eighteen values were within the acceptable QC limits. Five values were not calculated because the analyte was not detected in either analysis.

Results of the Analysis of the Laboratory Control Sample for Metals in Solid

The results of the analysis of the laboratory control sample for metals in solids are listed in Table 2.17. The percent recoveries ranged from 92 to 122 and all twenty-three values were within the acceptable QC limits.

Results of the Matrix Spike Analysis for Metals in Waste Solid

Sample 26240 was chosen for the matrix spike analysis (MS) for metals in waste solids. The percent recoveries, listed in Table 2.18, ranged from 98 to 117 and all eighteen values were within the acceptable QC limits.

Results of the Duplicate Analysis for Metals in Waste Solid

The results of the duplicate analysis for metals in solids are reported in Table 2.19. The relative percent differences ranged from 16 to 23 and all three values were within the acceptable QC limits. Twenty values were not calculated because the analyte was not detected in either analysis.

Results of the Analysis of the Laboratory Control Sample for Metals in Waste Solid

The results of the analysis of the laboratory control sample for metals in solids are listed in Table 2.20. The percent recovery was 90 and it was within the acceptable QC limits.

Table 2.12 Results of the Matrix Spike Analysis
for Metals in Waste Liquid
WA # 0-072 South Central Terminal

Analyte	Sample ID	Sample Conc ug/L	Spike Conc ug/L	Rec Conc ug/L	% Rec	QC Limits
Mercury	26242	U	10	10.6	106	75-125

Table 2.13 Results of the Duplicate Analysis
for Metals in Waste Liquid
WA # 0-072 South Central Terminal

Analyte	Sample ID	Initial Analysis ug/L	Duplicate Analysis ug/L	RPD
Mercury	26242	U	U	NC

Table 2.14 Results of the Analysis
of the Laboratory Control Sample
for Metals in Waste Liquid
WA # 0-072 South Central Terminal

Analyte	Analyzed Value ug/L	Accepted Value ug/L	% Rec
Silver	51.3	50.0	103
Aluminum	52824.0	50000	106
Arsenic	486.7	500	97
Barium	492.6	500	99
Beryllium	52.1	50	104
Calcium	102576.0	100000	103
Cadmium	479.9	500	96
Cobalt	499.8	500	100
Chromium	511.3	500	102
Copper	533.7	500	107
Iron	49616.0	50000	99
Mercury	1.1	1	105
Potassium	23701.0	25000	95
Magnesium	95971.0	100000	96
Manganese	518.2	500	104
Sodium	97008.0	100000	97
Nickel	484.4	500	97
Lead	497.5	500	99
Antimony	506.9	500	101
Selenium	477.5	500	96
Thallium	500.8	500	100
Vanadium	516.7	500	103
Zinc	502.0	500	100

Table 2.15 Results of the Matrix Spike Analysis for Metals in Solid WA # 0-072 South Central Terminal (based on dry Weight)

Analyte	Sample ID	Sample Conc mg/kg	Spike Conc mg/kg	Rec Conc mg/kg	% Rec		QC Limits (% Rec)
Aluminum	26252	27617	464.57	29481	NC		75-125
Silver	26252	U	11.6	12.7	109		75-125
Arsenic	26252	2.2	9.3	11.8	103		75-125
Barium	26252	62.46	464.57	549.33	105		75-125
Beryllium	26252	1.89	11.61	14.17	106		75-125
Cadmium	26252	2.14	11.61	13.72	100		75-125
Cobalt	26252	6.14	116.14	125.96	103		75-125
Chromium	26252	82.09	46.46	133.2	110		75-125
Copper	26252	14.47	58.07	95.87	140	*	75-125
Iron	26252	21824	232.28	22647	NC		75-125
Mercury	Non-REAC Sample	U	0.54	0.3927	73	*	75-125
Manganese	26252	468.4	116.14	583.14	99		75-125
Nickel	26252	17.6	116.14	135.34	101		75-125
Lead	26252	214.2	4.65	89.32	NC		75-125
Antimony	26252	U	23.23	9.02	39	*	75-125
Selenium	26252	U	2.32	2.25	97		75-125
Thallium	26252	U	11.61	12.03	104		75-125
Vanadium	26252	69.23	116.14	190.76	105		75-125
Zinc	26252	107.53	116.14	225.87	102		75-125

Table 2.16 Results of the Duplicate Analysis
for Metals in Solid
WA # 0-072 South Central Terminal
(based on dry weight)

Analyte	Sample ID	Initial Analysis mg/kg	Duplicate Analysis mg/kg	RPD		QC Limits
Silver	26252	U	U	NC		20
Aluminum	26252	27617	27846	1		20
Arsenic	26252	2.22	4.12	60	*	20
Barium	26252	62.4	54.78	13		20
Beryllium	26252	1.82	1.83	1		20
Calcium	26252	22072	19933	10		20
Cadmium	26252	2.14	2.03	5		20
Cobalt	26252	6.14	6.43	5		20
Chromium	26252	82.09	85.63	4		20
Copper	26252	14.47	13.95	4		20
Iron	26252	21824	26848	21	*	20
Mercury	Non-REAC Sample	U	U	NC		20
Potassium	26252	2361	2382	1		20
Magnesium	26252	30023	29452	2		20
Manganese	26252	468	473	1		20
Sodium	26252	264	249	6		20
Nickel	26252	17.63	20.41	15		20
Lead	26252	214	86.24	85	*	20
Antimony	26252	U	U	NC		20
Selenium	26252	U	U	NC		20
Thallium	26252	U	U	NC		20
Vanadium	26252	69.23	70.46	2		20
Zinc	26252	107	91.63	15		20

Table 2.17 Results of the Analysis of the Laboratory Control Sample for Metals in Solid
WA # 0-072 South Central Terminal

Analyte	Analyzed Value mg/kg	Accepted Value mg/kg	% Rec	QC Limits
Silver	37.3	34.1	109	25.2-42.9
Aluminum	6422	5350	120	3490-7210
Arsenic	42	36.5	115	27.2-45.9
Barium	133.3	112	119	86.3-138
Beryllium	87.1	77	113	60.4-93.7
Calcium	1414.7	1250	113	933-1560
Cadmium	38.3	34.6	111	26.6-42.6
Cobalt	68.2	59.8	114	47.5-72
Chromium	121.4	108	112	79-136
Copper	70.3	61.7	114	50.5-72.9
Iron	9124	9450	97	5370-13500
Mercury	0.9	1	92	0.6-1.4
Potassium	1982	1860	107	1450-2270
Magnesium	1159	1170	99	802-1540
Manganese	174.6	158	111	128-189
Sodium	530	521	102	303-740
Nickel	54.3	48.4	112	37.9-58.9
Lead	59.1	50.2	118	35.7-64.7
Antimony	27.6	26.2	105	5-53.1
Selenium	48.4	45.7	106	33-58.4
Thallium	80.8	66.1	122	37.4-94.3
Vanadium	93.9	81.9	115	55.9-108
Zinc	155.2	137	113	106-168

Table 2.18 Results of the Matrix Spike Analysis
for Metals in Waste Solid
WA # 0-072 South Central Terminal

Analyte	Sample ID	Sample Conc mg/kg	Spike Conc mg/kg	Rec Conc mg/kg	% Rec	QC Limits (% Rec)
Aluminum	26240	22.7	377.4	463.8	117	75-125
Silver	26240	U	9.4	9.6	101	75-125
Arsenic	26240	U	7.6	8.1	107	75-125
Barium	26240	U	377.4	386.4	102	75-125
Beryllium	26240	U	9.4	9.9	105	75-125
Cadmium	26240	U	9.4	9.6	101	75-125
Cobalt	26240	U	94.3	98.1	104	75-125
Chromium	26240	U	37.7	40.0	106	75-125
Copper	26240	U	47.2	51.0	108	75-125
Iron	26240	U	188.7	204.6	108	75-125
Manganese	26240	U	94.3	99.9	106	75-125
Nickel	26240	U	94.3	95.1	101	75-125
Lead	26240	U	3.8	4.0	105	75-125
Antimony	26240	U	18.9	18.8	100	75-125
Selenium	26240	0.63	1.9	2.5	102	75-125
Thallium	26240	U	9.4	9.3	98	75-125
Vanadium	26240	U	94.3	100.8	107	75-125
Zinc	26240	0.98	94.3	95.8	100	75-125

Table 2.19 Results of the Duplicate Analysis for Metals in Waste Solid WA # 0-072 South Central Terminal

Analyte	Sample ID	Initial Analysis mg/kg	Duplicate Analysis mg/kg	RPD	QC Limits
Silver	26240	U	U	NC	35
Aluminum	26240	22.7	26	16	35
Arsenic	26240	U	U	NC	35
Barium	26240	U	U	NC	35
Beryllium	26240	U	U	NC	35
Calcium	26240	U	U	NC	35
Cadmium	26240	U	U	NC	35
Cobalt	26240	U	U	NC	35
Chromium	26240	U	U	NC	35
Copper	26240	U	U	NC	35
Iron	26240	U	U	NC	35
Mercury	26240	U	U	NC	35
Potassium	26240	U	U	NC	35
Magnesium	26240	U	U	NC	35
Manganese	26240	U	U	NC	35
Sodium	26240	U	U	NC	35
Nickel	26240	U	U	NC	35
Lead	26240	U	U	NC	35
Antimony	26240	U	U	NC	35
Selenium	26240	0.63	0.50	23	35
Thallium	26240	U	U	NC	35
Vanadium	26240	U	U	NC	35
Zinc	26240	0.98	1.17	17	35

Table 2.20 Results of the Analysis
of the Laboratory Control Sample
for Metals in Waste Solid
WA # 0-072 South Central Terminal

Analyte	Analyzed Value mg/kg	Accepted Value mg/kg	% Rec	QC Limits (mg/kg)
Mercury	0.9	1	90	0.6-1.4

Section III

Lockheed Martin Technology Services Group
Environmental Services REAC
2890 Woodbridge Avenue, Building 209 Annex Edison, NJ 08837-3679
Telephone 732-321-4200 Facsimile 732-494-4021

LOCKHEED MARTIN

GPL
202 Perry Parkway
Gaithersburg, MD 20877

07 September, 1999

Dear Mr. Paul Ioannides,

Upon review of the your analytical report from South Central Terminal WA# 0072, Lockheed Martin chain of custodys 07148, 07149, and 07150 for BTU analyses , the following questions need some clarification. These questions refer to your batch numbers 9908023, 9908024, and 9908025.

1.) With the formula provided we cannot reproduce the exact results. Please provide the actual calculation for the benzoic acid standard and one sample.

2.) When calculating the reporting limit for non detects what was the lowest value of t used in the calculation (if not covered in the answer to question 1).

3.) Please provide documentation for benzoic acid standard BTU/lb.

4.) Why was the duplicate analysis so much different from the original analysis for that sample. Do you have any established QC limits for duplicate analyses.

5.) The diskette deliverable for all analyses (TAL metals, sulfide, TOX, BTU, and ammonia) was not included , you may e-mail the file to johnson.johnnie@epamail.epa.gov

We would appreciate a response to these questions within twenty-four hours of receiving this letter, as our deadline for reporting to our client is rapidly approaching. **If you have any questions please call Mr. John Johnson at 732-321-4248 or fax responses to 732-494 4020.**

Thank you,

Misty Barkley
Data Validation and Report Writing Group Leader
Lockheed Martin / REAC Project

0072Let

Lockheed Martin Technology Services Group
Environmental Services REAC
2890 Woodbridge Avenue, Building 209 Annex Edison, NJ 08837-3679
Telephone 732-321-4200 Facsimile 732-494-4021

LOCKHEED MARTIN

Core Laboratories
8210 Mosley Road
Houston, TX 77075

Attn: Pat Gideons

6 August 1999

Project # RIA-00072 South Central Terminal

As per Lockheed Martin / REAC Purchase Order GA90562J49, please analyze samples according to the following parameters:

Analysis/Method	Matrix	# of samples
Sulfur\ ASTM D-4294	Oil	17
Data package: Package with Diskette Deliverable		

Samples are expected to arrive at your laboratory on August 06, 1999. **All applicable QA/QC analysis as per method, will be performed on our sample matrix.** Preliminary sample and QC result tables plus a signed copy of our Chain of Custody must be faxed to REAC 5 business days after receipt of the samples. The complete data package is due 10 business days after receipt of the samples. The complete data package must include all items on the deliverables checklist. **Expect all samples to be difficult matrix and all raw data must be included in final analytical report.**

Please submit all reports and technical questions concerning this project to **John Johnson at (732) 321-4248 or fax to (732) 494-4020**. Any contractual question, please call Cynthia Lentini at (732) 321-4296.

Sincerely,

Misty Barkley

Misty Barkley
Data Validation and Report Writing Group Leader
Lockheed Martin / REAC Project

MB:jj Attachments

cc. R. Singhvi
A. Zownir
00072\non\mem\9908\sub\00072Con3
D. Miller
Subcontracting File
D. Angwenyi
C. Lentini
M. Metz
M. Barkley

Lockheed Martin Technology Services Group
Environmental Services Reac
2890 Woodbridge Avenue, Building 209 Annex Edison, NJ 08837
Telephone 732-321-4200 Facsimile 732-494-4021

LOCKHEED MARTIN

Scott Lawson Group
29 River Road Suite 18
Bow, NH 03304

Attn: Jennifer Scott

28 July 1999

Project # RIA-00072 South Central Terminal

As per Lockheed Martin / REAC Purchase Order GA90551J49, please analyze samples according to the following parameters:

Analysis/Method	Matrix	# of samples
TPH\ EPA 418.1	Drum Waste	22
Data package: Package with Diskette Deliverable		

Samples are expected to arrive at your laboratory the week of July 26, 1999. **All applicable QA/QC analysis as per method, will be performed on our sample matrix.** Preliminary sample and QC result tables plus a signed copy of our Chain of Custody must be faxed to REAC 10 business days after receipt of the last samples. The complete data package is due 21 business days after receipt of the samples. The complete data package must include all items on the deliverables checklist. If the analytical method specified above is different than what your laboratory routinely uses then please specify the method you intend to perform. **Expect all samples to be difficult matrix and all raw data must be included in final analytical report.**

All sample and QC results(ie: LCS, Duplicates, and Blanks) must be summarized in a ExCel diskette deliverable.

Please submit all reports and technical questions concerning this project to **John Johnson at (732) 321-4248 or fax to (732) 494-4020**. Any contractual question, please call Cynthia Lentini at (732) 321-4296.

Sincerely,

Misty Barkley

Misty Barkley
Data Validation and Report Writing Group Leader
Lockheed Martin / REAC Project

MB:jj Attachments

cc. R. Singhvi
A. Zownir
00072\non\mem\9907\sub\00072Con2
V. Kansal
Subcontracting File
D. Angwenyi
C. Lentini
M. Metz
M. Barkley

Lockheed Martin Technology Services Group
Environmental Services Reac
2890 Woodbridge Avenue, Building 209 Annex Edison, NJ 08837
Telephone 732-321-4200 Facsimile 732-494-4021

LOCKHEED MARTIN

GPL
202 Perry Parkway
Gaithersburg, MD 20877

Attn: Paul Ioannides

27 July 1999

Project # RIA-00072 South Central Terminal

As per Lockheed Martin / REAC Purchase Order GA90550J49, please analyze samples according to the following parameters:

Analysis/Method	Matrix	# of samples
TAL Metals\ SW-846-6010 or Series 7000	Drum Waste	15
TOX\ SW-846-9020B	Drum Waste	42
BTU\ ASTM D1989	Drum Waste	22
Ammonia\ EPA -350	Drum Waste	5
Sulfides\ SW-846-9031	Drum Waste	18
Asbestos\ PLM	Bulk Density	21
Data package: Package with Diskette Deliverable		

Samples are expected to arrive at your laboratory the week of July 26, 1999. **All applicable QA/QC analysis as per method, will be performed on our sample matrix.** Preliminary sample and QC result tables plus a signed copy of our Chain of Custody must be faxed to REAC 10 business days after receipt of the last samples. The complete data package is due 21 business days after receipt of the samples. The complete data package must include all items on the deliverables checklist. **Expect all samples to be difficult matrix and all raw data must be included in final analytical report.**

All sample and QC results(ie: LCS, Duplicates, and Blanks) must be summarized in a ExCel diskette deliverable.

Please submit all reports and technical questions concerning this project to **John Johnson at (732) 321-4248 or fax to (732) 494-4020**. Any contractual question, please call Cynthia Lentini at (732) 321-4296.

Sincerely,

Misty Barkley

Misty Barkley
Data Validation and Report Writing Group Leader
Lockheed Martin / REAC Project

MB:jj Attachments

cc. R. Singhvi
A. Zownir
00072\non\mem\9907\sub\00072Con
V. Kansal
Subcontracting File
D. Angwenyi
C. Lentini
M. Metz
M. Barkley

REAC, [illegible]n, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHA[illegible]F CUSTODY [illegible]ECORD

Project Name: South Central Terminal (SCT)
Project Number: RIA00072
RFW Contact: Mike Metz Phone: 321-4249

No: 01396

SHEET NO. 1 OF 1

072699

Sample Identification / Analyses Requested

REAC #	Sample No.	Sampling Location	*Matrix	Date Collected	# of Bottles	Container/Preservative	VOC's			
632	26255	TANK 13	DL/O	16-Jul-99	2	40 ml VOA / None	✓			
633	26256	TANK 100			2		✓			
634	26257	TANK 102			2		✓			
635	26258	TANK 108			2		✓			
636	26259	TANK 113			2		✓			
637	26260	TANK 115			2		✓			
638	26261	TANK 116			2		✓			
639	26262	TANK 117			2		✓			
640	26263	TANK 118			2		✓			
641	26264	TANK 119			2		✓			
642	26265	TANK 300			2		✓			
643	26266	TANK 304			2		✓			
644	26267	TANK 307			2		✓			
645	26268	TANK 408	DL/O	16-Jul-99	2	40 ml VOA / None	✓			

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions:

* Mostly Oily Tank Liquids
See attached Hazcat Results

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
All / Analysis	Mike Metz	7/26/99	David Angweny	7/26/99	1530	All/Angweny	David Angweny	7/26/99	[signature]	7/26/99	1555

FORM #4 8/94

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: SOUTH CENTRAL TERMINAL (SLT)
Project Number: R1A00072
RFW Contact: Michael Metz Phone: 321-4249

No: 07162

SHEET NO. 1 OF 2

072699-

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	*Matrix	Date Collected	# of Bottles	Container/Preservative	PCB			
-606	26210	TANK 6	DL	16-JUL-99	1	8oz JAR / NONE	✓			
-607	26211	TANK 13			1		✓			
-608	26212	TANK 32			1		✓			
-609	26213	TANK 40			1		✓			
-610	26214	TANK 41			1		✓			
-611	26215	TANK 42			1		✓			
-612	26216	TANK 90			1		✓			
-613	26217	TANK 113			1		✓			
-614	26218	TANK 115			1		✓			
-615	26219	TANK 116			1		✓			
-616	26220	TANK 117			1		✓			
-617	26221	TANK 118			1		✓			
-618	26222	TANK 119			1		✓			
-619	26223	TANK 304			1		✓			
-620	26224	TANK 307			1		✓			
-621	26225	TANK 311			1		✓			
-622	26226	TANK 313			1		✓			
-623	26227	TANK 401			1		✓			
-624	26228	TANK 402			1		✓			
-625	26229	TANK 403	DL	16-JUL-99	1	8oz JAR / NONE	✓			

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions:
* MOSTLY OILY TANK LIQUIDS SEE ATTACHED FOR HAZCAT RESULTS

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
All Analysis	Michael Metz	7/26/99	David Anyanwu	7/26/99	1530	All Analysis	David Anyanwu	7/27/99	Matthew J. Maule	7/27/99	8:50

FORM #4 8/94

00080

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: South Central Terminal (SCT)
Project Number: R1A00072
RFW Contact: Michael Metz Phone: 321-4249

No: 01537

SHEET NO 2 OF 2

072699-

Sample Identification / Analyses Requested

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	PCB			
-626	26230	TANK 404	DL	16-JUL-99	1	8oz JAR / NONE	✓			
-627	26231	TANK 407	↓	↓	1	↓	✓			
-628	26232	TANK 409	↓	↓	1	↓	✓			
-629	26233	TANK 411	↓	↓	1	↓	✓			
-630	26234	TANK 413	↓	↓	1	↓	✓			
-631	26235	T1, T2, T3	DL	16-JUL-99	1	8oz JAR / NONE	✓			

MT

MT

T8000

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions:

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
All/Analysis	Mich Metz	7/26/99	David Angwenyi	7/24/99	1530	All/Analysis	David Angwenyi	7/27/99	Matthew J. Maurer	7/27/99	8:50am

FORM #4 8/94

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: South Central Terminal (SCT)
Project Number: R1A00072
RFW Contact: Mike Metz Phone: (732) 321-4249

No: 06563

SHEET NO. 1 OF 1

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix*	Date Collected	# of Bottles	Container/Preservative	TAL Metals
	26240	Tank 13	DL/O	7-16-99	1	8 oz Jar/None	✓
	26241	Tank 100	↓	↓	↓	↓	✓
	26242	Tank 102	↓	↓	↓	↓	✓
	26243	Tank 108	↓	↓	↓	↓	✓
	26244	Tank 113	↓	↓	↓	↓	✓
	26245	Tank 115	↓	↓	↓	↓	✓
	26246	Tank 116	↓	↓	↓	↓	✓
	26247	Tank 117	↓	↓	↓	↓	✓
	26248	Tank 118	↓	↓	↓	↓	✓
	26249	Tank 119	↓	↓	↓	↓	✓
	26250	Tank 300	↓	↓	↓	↓	✓
	26251	Tank 304	↓	↓	↓	↓	✓
	26252	Tank 305	DS	↓	↓	↓	✓
	26253	Tank 307	DL/O	↓	↓	↓	✓
	26254	Tank 408	DL/O	↓	↓	↓	✓

DK

1306 0034

00082

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X -	Other	SL -	Sludge	A -	Air

Special Instructions:

* Mostly oily tank Liquids.

SUB-OUT TO: GPL 7/28/99

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY # 01538

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
ALL/Analysis	David Anyvenyi	7/28/99									

FORM #

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: South Central Terminal (SCT)
Project Number: RIA 00072
RFW Contact: Mike Metz Phone: 732 321 4200

No: 07148

SHEET NO. 1 OF 3

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	TOX	BTU	Sulfides	Ammonia
	26270	TANK 6	TW	28-July-99	1	32oz JAR / None	✓			
	26271	TANK 13			1		✓	✓		
	26272	TANK 30			1		✓			
	26273	TANK 31			1		✓			
	26274	TANK 32A			1		✓	✓	✓	
	26275	TANK 34			1		✓			
	26276	TANK 40			1		✓			
	26277	TANK 41			1		✓			
	26278	TANK 42			1		✓			
	26279	TANK 43			1		✓			
	26280	TANK 90			1		✓	✓	✓	
	26281	TANK 100			1		✓	✓		
	26282	TANK 102			1		✓	✓		
	26283	TANK 103			1		✓			
	26284	TANK 108			1		✓	✓		
	26285	TANK 111			1		✓			
	26286	TANK 113			1				✓	✓
	26287	TANK 115			1				✓	✓
	26288	TANK 116			1				✓	✓
	26289	TANK 117	TW	28-July-99	1	32oz JAR / None			✓	✓

T302 0009

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X	Other	SL -	Sludge	A -	Air

TW - Tank Waste Liquids

Special Instructions:

1. TOX - SW846 9020B
2. BTU - ASTM D1989
3. Sulfides - SW846 9031
4. Ammonia - EPA 350

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
All Analyses	[illegible]	7/29/99									

FORM #4

8/94

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: South Central Terminal (S.T)
Project Number: RIA 00072
RFW Contact: Mike Metz Phone: 732 321 4200

No: 07149

SHEET NO. 2 OF 3

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	TOX	BTU	Sulfides	Ammonia
	26290	TANK 118	TW	28-July-99	1	32oz JAR / None	✓	✓		
	26291	TANK 119			1				✓	✓
	26292	TANK 300			1		✓	✓		
	26293	TANK 301			1		✓			
	26294	TANK 302			1		✓	✓	✓	
	26295	TANK 304			1		✓	✓		
	26296	TANK 305			1		✓			
	26297	TANK 307			1		✓	✓		
	26298	TANK 309			1		✓			
	26299	TANK 310			1		✓			
	26300	TANK 311			1		✓	✓	✓	
	26301	TANK 312			1		✓			
	26302	TANK 313			1		✓	✓	✓	
	26303	TANK 314			1		✓			
	26304	TANK 401			1		✓	✓	✓	
	26305	TANK 402			1		✓	✓	✓	
	26306	TANK 403			1		✓	✓	✓	
	26307	TANK 404			1		✓	✓	✓	
	26308	TANK 406			1		✓			
	26309	TANK 407	TW	29-July-99	1	32oz JAR / None	✓			

1302 0031

0008

Matrix:
SD - Sediment
DS - Drum Solids
DL - Drum Liquids
X - Other
TW - TANK WASTE LIQUIDS
PW - Potable Water
GW - Groundwater
SW - Surface Water
SL - Sludge
S - Soil
W - Water
O - Oil
A - Air

Special Instructions:
1. TOX - SW846 9020B
2. BTU - ASTM D1989
3. Sulfides - SW846 9031
4. Ammonia - EPA 350

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
All Analyses	Mike Metz	7/29/99									

FORM #1 8/94

REAC, Edison, NJ
(908) 321-4200
EPA Contract 68-C4-0022

CHAIN OF CUSTODY RECORD

Project Name: South Central Terminal (SCT)
Project Number: PIA 000072
RFW Contact: Mike Metz Phone:

No: 07150

SHEET NO. 3 OF 3

Sample Identification / **Analyses Requested**

REAC #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	(1) TOX	(2) BTU	(3) Sulfides	(4) Ammonia
	26310	TANK 408	TW	28 Jul, 99	1	32oz Jar / None	✓	✓		
	26311	TANK 409	↓	↓	1	↓	✓	✓	✓	
	26312	TANK 410			1		✓			
	26313	TANK 411			1		✓	✓	✓	
	26314	TANK 412			1		✓			
	26315	TANK 413	↓	↓	1	↓	✓	✓	✓	
	26316	TANK 414	TW	28 July 99	1	32oz Jar / None	✓			

Metz

I302 0054

00085

Matrix:

SD -	Sediment	PW -	Potable Water	S -	Soil
DS -	Drum Solids	GW -	Groundwater	W -	Water
DL -	Drum Liquids	SW -	Surface Water	O -	Oil
X	Other	SL -	Sludge	A -	Air

TW - Tank Waste Liquids

Special Instructions:

1. TOX - SW846 9020B
2. BTU - ASTM D1989
3. Sulfides - SW846 9031
4. Ammonia - EPA 350

FOR SUBCONTRACTING USE ONLY

FROM CHAIN OF CUSTODY #

Items/Reason	Relinquished By	Date	Received By	Date	Time	Items/Reason	Relinquished By	Date	Received By	Date	Time
All Analyses	Mike Metz	7/29/99									

FORM #4 8/94