

GW - 32

REPORTS

YEAR(S):

1991- EPA RCRA PHASE I

FINAL REPORT BOOK 4

RCRA FACILITY INVESTIGATION
PHASE I - FINAL REPORT
GIANT REFINING COMPANY
GALLUP, NEW MEXICO
APRIL 8, 1991
BOOK 4

This Booklet Includes
Section 9.0

9.2.2

9.2.3

9.3.1

Section 9.0
RMAL No. 010149



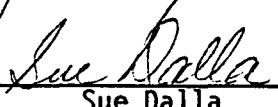
ANALYTICAL RESULTS
FOR
GIANT REFINING
ENSECO-RMAL NO. 010149

JULY 29, 1990

Reviewed by:



Julie Essey



Sue Dalla

Enseco Incorporated
4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Fax: 303/431-7171

I. OVERVIEW

A. Standard Overview

On June 27, 1990, Enseco-Rocky Mountain Analytical Laboratory received 24 samples from Giant Refining.

This report presents the analytical results as well as supporting information to aid in the evaluation and interpretation of the data and is arranged in the following order:

- I. Overview
 - A. Standard Overview
 - B. Regulatory Overview - Refinery
- II. Sample Description Information/Analytical Test Requests
- III. Analytical Results
- IV. Quality Control Report

The reporting limits by Method 8240 for samples 010149-0005, -0008, -0009, and -0012 were raised due to high concentrations of non-target compounds.

All 8270 samples were prepped according to SW-846 using 2.0 grams of sample followed by a 50% partition then concentration to 1.0 mL for analysis. With this prep method nominal reporting limits are generally 10,000 ug/kg. After careful review of all chromatograms it has been determined that we can lower the nominal reporting limit to 5,000 ug/kg for this project.

The initial semivolatile extraction by Method 8270 on sample 010149-0011 was performed within holding times. However, after assessing the original results, a reextraction was performed outside of holding times in order to improve the quality of the data. Reprep data was used.

An analytical standard is not available for methyl chrysene. Furthermore, many isomers of this compound, including methyl benzanthracenes and methyl triphenylenes, exist. These isomers are indistinguishable under the analytical condition of Method 8270. A selected ion current profile at mass

242 was performed to determine if any compounds corresponding to the molecular structure of methyl chrysene were present. All peaks which met this criteria were summed. An estimated concentration of "total methyl chrysenes" was determined by comparing the sum of the peak areas to the internal standard and using a response factor of 1.0. Both the identification and quantification are highly suspect.

Methyl chrysene was searched for by mass chromatograms and was not detected in any of the samples analyzed by Method 8270.

B. Regulatory Overview - Refinery

In 1984, the EPA distributed several versions of a subset of Appendix VIII constituents to be used principally for delisting petroleum refinery wastes (K048-K052). This list, commonly referred to as the "Skinner" list has been adapted for use in land treatment demonstrations, site closures and other related activities associated with petroleum refining RCRA programs. In early 1985, a modified version of the Skinner list appeared in "Petitions to Delist Hazardous Waste, A Guidance Manual" (EPA/530-SW-85-003). This revised list, as shown in Table I, consists of 12 metals and 43 organic compounds and currently forms the basis for analytical work on samples collected at petroleum refineries.

The organic compounds have been classified as volatile and semivolatile (base/neutral/acid) compounds. Two of the "compounds" listed (dichlorobenzenes and cresols) are measured and reported in terms of their specific isomers. Analytical standards are not available for two of the compounds, dibenz(a,h)acridine and methyl chrysene. Therefore, these compounds cannot be measured and analytical results are not presented for these compounds. Two of the remaining compounds, benzenethiol and pyridine cannot be recovered consistently from environmental samples and consequently, method detection limits for these compounds cannot be established. This statement is made based on the results of a methods evaluation study sponsored by API.

Table 2 summarizes the analytical methods used to determine Appendix VIII refinery constituents. For the organic compounds, Methods are listed for both the complete list and a subset of this list analyzed by alternate methods.

Between October, 1983 and July, 1985, the EPA released three methods manuals and a "Guidance Manual" which were compendiums of modified SW-846 methods specifically adapted for the analysis of Appendix VIII constituents in petroleum refining wastes. The most useful document was an October, 1984 draft methods manual which was released but never formally distributed by EPA. These documents did not contain many of the important details that are critical to the successful analysis of environmental samples relevant to petroleum refineries.

Thus, although the methods used by Enseco-RMAL in the analysis of petroleum refinery wastes are based on these various EPA documents, the actual details of each method have been modified in order to generate acceptable data. These modifications have been based on information given in numerous documents, some of which are cited in Table 3. In addition to the documents listed in the bibliography, Enseco-RMAL an ongoing dialogue with EPA/OSW to ensure that the latest EPA guidance is incorporated into the analytical approach.

The analytical data tables which follow present results for the Appendix VIII refinery hazardous constituents which are measurable.

TABLE 1. APPENDIX VIII HAZARDOUS CONSTITUENT SUBSET
FOR PETROLEUM REFINERY STUDIES*

Metals

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Lead
Mercury
Nickel
Selenium
Vanadium

Volatile Organics

Benzene
Carbon disulfide
Chlorobenzene
Chloroform
1,2-Dibromoethane
1,2-Dichloroethane
1,4-Dioxane
Methyl ethyl ketone
Styrene
Ethyl benzene
Toluene
Xylenes

Base/Neutral Organics

Anthracene
Benz(a)anthracene
Benzo(b)fluoranthene

Base/Neutral Organics (Cont.)

Benzo(k)fluoranthene
Benzo(a)pyrene
Bis(2-ethylhexyl)phthalate
Butyl benzyl phthalate
Chrysene
Dibenz(a,h)acridine²
Dibenz(a,h)anthracene
Di-n-butyl phthalate
Dichlorobenzenes¹
Diethyl phthalate
7,12-Dimethylbenz(a)anthracene
Dimethyl phthalate
Di-n-octyl phthalate
Fluoranthene
Indene
Methyl chrysene²
1-Methylnaphthalene
Naphthalene
Phenanthrene
Pyrene
Pyridine³
Quinoline

Acid Organics

Benzenethiol³
Cresols¹
2,4-Dimethylphenol
2,4-Dinitrophenol
4-Nitrophenol
Phenol

*"Petitions to Delist Hazardous Wastes, A Guidance Manual," EPA/530-SW-85-003, April, 1985.

- 1) Reported as ortho-, meta-, and para-isomers.
- 2) No analytical standard available.
- 3) Not consistently recoverable using standard analytical methods.

TABLE 2. SUMMARY OF ANALYTICAL METHODS FOR REFINERY CONSTITUENTS

<u>Metals</u>	<u>Method</u>
Antimony	7041
Arsenic	7060
Lead	7421
Mercury	7470
Selenium	7740
ICP Scan (Ba, Be, Cd, Cr, Co, Ni, V)	6010

	<u>GC/MS Method</u>	<u>Screening Method</u>
Volatile Organics	8240	8020 ^a
Semivolatile Organics	8270	8310 ^b

- a) Volatile Aromatics
- b) Polynuclear Aromatic Hydrocarbons

TABLE 3. BIBLIOGRAPHY**A. Documents Pertaining to Appendix VIII Constituents**

- (1) January, 1984 letter from Myles Morse pertaining to delisting petitions as well as land treatment demonstrations, including sampling procedures and data requirements.
- (2) March, 1984 letter to delisting petitioners from Barbara Bush revising target parameters.
- (3) April, 1984 memo from John Skinner to Permit Branch Chiefs concerning land treatment containing target parameters and analytical methods.
- (4) May, 1984 memo from John Skinner clarifying previous memo.
- (5) September, 1984 letter to Petitioners from Barbara Bush distributing Refinery Handbook.
- (6) November, 1984 letter from Eileen Claussen to all delisting petitioners describing new RCRA requirements.
- (7) May 3, 1985 RMAL Memo.
- (8) January 8, 1985 RMAL letter to Eileen Claussen, EPA-OSW.

B. Documents Pertaining to Analytical Methods

- (1) "Handbook for the Analysis of Petroleum Refinery Residuals and Waste", October, 1984 - prepared by Radian Corporation for EPA/OSW.
- (2) "Evaluation of the Applicability of the SW-846 Manual To Support All RCRA Subtitle C Testing", December 20, 1984 - prepared by Rocky Mountain Analytical Laboratory for API.
- (3) "Comments on the 'Handbook for the Analysis of Petroleum Refinery Residuals and Waste, October, 1984'", December 12, 1984 - Prepared by Rocky Mountain Analytical Laboratory for API.
- (4) "Comments on the 'Handbook for the Analysis of Petroleum Refinery Residuals and Waste, April 2, 1984'", August 15, 1984 - Prepared by Rocky Mountain Analytical Laboratory for API.
- (5) "Handbook for the Analysis of Petroleum Refinery Residuals and Waste", April 2, 1984 - prepared by S-Cubed for EPA/OSW.
- (6) EPA document "Guidance for the Analysis of Refinery Wastes", July 5, 1985.
- (7) "Recovery and Detection Limits of Organic Compounds in Petroleum Refinery Wastes", January 25, 1985.
- (8) SW-846 - "Test Methods for Evaluating Solid Waste, Physical Chemical Methods" USEPA, 2nd Edition, 1982.
- (9) 40 CFR 136 - "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act."

II. SAMPLE DESCRIPTION INFORMATION/ANALYTICAL TEST REQUESTS

Sample Description Information

The Sample Description Information lists all of the samples received in this project together with the internal laboratory identification number assigned for each sample. Each project received at Enseco - RMAL is assigned a unique six digit number. Samples within the project are numbered sequentially. The laboratory identification number is a combination of the six digit project code and the sample sequence number.

Also given in the Sample Description Information is the Sample Type (matrix), Date of Sampling (if known) and Date of Receipt at the laboratory.

Analytical Test Requests

The Analytical Test Requests lists the analyses that were performed on each sample. The Custom Test column indicates where tests have been modified to conform to the specific requirements of this project.



July 29, 1990

Mr. Claud Rosendale
Giant Refining
17 Miles East of Gallup
I-40, Exit 39
Gallup, NM 87301

Dear Mr. Rosendale:

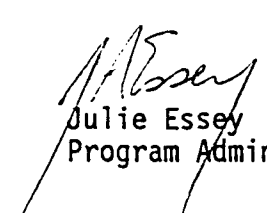
Enclosed is the report for 24 samples we received at Enseco-Rocky Mountain Analytical Laboratory on June 27, 1990.

Included with the report is a quality control summary.

Please call if you have any questions.

Sincerely,

Reviewed by:


Julie Essey
Program Administrator


Sue Dalla
Manager
Program Administration

JE/SD/heg
Enclosures

RMAL #010149

SAMPLE DESCRIPTION INFORMATION
for
Giant Refining

Lab ID	Client ID	Matrix	Sampled		Received
			Date	Time	Date
010149-0001-SA	RFI0806V08.0	SOIL	26 JUN 90	07:40	27 JUN 90
010149-0002-SA	RFI0806V10.5	SOIL	26 JUN 90	08:50	27 JUN 90
010149-0003-SA	RFI0806V05.0	SOIL	26 JUN 90	09:09	27 JUN 90
010149-0004-SA	RFI0807V0.5	SOIL	26 JUN 90	09:45	27 JUN 90
010149-0005-SA	RFI0807V2.5	SOIL	26 JUN 90	10:05	27 JUN 90
010149-0006-SA	RFI0807V4.5	SOIL	26 JUN 90	10:30	27 JUN 90
010149-0007-SA	RFI0808V0.5	SOIL	26 JUN 90	12:00	27 JUN 90
010149-0008-SA	RFI0808V2.5	SOIL	26 JUN 90	12:20	27 JUN 90
010149-0009-SA	RFI0808V4.5	SOIL	26 JUN 90	13:45	27 JUN 90
010149-0010-SA	RFI0807E2.5	AQUEOUS	26 JUN 90	10:40	27 JUN 90
010149-0011-SA	RFI0809V.5	SOIL	26 JUN 90	13:05	27 JUN 90
010149-0012-SA	RFI0809V2.5	SOIL	26 JUN 90	13:18	27 JUN 90
010149-0013-SA	RFI0809V4.5	SOIL	26 JUN 90	13:40	27 JUN 90
010149-0014-SA	TRIP BLANK	AQUEOUS			27 JUN 90
010149-0015-SA	RFI0803A05.0	SOIL	26 JUN 90	09:00	27 JUN 90
010149-0016-SA	RFI0803A08.0	SOIL	26 JUN 90	09:30	27 JUN 90
010149-0017-SA	RFI0803A10.5	SOIL	26 JUN 90	09:30	27 JUN 90
010149-0018-SA	RFI0802A05.0	SOIL	26 JUN 90	10:50	27 JUN 90
010149-0019-SA	RFI0802D05.0	SOIL	26 JUN 90	10:50	27 JUN 90
010149-0020-SA	RFI0802A08.0	SOIL	26 JUN 90	11:10	27 JUN 90
010149-0021-SA	RFI0802A10.5	SOIL	26 JUN 90	11:15	27 JUN 90
010149-0022-SA	RFI0801A05.0	SOIL	26 JUN 90	12:25	27 JUN 90
010149-0023-SA	RFI0801A08.0	SOIL	26 JUN 90	12:40	27 JUN 90
010149-0024-SA	RFI0801A10.5	SOIL	26 JUN 90	12:45	27 JUN 90

1, 2, 3
4, 5
6, 7, 8, 9

ANALYTICAL TEST REQUESTS

for
Giant Refining

Lab ID:	Group Code	Analysis Description	Custom Test?
010149			
0001 - 0009, 0011 - 0013, 0015 - 0024	A	Refinery Hazardous Constituent Volatiles GC Screen For Medium Level Soils Refinery Hazardous Constituent Semivolatiles Prep - Semivolatile Organics by GC/MS Refinery Total Metals done by ICP Prep - Total Metals, ICP Mercury, Cold Vapor AA Prep - Mercury, Cold Vapor AA Arsenic, Furnace AA Prep - Total Metals, Furnace AA Selenium, Furnace AA	Y N Y N Y N Y N N N N
0014	B	Refinery Hazardous Constituent Volatiles Prep-Volatile Organics by GC/MS	N N
0010	C	Refinery Hazardous Constituent Semivolatiles Prep - Semivolatile Organics by GC/MS Lead, Furnace AA (Total) Prep - Total Metals, Furnace AA Arsenic, Furnace AA (Total) Selenium, Furnace AA (Total) Mercury, Cold Vapor AA (Total) Prep - Mercury, Cold Vapor AA (Total) ICP Metals (Total) Prep - Total Metals, ICP Refinery Hazardous Constituent Volatiles Prep-Volatile Organics by GC/MS	Y N N N N N N N Y N N N

III. ANALYTICAL RESULTS

The analytical results for this project are presented in the following data tables. The results are presented by sample, by test, with tests reported in the following order: GC/MS, Chromatography, Metals and Inorganics.

Each data table includes sample identification information, and when available and appropriate, dates sampled, received, authorized, prepared and analyzed. The authorization data is the date when the project was defined by the client such that laboratory work could begin. The date prepared is typically the date an extraction or digestion was initiated. For volatile organic compounds in water, the date prepared is the date the screening of the sample was performed.

Data sheets contain a listing of the parameters measured in each test, the analytical results and the Enseco reporting limit. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis, i.e. no correction is made for moisture content.

Enseco-RMAL is no longer routinely blank-correcting analytical data. Uncorrected analytical results are reported, along with associated blank results, for all organic and metals analyses. Analytical results and blank results are reported for conventional inorganic parameters as specified in the method. This policy is described in detail in the Enseco Incorporated Quality Assurance Program Plan for Environmental Chemical Monitoring, Revision 3.3, April, 1989.

In addition, surrogate recovery data is presented for all GC/MS analyses. The surrogate recovery is an indication of the affect of the sample matrix on the performance of the method. The results from the Standard Enseco QA/QC Program, which generates data which are independent of matrix effects, is given in Section IV.

The analytical data reported are subject to the following limitations of the analytical methodology:

GC/MS

Volatile Organics

- a) The cis- and trans-isomers of dichloroethylene cannot be distinguished using EPA Method 624. All dichloroethylene present is reported as trans-dichloroethylene.

Semivolatile Organics

- a) Benzo(b) and benzo(k) fluoranthene cannot be differentiated based on their mass spectra; retention times are almost identical. The isomer which is the closest in retention time to the sample is reported.
- b) 1,2-diphenylhydrazine is measured as azobenzene.
- c) N-Nitrosodiphenylamine decomposes in the gas chromatographic inlet to diphenylamine.

Metals

Arsenic, selenium and thallium are customarily determined by graphite furnace atomic absorption (GFAA). All mercury determinations are by cold vapor atomic absorption. All other metals are determined using Inductively Coupled Plasma Atomic Emission Spectroscopy (ICP).

All metals nominal reporting limits are statistically determined by analyzing a reagent blank seven times on three non-consecutive days. The standard deviations from each group of analyses are then summed (reporting limit = three times the standard deviation of a blank). The ability to attain the quoted reporting limits is verified each quarter. Reporting limits above nominal values are often reported since sample matrix interferences must be compensated for by dilutions prior to analysis or by the use of Method of Standard Additions. All GFAA reporting limits and results are verified by spike recoveries and represent the lowest attainable for each sample matrix. The metals reporting limits reported should not be viewed as quantitation limits. As recommended by the American Chemical Society Subcommittee on Environmental Analytical Chemistry (Analytical Chemistry 1980, 52, 2242-49), the Limit of Quantitation (LOQ) is equal to ten times the standard deviation of a blank or 3.3 times the reporting limit.

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
 Client ID: RFI0806V08.0
 Lab ID: 010149-0001-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080904
 Sampled: 26 JUN 90
 Prepared: 02 JUL 90

Received: 27 JUN 90
 Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	101	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	88	%	--

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0806V10.5
Lab ID: 010149-0002-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080905
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	99	%	--
1,2-Dichloroethane-d4	90	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: RFI0806V05.0
Lab ID: 010149-0003-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080906
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	89	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: RFI0807V0.5
Lab ID: 010149-0004-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080907
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	101	%	--
4-Bromofluorobenzene	95	%	--
1,2-Dichloroethane-d4	88	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: RFI0807V2.5
Lab ID: 010149-0005-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080908
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	1000
Carbon disulfide	ND	ug/kg	1000
Chlorobenzene	ND	ug/kg	1000
Chloroform	ND	ug/kg	1000
EDB (1,2-Dibromoethane)	ND	ug/kg	2000
1,2-Dichloroethane	ND	ug/kg	1000
1,4-Dioxane	ND	ug/kg	100000
Ethylbenzene	ND	ug/kg	1000
2-Butanone (MEK)	ND	ug/kg	2000
Styrene	ND	ug/kg	1000
Toluene	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	1000
Toluene-d8	102	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	92	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RF10807V4.5
Lab ID: 010149-0006-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080909
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	86	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0808V0.5
Lab ID: 010149-0007-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080910
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	97	%	--
1,2-Dichloroethane-d4	85	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0808V2.5
Lab ID: 010149-0008-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080911
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	5000
Carbon disulfide	ND	ug/kg	5000
Chlorobenzene	ND	ug/kg	5000
Chloroform	ND	ug/kg	5000
EDB (1,2-Dibromoethane)	ND	ug/kg	10000
1,2-Dichloroethane	ND	ug/kg	5000
1,4-Dioxane	ND	ug/kg	500000
Ethylbenzene	ND	ug/kg	5000
2-Butanone (MEK)	ND	ug/kg	10000
Styrene	ND	ug/kg	5000
Toluene	ND	ug/kg	5000
Xylenes (total)	ND	ug/kg	5000
Toluene-d8	102	%	--
4-Bromofluorobenzene	99	%	--
1,2-Dichloroethane-d4	87	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0808V4.5
Lab ID: 010149-0009-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080912
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	1000
Carbon disulfide	ND	ug/kg	1000
Chlorobenzene	ND	ug/kg	1000
Chloroform	ND	ug/kg	1000
EDB (1,2-Dibromoethane)	ND	ug/kg	2000
1,2-Dichloroethane	ND	ug/kg	1000
1,4-Dioxane	ND	ug/kg	100000
Ethylbenzene	ND	ug/kg	1000
2-Butanone (MEK)	ND	ug/kg	2000
Styrene	ND	ug/kg	1000
Toluene	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	1000
Toluene-d8	99	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	105	%	--

ND = Not detected
NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: RFI0807E25.5
Lab ID: 010149-0010-SA
Matrix: AQUEOUS
Authorized: 28 JUN 90

Enseco ID: 1080913
Sampled: 26 JUN 90
Prepared: 05 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	5.0
Carbon disulfide	7.8	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
EDB (1,2-Dibromoethane)	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
2-Butanone (MEK)	ND	ug/L	10
Toluene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0
Toluene-d8	101	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	113	%	--

ND = Not detected
NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: RFI0809V.5
Lab ID: 010149-0011-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080914
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	99	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	104	%	--

ND = Not detected
NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: RFI0809V2.5
Lab ID: 010149-0012-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080915
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	5000
Carbon disulfide	ND	ug/kg	5000
Chlorobenzene	ND	ug/kg	5000
Chloroform	ND	ug/kg	5000
EDB (1,2-Dibromoethane)	ND	ug/kg	10000
1,2-Dichloroethane	ND	ug/kg	5000
1,4-Dioxane	ND	ug/kg	500000
Ethylbenzene	ND	ug/kg	5000
2-Butanone (MEK)	ND	ug/kg	10000
Styrene	ND	ug/kg	5000
Toluene	ND	ug/kg	5000
Xylenes (total)	ND	ug/kg	5000
Toluene-d8	93	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	109	%	--

ND = Not detected
NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0809V4.5
Lab ID: 010149-0013-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080916
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	99	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: TRIP BLANK
Lab ID: 010149-0014-SA
Matrix: AQUEOUS
Authorized: 28 JUN 90

Enseco ID: 1080917
Sampled: Unknown
Prepared: 05 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	5.0
Carbon disulfide	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
EDB (1,2-Dibromoethane)	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
2-Butanone (MEK)	ND	ug/L	10
Toluene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0
Toluene-d8	100	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	100	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0803A05.0
Lab ID: 010149-0015-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080918
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 05 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	1000
Carbon disulfide	ND	ug/kg	1000
Chlorobenzene	ND	ug/kg	1000
Chloroform	ND	ug/kg	1000
EDB (1,2-Dibromoethane)	ND	ug/kg	2000
1,2-Dichloroethane	ND	ug/kg	1000
1,4-Dioxane	ND	ug/kg	100000
Ethylbenzene	ND	ug/kg	1000
2-Butanone (MEK)	ND	ug/kg	2000
Styrene	ND	ug/kg	1000
Toluene	ND	ug/kg	1000
Xylenes (total)	6600	ug/kg	1000
Toluene-d8	100	%	--
4-Bromofluorobenzene	96	%	--
1,2-Dichloroethane-d4	100	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Method 8240

Client Name: Giant Refining
Client ID: RFI0803A08.0
Lab ID: 010149-0016-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080919
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	98	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	94	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0803A10.5
Lab ID: 010149-0017-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080920
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	98	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	97	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0802A05.0
Lab ID: 010149-0018-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080921
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	101	%	--
4-Bromofluorobenzene	99	%	--
1,2-Dichloroethane-d4	92	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0802D05.0
Lab ID: 010149-0019-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080922
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	97	%	--
1,2-Dichloroethane-d4	96	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RF10802A08.0
Lab ID: 010149-0020-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080923
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	500	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	96	%	--
1,2-Dichloroethane-d4	93	%	--

ND = Not detected
NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0802A10.5
Lab ID: 010149-0021-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080924
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	590	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	99	%	--
4-Bromofluorobenzene	103	%	--
1,2-Dichloroethane-d4	95	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0801A05.0
Lab ID: 010149-0022-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080925
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	570	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	5200	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	96	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0801A08.0
Lab ID: 010149-0023-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080926
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	99	%	--
4-Bromofluorobenzene	101	%	--
1,2-Dichloroethane-d4	92	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI0801A10.5
Lab ID: 010149-0024-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080927
Sampled: 26 JUN 90
Prepared: 02 JUL 90

Received: 27 JUN 90
Analyzed: 06 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	101	%	--
4-Bromofluorobenzene	102	%	--
1,2-Dichloroethane-d4	94	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0806V08.0
 Lab ID: 010149-0001-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080904
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	72	%	--
2-Fluorobiphenyl	74	%	--
Terphenyl-d14	81	%	--
Phenol-d5	58	%	--
2-Fluorophenol	60	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff. Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0806V08.0
 Lab ID: 010149-0001-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080904
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	54	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0806V10.5
 Lab ID: 010149-0002-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080905
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	84	%	--
2-Fluorobiphenyl	87	%	--
Terphenyl-d14	94	%	--
Phenol-d5	66	%	--
2-Fluorophenol	72	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0806V10.5
 Lab ID: 010149-0002-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080905
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	60	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0806V05.0
 Lab ID: 010149-0003-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080906
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	108	%	--
2-Fluorobiphenyl	104	%	--
Terphenyl-d14	119	%	--
Phenol-d5	85	%	--
2-Fluorophenol	91	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0806V05.0
 Lab ID: 010149-0003-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080906
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	77	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0807V0.5
 Lab ID: 010149-0004-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080907
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	95	%	--
2-Fluorobiphenyl	100	%	--
Terphenyl-d14	105	%	--
Phenol-d5	76	%	--
2-Fluorophenol	79	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RF10807V0.5
 Lab ID: 010149-0004-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080907
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	59	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0807V2.5
 Lab ID: 010149-0005-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080908
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	25000	ug/kg	5000
Naphthalene	14000	ug/kg	5000
Phenanthrene	11000	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	90	%	--
2-Fluorobiphenyl	95	%	--
Terphenyl-d14	101	%	--
Phenol-d5	76	%	--
2-Fluorophenol	80	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0807V2.5
 Lab ID: 010149-0005-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080908
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	59	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0807V4.5
 Lab ID: 010149-0006-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080909
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	98	%	--
2-Fluorobiphenyl	98	%	--
Terphenyl-d14	110	%	--
Phenol-d5	71	%	--
2-Fluorophenol	80	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0807V4.5
 Lab ID: 010149-0006-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080909
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	59	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Method 8270

Client Name: Giant Refining
 Client ID: RFI0808V0.5
 Lab ID: 010149-0007-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080910
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	96	%	--
2-Fluorobiphenyl	97	%	--
Terphenyl-d14	108	%	--
Phenol-d5	66	%	--
2-Fluorophenol	72	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0808V0.5
 Lab ID: 010149-0007-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080910
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	55	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0808V2.5
 Lab ID: 010149-0008-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080911
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	35000	ug/kg	5000
Naphthalene	20000	ug/kg	5000
Phenanthrene	18000	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	71	%	--
2-Fluorobiphenyl	84	%	--
Terphenyl-d14	87	%	--
Phenol-d5	68	%	--
2-Fluorophenol	69	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff. Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0808V2.5
 Lab ID: 010149-0008-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080911
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	54	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI0808V4.5
 Lab ID: 010149-0009-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080912
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	95	%	--
2-Fluorobiphenyl	100	%	--
Terphenyl-d14	103	%	--
Phenol-d5	76	%	--
2-Fluorophenol	82	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0808V4.5
 Lab ID: 010149-0009-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080912
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	65	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Method 8270

Client Name: Giant Refining
 Client ID: RFI0807E25.5
 Lab ID: 010149-0010-SA
 Matrix: AQUEOUS
 Authorized: 28 JUN 90

Enseco ID: 1080913
 Sampled: 26 JUN 90
 Prepared: 01 JUL 90

Received: 27 JUN 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/L	10
Benzo(a)anthracene	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
bis(2-Ethylhexyl) phthalate	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
Chrysene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10
7,12-Dimethylbenz(a)-anthracene	ND	ug/L	10
Dimethyl phthalate	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Fluoranthene	ND	ug/L	10
Indene	ND	ug/L	10
1-Methylnaphthalene	ND	ug/L	10
Naphthalene	ND	ug/L	10
Phenanthrene	ND	ug/L	10
Pyrene	ND	ug/L	10
Pyridine	ND	ug/L	10
Quinoline	ND	ug/L	10
Benzenethiol	ND	ug/L	--
Dibenz(a,h)acridine	ND	ug/L	--
o-Cresol	ND	ug/L	10
m & p-Cresol(s)	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
2,4-Dinitrophenol	ND	ug/L	50
4-Nitrophenol	ND	ug/L	50
Phenol	ND	ug/L	10
Nitrobenzene-d5	64	%	--
2-Fluorobiphenyl	55	%	--
Terphenyl-d14	73	%	--
Phenol-d5	60	%	--
2-Fluorophenol	60	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff. Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)



Method 8270

Client Name: Giant Refining
 Client ID: RFI0807E25.5
 Lab ID: 010149-0010-SA
 Matrix: AQUEOUS
 Authorized: 28 JUN 90

Enseco ID: 1080913
 Sampled: 26 JUN 90
 Prepared: 01 JUL 90

Received: 27 JUN 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	52	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0809V.5
 Lab ID: 010149-0011-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080914
 Sampled: 26 JUN 90
 Prepared: 18 JUL 90

Received: 27 JUN 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	60	%	--
2-Fluorobiphenyl	64	%	--
Terphenyl-d14	56	%	--
Phenol-d5	71	%	--
2-Fluorophenol	71	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Scott Frencis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RF10809V.5
Lab ID: 010149-0011-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080914
Sampled: 26 JUN 90
Prepared: 18 JUL 90

Received: 27 JUN 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	77	%	--

ND = Not detected
NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0809V2.5
 Lab ID: 010149-0012-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080915
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	57000	ug/kg	5000
Naphthalene	24000	ug/kg	5000
Phenanthrene	25000	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	37	%	--
2-Fluorobiphenyl	42	%	--
Terphenyl-d14	45	%	--
Phenol-d5	66	%	--
2-Fluorophenol	69	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining

Client ID: RFI0809V2.5

Lab ID: 010149-0012-SA

Matrix: SOIL

Authorized: 28 JUN 90

Enseco ID: 1080915

Sampled: 26 JUN 90

Prepared: 03 JUL 90

Received: 27 JUN 90

Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	73	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0809V4.5
 Lab ID: 010149-0013-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080916
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	6700	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	79	%	--
2-Fluorobiphenyl	88	%	--
Terphenyl-d14	92	%	--
Phenol-d5	66	%	--
2-Fluorophenol	70	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0809V4.5
Lab ID: 010149-0013-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080916
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	60	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie PoturaTski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0803A05.0
 Lab ID: 010149-0015-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080918
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	18000	ug/kg	5000
Naphthalene	5600	ug/kg	5000
Phenanthrene	14000	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	75	%	--
2-Fluorobiphenyl	86	%	--
Terphenyl-d14	89	%	--
Phenol-d5	74	%	--
2-Fluorophenol	77	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0803A05.0
Lab ID: 010149-0015-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080918
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	70	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0803A08.0
 Lab ID: 010149-0016-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080919
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	90	%	--
2-Fluorobiphenyl	99	%	--
Terphenyl-d14	106	%	--
Phenol-d5	73	%	--
2-Fluorophenol	77	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0803A08.0
Lab ID: 010149-0016-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080919
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	82	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
Client ID: RFI0803A10.5
Lab ID: 010149-0017-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080920
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	88	%	--
2-Fluorobiphenyl	95	%	--
Terphenyl-d14	102	%	--
Phenol-d5	71	%	--
2-Fluorophenol	78	%	--

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0803A10.5
Lab ID: 010149-0017-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080920
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	70	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)**Method 8270**

Client Name: Giant Refining
Client ID: RFI0802A05.0
Lab ID: 010149-0018-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080921
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	83	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturański

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0802D05.0
 Lab ID: 010149-0019-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080922
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	93	%	--
2-Fluorobiphenyl	95	%	--
Terphenyl-d14	103	%	--
Phenol-d5	74	%	--
2-Fluorophenol	83	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0802D05.0
Lab ID: 010149-0019-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080922
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	83	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RF10802A08.0
 Lab ID: 010149-0020-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080923
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	83	%	--
2-Fluorobiphenyl	89	%	--
Terphenyl-d14	100	%	--
Phenol-d5	58	%	--
2-Fluorophenol	63	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0802A08.0
Lab ID: 010149-0020-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080923
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	63	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff. Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0802A10.5
 Lab ID: 010149-0021-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080924
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	72	%	--
2-Fluorobiphenyl	86	%	--
Terphenyl-d14	91	%	--
Phenol-d5	52	%	--
2-Fluorophenol	59	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0802A10.5
Lab ID: 010149-0021-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080924
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	55	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
Client ID: RFI0801A05.0
Lab ID: 010149-0022-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080925
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	19000	ug/kg	5000
Naphthalene	7400	ug/kg	5000
Phenanthrene	17000	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	68	%	--
2-Fluorobiphenyl	91	%	--
Terphenyl-d14	96	%	--
Phenol-d5	63	%	--
2-Fluorophenol	73	%	--

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0801A05.0
Lab ID: 010149-0022-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080925
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	62	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
Client ID: RFI0801A08.0
Lab ID: 010149-0023-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080926
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	94	%	--
2-Fluorobiphenyl	107	%	--
Terphenyl-d14	111	%	--
Phenol-d5	62	%	--
2-Fluorophenol	73	%	--

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturałski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RF10801A08.0
Lab ID: 010149-0023-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080926
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	67	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI0801A10.5
 Lab ID: 010149-0024-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080927
 Sampled: 26 JUN 90
 Prepared: 03 JUL 90

Received: 27 JUN 90
 Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	80	%	--
2-Fluorobiphenyl	94	%	--
Terphenyl-d14	93	%	--
Phenol-d5	54	%	--
2-Fluorophenol	64	%	--

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturański

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0801A10.5
Lab ID: 010149-0024-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080927
Sampled: 26 JUN 90
Prepared: 03 JUL 90

Received: 27 JUN 90
Analyzed: 18 JUL 90

Parameter	Result	Units	Reporting Limit
2,4,6-Tribromophenol	66	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff. Lowry

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0806V08.0
 Lab ID: 010149-0001-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080904
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	281	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.99	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	7.3	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	2.7	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	5.1	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	8.9	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	8.5	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1830	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	15.0	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	13.5	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0806V10.5
 Lab ID: 010149-0002-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080905
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	203	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	7.0	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	3.5	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	6.3	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	10.8	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	9.3	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1290	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	13.8	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	13.2	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0806V05.0
Lab ID: 010149-0003-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080906
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	264	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.77	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	5.1	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	1.6	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	4.4	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	7.6	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	5.7	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1140	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	13.2	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	10.0	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will. Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0807V0.5
 Lab ID: 010149-0004-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080907
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	258	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	1.0	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	7.2	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	3.1	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	5.7	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	11.5	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	9.3	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1370	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	14.7	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	14.8	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0807V2.5
Lab ID: 010149-0005-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080908
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	257	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.98	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	7.2	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	2.9	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	5.0	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	9.9	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	8.3	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1190	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	15.0	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	12.5	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0807V4.5
Lab ID: 010149-0006-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080909
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	604	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	3.0	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	0.99	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	18.0	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	7.8	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	13.6	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	27.6	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	20.9	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	3210	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	41.1	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	30.3	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0808V0.5
Lab ID: 010149-0007-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080910
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	206	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.83	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	6.6	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	3.1	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	4.7	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	12.6	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	8.0	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1470	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	0.50	7740	16 JUL 90	18 JUL 90
Vanadium	13.2	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	15.7	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0808V2.5
 Lab ID: 010149-0008-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080911
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	246	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.91	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	6.5	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	2.5	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	5.1	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	8.6	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	7.4	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1060	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	14.1	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	11.7	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0808V4.5
Lab ID: 010149-0009-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080912
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	210	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.62	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	4.5	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	1.5	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	3.3	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	8.6	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	4.7	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	704	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	12.0	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	7.9	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0807E25.5
 Lab ID: 010149-0010-SA
 Matrix: AQUEOUS
 Authorized: 28 JUN 90

Enseco ID: 1080913
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/L	0.060	6010	16 JUL 90	17 JUL 90
Arsenic	ND	mg/L	0.0050	7060	16 JUL 90	19 JUL 90
Barium	ND	mg/L	0.010	6010	16 JUL 90	17 JUL 90
Beryllium	ND	mg/L	0.0020	6010	16 JUL 90	17 JUL 90
Cadmium	0.0056	mg/L	0.0055	6010	16 JUL 90	17 JUL 90
Chromium	ND	mg/L	0.010	6010	16 JUL 90	17 JUL 90
Cobalt	ND	mg/L	0.010	6010	16 JUL 90	17 JUL 90
Copper	ND	mg/L	0.020	6010	16 JUL 90	17 JUL 90
Lead	ND	mg/L	0.0050	7421	16 JUL 90	19 JUL 90
Mercury	ND	mg/L	0.00020	7470	17 JUL 90	18 JUL 90
Nickel	ND	mg/L	0.040	6010	16 JUL 90	17 JUL 90
Potassium	ND	mg/L	5.0	6010	16 JUL 90	17 JUL 90
Selenium	ND	mg/L	0.0050	7740	16 JUL 90	18 JUL 90
Vanadium	ND	mg/L	0.010	6010	16 JUL 90	17 JUL 90
Zinc	ND	mg/L	0.020	6010	16 JUL 90	17 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0809V.5
Lab ID: 010149-0011-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080914
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	293	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	1.0	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	8.5	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	2.6	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	5.7	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	11.7	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	8.4	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1580	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	16.2	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	17.2	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0809V2.5
 Lab ID: 010149-0012-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080915
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	242	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.83	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	5.7	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	2.5	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	4.2	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	8.2	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	7.0	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1050	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	13.3	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	11.0	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0809V4.5
Lab ID: 010149-0013-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080916
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	197	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.86	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	4.7	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	2.2	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	4.8	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	8.5	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	5.3	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	951	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	12.8	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	8.9	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0803A05.0
 Lab ID: 010149-0015-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080918
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	18 JUL 90	23 JUL 90
Arsenic	ND	mg/kg	0.50	7060	16 JUL 90	18 JUL 90
Barium	223	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Beryllium	0.90	mg/kg	0.20	6010	18 JUL 90	23 JUL 90
Cadmium	ND	mg/kg	0.50	6010	18 JUL 90	23 JUL 90
Chromium	5.6	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Cobalt	2.2	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Copper	5.1	mg/kg	2.0	6010	18 JUL 90	23 JUL 90
Lead	12.5	mg/kg	5.0	6010	18 JUL 90	23 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	6.7	mg/kg	4.0	6010	18 JUL 90	23 JUL 90
Potassium	1320	mg/kg	500	6010	18 JUL 90	23 JUL 90
Selenium	ND	mg/kg	1.0	7740	16 JUL 90	18 JUL 90
Vanadium	14.0	mg/kg	1.0	6010	18 JUL 90	23 JUL 90
Zinc	11.4	mg/kg	2.0	6010	18 JUL 90	23 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Fred Velasquez

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0803A08.0
 Lab ID: 010149-0016-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080919
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	242	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	10.4	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	3.6	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	8.9	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	5.4	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	9.7	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	2820	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	0.50	7740	19 JUL 90	25 JUL 90
Vanadium	17.6	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	17.3	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0803A10.5
 Lab ID: 010149-0017-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080920
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	277	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	0.67	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	4.3	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	1.5	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	3.6	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	5.6	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	4.7	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	665	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	1.0	7740	19 JUL 90	25 JUL 90
Vanadium	13.1	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	8.3	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0802A05.0
Lab ID: 010149-0018-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080921
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	232	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	7.5	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	3.4	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	5.7	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	11.7	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	8.8	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	1400	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	0.50	7740	19 JUL 90	25 JUL 90
Vanadium	15.0	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	13.1	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0802D05.0
Lab ID: 010149-0019-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080922
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	259	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	8.7	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	3.5	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	5.3	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	10.8	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	9.7	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	1610	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	0.50	7740	19 JUL 90	25 JUL 90
Vanadium	15.9	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	14.5	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0802A08.0
 Lab ID: 010149-0020-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080923
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	330	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	9.5	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	3.0	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	5.8	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	6.9	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	9.2	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	2390	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	1.0	7740	19 JUL 90	25 JUL 90
Vanadium	17.1	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	16.9	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0802A10.5
 Lab ID: 010149-0021-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080924
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	276	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	8.4	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	3.3	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	6.7	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	8.5	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	9.3	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	1350	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	1.0	7740	19 JUL 90	25 JUL 90
Vanadium	15.8	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	13.9	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
Client ID: RFI0801A05.0
Lab ID: 010149-0022-SA
Matrix: SOIL
Authorized: 28 JUN 90

Enseco ID: 1080925
Sampled: 26 JUN 90
Prepared: See Below

Received: 27 JUN 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	275	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	0.97	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	7.9	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	2.7	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	4.5	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	7.1	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	8.5	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	1440	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	1.0	7740	19 JUL 90	25 JUL 90
Vanadium	13.9	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	12.6	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0801A08.0
 Lab ID: 010149-0023-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080926
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	432	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	10.9	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	2.5	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	5.9	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	7.2	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	10.1	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	2480	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	1.0	7740	19 JUL 90	25 JUL 90
Vanadium	16.9	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	16.4	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

Metals

Total Metals

Client Name: Giant Refining
 Client ID: RFI0801A10.5
 Lab ID: 010149-0024-SA
 Matrix: SOIL
 Authorized: 28 JUN 90

Enseco ID: 1080927
 Sampled: 26 JUN 90
 Prepared: See Below

Received: 27 JUN 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	19 JUL 90	24 JUL 90
Arsenic	ND	mg/kg	0.50	7060	19 JUL 90	25 JUL 90
Barium	308	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	19 JUL 90	24 JUL 90
Cadmium	ND	mg/kg	0.50	6010	19 JUL 90	24 JUL 90
Chromium	6.2	mg/kg	1.2	6010	19 JUL 90	24 JUL 90
Cobalt	2.2	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Copper	7.0	mg/kg	2.0	6010	19 JUL 90	24 JUL 90
Lead	8.6	mg/kg	5.0	6010	19 JUL 90	24 JUL 90
Mercury	ND	mg/kg	0.10	7471	17 JUL 90	18 JUL 90
Nickel	7.3	mg/kg	4.0	6010	19 JUL 90	24 JUL 90
Potassium	960	mg/kg	500	6010	19 JUL 90	24 JUL 90
Selenium	ND	mg/kg	1.0	7740	19 JUL 90	25 JUL 90
Vanadium	13.5	mg/kg	1.0	6010	19 JUL 90	24 JUL 90
Zinc	11.2	mg/kg	2.0	6010	19 JUL 90	24 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Will Pratt

IV. QUALITY CONTROL REPORT

The Enseco laboratories operate under a vigorous QA/QC program designed to ensure the generation of scientifically valid, legally defensible data by monitoring every aspect of laboratory operations. Routine QA/QC procedures include the use of approved methodologies, independent verification of analytical standards, use of duplicate Laboratory Control Samples to assess the precision and accuracy of the methodology on a routine basis, and a rigorous system of data review.

In addition, the Enseco laboratories maintain a comprehensive set of certifications from both state and federal governmental agencies which require frequent analyses of blind audit samples. Enseco - Rocky Mountain Analytical Laboratory is certified by the EPA under the EPA/CLP program for both Organic and Inorganic analyses, under the USATHAMA (U.S. Army) program, by the Army Corps of Engineers, and the states of Colorado, New Jersey, New York, Utah, and Florida, among others.

The standard laboratory QC package is designed to:

- 1) establish a strong, cost-effective QC program that ensures the generation of scientifically valid, legally defensible data
- 2) assess the laboratory's performance of the analytical method using control limits generated with a well-defined matrix
- 3) establish clear-cut guidelines for acceptability of analytical data so that QC decisions can be made immediately at the bench, and
- 4) provide a standard set of reportables which assures the client of the quality of his data.

The Enseco QC program is based upon monitoring the precision and accuracy of an analytical method by analyzing a set of Duplicate Control Samples (DCS) at frequent, well-defined intervals. Each DCS is a well-characterized matrix which is spiked with target compounds at 5-100 times the reporting limit, depending upon the methodology being monitored. The purpose of the DCS is not to duplicate the sample matrix, but rather to provide an interference-free, homogeneous matrix from which to gather data to establish control limits. These limits are used to determine whether data generated by the laboratory on any given day is in control.

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery $\pm$ 3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference + 3 standard deviation units. These control limits are fairly narrow based on the consistency of the matrix being monitored and are updated on a quarterly basis.

For each batch of samples analyzed, an additional control measure is taken in the form of a Single Control Sample (SCS). The SCS consists of a control matrix that is spiked with surrogate compounds appropriate to the method being used. In cases where no surrogate is available, (e.g., metals or conventional analyses) a single DCS serves as the control sample. An SCS is prepared for each sample lot for which the DCS pair are not analyzed. The recovery of the SCS is charted in exactly the same manner as described for the DCS, and provides a daily check on the performance of the method.

Accuracy for DCS and SCS is measured by Percent Recovery.

$$\% \text{ Recovery} = \frac{\text{Measured Concentration}}{\text{Actual Concentration}} \times 100$$

Precision for DCS is measured by Relative Percent Difference (RPD).

$$\text{RPD} = \frac{|\text{Measured Concentration DCS1} - \text{Measured Concentration DCS2}|}{(\text{Measured Concentration DCS1} + \text{Measured Concentration DCS2})/2} \times 100$$

All samples analyzed concurrently by the same test are assigned the same QC lot number. Projects which contain numerous samples, analyzed over several days, may have multiple QC lot numbers associated with each test. The QC information which follows includes a listing of the QC lot numbers associated with each of the samples reported, DCS and SCS (where applicable) recoveries from the QC lots associated with the samples, and control limits for these lots. The QC data is reported by test code, in the order that the tests are reported in the analytical results section of this report.

QC LOT ASSIGNMENT REPORT

Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010149-0001-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0002-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0003-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0004-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0005-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0006-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0007-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0008-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H
010149-0009-SA	SOIL	8240-S	11 JUN 90-L	05 JUL 90-L
010149-0010-SA	AQUEOUS	624-A	04 JUL 90-L	05 JUL 90-L
010149-0011-SA	SOIL	8240-S	11 JUN 90-L	05 JUL 90-L
010149-0012-SA	SOIL	8240-S	11 JUN 90-L	05 JUL 90-L
010149-0013-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H2
010149-0014-SA	AQUEOUS	624-A	02 JUL 90-H	05 JUL 90-H2
010149-0015-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H2
010149-0016-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H2
010149-0017-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H2
010149-0018-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H2
010149-0019-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H2
010149-0020-SA	SOIL	8240-S	29 JUN 90-H	05 JUL 90-H2
010149-0021-SA	SOIL	8240-S	05 JUL 90-H	06 JUL 90-H
010149-0022-SA	SOIL	8240-S	05 JUL 90-H	06 JUL 90-H
010149-0023-SA	SOIL	8240-S	05 JUL 90-H	06 JUL 90-H
010149-0024-SA	SOIL	8240-S	05 JUL 90-H	06 JUL 90-H

DUPLICATE CONTROL SAMPLE REPORT
 Volatile Organics by GC/MS

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: 8240-S									
Matrix: SOIL									
QC Lot: 29 JUN 90-H									
Concentration Units: ug/kg									
1,1-Dichloroethene	5000	4410		4990	4700	94	59-172	12	22
Trichloroethene	5000	5440		6060	5750	115	62-137	11	24
Benzene	5000	5840		6500	6170	123	66-142	11	21
Toluene	5000	5410		5980	5700	114	59-139	10	21
Chlorobenzene	5000	5710		5960	5840	117	60-133	4.3	21

Category: 8240-S
 Matrix: SOIL
 QC Lot: 11 JUN 90-L
 Concentration Units: ug/kg

1,1-Dichloroethene	5000	5540	5640	5590	112	59-172	1.8	22
Trichloroethene	5000	5750	5890	5820	116	62-137	2.4	24
Benzene	5000	5330	5400	5360	107	66-142	1.3	21
Toluene	5000	5580	5450	5520	110	59-139	2.4	21
Chlorobenzene	5000	5620	5610	5620	112	60-133	0.2	21

Category: 624-A
 Matrix: AQUEOUS
 QC Lot: 04 JUL 90-L
 Concentration Units: ug/L

1,1-Dichloroethene	50	43.0	42.0	42.5	85	61-145	2.4	14
Trichloroethene	50	48.8	47.0	47.9	96	71-120	3.8	14
Benzene	50	46.8	46.7	46.8	94	76-127	0.2	11
Toluene	50	44.8	47.5	46.2	92	76-125	5.9	13
Chlorobenzene	50	45.4	49.0	47.2	94	75-130	7.6	13

Category: 624-A
 Matrix: AQUEOUS
 QC Lot: 02 JUL 90-H
 Concentration Units: ug/L

1,1-Dichloroethene	50	48.9	47.4	48.2	96	61-145	3.1	14
Trichloroethene	50	51.7	52.8	52.2	105	71-120	2.1	14
Benzene	50	56.7	57.1	56.9	114	76-127	0.7	11
Toluene	50	53.3	55.6	54.4	109	76-125	4.2	13

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
 Volatile Organics by GC/MS (cont.)

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		Average(%)	Limits	(RPD)	DCS Limit

Category: 624-A
 Matrix: AQUEOUS
 QC Lot: 02 JUL 90-H
 Concentration Units: ug/L

Chlorobenzene	50	54.4	55.8	55.1	110	75-130	2.5	13
---------------	----	------	------	------	-----	--------	-----	----

Category: 8240-S
 Matrix: SOIL
 QC Lot: 05 JUL 90-H
 Concentration Units: ug/kg

1,1-Dichloroethene	5000	5220	5570	5400	108	59-172	6.5	22
Trichloroethene	5000	5420	5530	5480	110	62-137	2.0	24
Benzene	5000	5300	5430	5360	107	66-142	2.4	21
Toluene	5000	5240	5260	5250	105	59-139	0.4	21
Chlorobenzene	5000	5580	5610	5600	112	60-133	0.5	21

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
 Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8240-S

Matrix: SOIL

QC Lot: 29 JUN 90-H QC Run: 05 JUL 90-H

Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	4810	96	70-121
4-Bromofluorobenzene	5000	4880	98	74-121
Toluene-d8	5000	4940	99	81-117

Category: 8240-S

Matrix: SOIL

QC Lot: 11 JUN 90-L QC Run: 05 JUL 90-L

Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	4600	92	70-121
4-Bromofluorobenzene	5000	4660	93	74-121
Toluene-d8	5000	4930	99	81-117

Category: 624-A

Matrix: AQUEOUS

QC Lot: 04 JUL 90-L QC Run: 05 JUL 90-L

Concentration Units: ug/L

1,2-Dichloroethane-d4	50.0	46.0	92	76-114
4-Bromofluorobenzene	50.0	46.6	93	86-115
Toluene-d8	50.0	49.3	99	88-110

Category: 8240-S

Matrix: SOIL

QC Lot: 29 JUN 90-H QC Run: 05 JUL 90-H2

Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	5090	102	70-121
4-Bromofluorobenzene	5000	4980	100	74-121
Toluene-d8	5000	5070	101	81-117

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT Volatile Organics by GC/MS (cont.)

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 624-A
 Matrix: AQUEOUS
 QC Lot: 02 JUL 90-H QC Run: 05 JUL 90-H2
 Concentration Units: ug/L

1,2-Dichloroethane-d4	50.0	50.9	102	76-114
4-Bromofluorobenzene	50.0	49.8	100	86-115
Toluene-d8	50.0	50.7	101	88-110

Category: 8240-S
 Matrix: SOIL
 QC Lot: 05 JUL 90-H QC Run: 06 JUL 90-H
 Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	5020	100	70-121
4-Bromofluorobenzene	5000	4950	99	74-121
Toluene-d8	5000	4920	98	81-117

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240-REF-S			
Matrix: SOIL			
QC Lot: 29 JUN 90-H QC Run: 05 JUL 90-H			
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500

Test: 8240-REF-S
 Matrix: SOIL
 QC Lot: 11 JUN 90-L QC Run: 05 JUL 90-L

Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500

Test: 624-REF-AP
 Matrix: AQUEOUS
 QC Lot: 04 JUL 90-L QC Run: 05 JUL 90-L

Benzene	ND	ug/L	5.0
Carbon disulfide	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
EDB (1,2-Dibromoethane)	ND	ug/L	5.0

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-REF-AP			
Matrix: AQUEOUS			
QC Lot: 04 JUL 90-L QC Run: 05 JUL 90-L			
1,2-Dichloroethane	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
2-Butanone (MEK)	ND	ug/L	10
Toluene	ND	ug/L	5.0
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0

Test: 8240-REF-S
 Matrix: SOIL
 QC Lot: 29 JUN 90-H QC Run: 05 JUL 90-H2

Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500

Test: 624-REF-AP
 Matrix: AQUEOUS
 QC Lot: 02 JUL 90-H QC Run: 05 JUL 90-H2

Benzene	ND	ug/L	5.0
Carbon disulfide	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
EDB (1,2-Dibromoethane)	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
2-Butanone (MEK)	ND	ug/L	10
Toluene	ND	ug/L	5.0

METHOD BLANK REPORT
 Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-REF-AP			
Matrix: AQUEOUS			
QC Lot: 02 JUL 90-H QC Run: 05 JUL 90-H2			
Styrene	ND	ug/L	5.0
Xylenes (total)	ND	ug/L	5.0

Test: 8240-REF-S
 Matrix: SOIL
 QC Lot: 05 JUL 90-H QC Run: 06 JUL 90-H

Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500

QC LOT ASSIGNMENT REPORT Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010149-0001-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0002-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0003-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0004-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0005-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0006-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0007-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0008-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0009-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0010-SA	AQUEOUS	625-A	01 JUL 90-A	01 JUL 90-A
010149-0011-SA	SOIL	8270-S	17 JUL 90-A	18 JUL 90-A
010149-0012-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0013-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0015-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0016-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0017-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0018-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0019-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0020-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0021-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0022-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0023-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B
010149-0024-SA	SOIL	8270-S	03 JUL 90-A	03 JUL 90-B

DUPLICATE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		DCS	Average(%) Limits	(RPD) DCS Limit	

Category: 8270-S
Matrix: SOIL
QC Lot: 03 JUL 90-A
Concentration Units: ug/kg

Phenol	6670	5220	4630	4920	74	26- 90	12	35
2-Chlorophenol	6670	5270	4720	5000	75	25-102	11	50
1,4-Dichlorobenzene	3330	1930	2080	2000	60	28-104	7.5	27
N-Nitroso-di-n-propylamine	3330	2340	2190	2260	68	41-126	6.6	38
1,2,4-Trichlorobenzene	3330	2510	2340	2420	73	38-107	7.0	23
4-Chloro-3-methylphenol	6670	5620	4730	5180	78	26-103	17	33
Acenaphthene	3330	2320	2050	2180	66	31-137	12	19
4-Nitrophenol	6670	2430	1740	2080	31	11-114	33	50
2,4-Dinitrotoluene	3330	2660	2290	2480	74	28- 89	15	47
Pentachlorophenol	6670	2890	1720	2300	35	17-109	51	47
Pyrene	3330	3160	2440	2800	84	35-142	26	36

Category: 625-A
Matrix: AQUEOUS
QC Lot: 01 JUL 90-A
Concentration Units: ug/L

Phenol	100	58.6	73.6	66.1	66	12- 89	23	42
2-Chlorophenol	100	61.2	74.5	67.8	68	27-123	20	40
1,4-Dichlorobenzene	50	19.7	22.8	21.2	43	36- 97	15	28
N-Nitroso-di-n-propylamine	50	29.8	31.1	30.4	61	41-116	4.3	38
1,2,4-Trichlorobenzene	50	21.6	25.7	23.6	47	39- 98	17	28
4-Chloro-3-methylphenol	100	67.0	77.5	72.2	72	23- 97	15	42
Acenaphthene	50	23.3	26.6	25.0	50	46-118	13	31
4-Nitrophenol	100	51.0	66.7	58.8	59	10- 80	27	50
2,4-Dinitrotoluene	50	34.0	34.2	34.1	68	24- 96	0.6	38
Pentachlorophenol	100	5.39	13.5	9.44	9	9-103	86	50
Pyrene	50	33.3	35.5	34.4	69	26-127	6.4	31

Category: 8270-S
Matrix: SOIL
QC Lot: 17 JUL 90-A
Concentration Units: ug/kg

Phenol	6670	4640	4020	4330	65	26- 90	14	35
2-Chlorophenol	6670	6030	5100	5560	83	25-102	17	50

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
 Semivolatile Organics by GC/MS (cont.)

Analyte	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
	Spiked	DCS1			DCS	Limits	DCS	Limit
Category: 8270-S								
Matrix: SOIL								
QC Lot: 17 JUL 90-A								
Concentration Units: ug/kg								
1,4-Dichlorobenzene	3330	2440	2110	2280	68	28-104	15	27
N-Nitroso-di-								
? n-propylamine	3330	2180	1870	2020	61	41-126	15	38
1,2,4-Trichlorobenzene	3330	3080	2690	2880	87	38-107	14	23
4-Chloro-3-methylphenol	6670	5790	5100	5440	82	26-103	13	33
Acenaphthene	3330	2920	2530	2720	82	31-137	14	19
4-Nitrophenol	6670	4150	3020	3580	54	11-114	32	50
2,4-Dinitrotoluene	3330	3370	3020	3200	96	28- 89	11	47
Pentachlorophenol	6670	2480	1530	2000	30	17-109	47	47
Pyrene	3330	3190	2950	3070	92	35-142	7.8	36

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT

Semivolatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8270-S

Matrix: SOIL

QC Lot: 03 JUL 90-A QC Run: 03 JUL 90-B

Concentration Units: ug/kg

Nitrobenzene-d5	1670	967	58	23-120
2-Fluorobiphenyl	1670	1070	64	30-115
Terphenyl-d14	1670	1130	68	18-137
2-Fluorophenol	3330	2170	65	25-121
Phenol-d5	3330	1910	57	24-113
2,4,6-Tribromophenol	3330	2040	61	19-122

Category: 625-A

Matrix: AQUEOUS

QC Lot: 01 JUL 90-A QC Run: 01 JUL 90-A

Concentration Units: ug/L

Nitrobenzene-d5	100	55.3	55	35-114
2-Fluorobiphenyl	100	58.3	58	43-116
Terphenyl-d14	100	70.3	70	33-141
2-Fluorophenol	200	115	58	21-100
Phenol-d5	200	114	57	10- 94
2,4,6-Tribromophenol	200	104	52	10-123

Category: 8270-S

Matrix: SOIL

QC Lot: 17 JUL 90-A QC Run: 18 JUL 90-A

Concentration Units: ug/kg

Nitrobenzene-d5	1670	1210	72	23-120
2-Fluorobiphenyl	1670	1210	72	30-115
Terphenyl-d14	1670	1290	77	18-137
2-Fluorophenol	3330	2320	70	25-121
Phenol-d5	3330	2400	72	24-113
2,4,6-Tribromophenol	3330	1450	44	19-122

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
 Semivolatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8270-REF-S			
Matrix: SOIL			
QC Lot: 03 JUL 90-A QC Run: 03 JUL 90-B			
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 625-REF-A			
Matrix: AQUEOUS			
QC Lot: 01 JUL 90-A QC Run: 01 JUL 90-A			
Anthracene	ND	ug/L	10
Benzo(a)anthracene	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
bis(2-Ethylhexyl) phthalate	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
Chrysene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10
7,12-Dimethylbenz(a)- anthracene	ND	ug/L	10
Dimethyl phthalate	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Fluoranthene	ND	ug/L	10
Indene	ND	ug/L	10
1-Methylnaphthalene	ND	ug/L	10
Naphthalene	ND	ug/L	10
Phenanthrene	ND	ug/L	10
Pyrene	ND	ug/L	10
Pyridine	ND	ug/L	10
Quinoline	ND	ug/L	10
Benzenethiol	ND	ug/L	--
Dibenz(a,h)acridine	ND	ug/L	--
o-Cresol	ND	ug/L	10
m & p-Cresol(s)	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
2,4-Dinitrophenol	ND	ug/L	50
4-Nitrophenol	ND	ug/L	50
Phenol	ND	ug/L	10

METHOD BLANK REPORT
Semivolatiles Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-REF-S			
Matrix: SOIL			
QC Lot: 17 JUL 90-A QC Run: 18 JUL 90-A			
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
Dibenz(a,h)acridine	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000

QC LOT ASSIGNMENT REPORT Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010149-0001-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0001-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0001-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0001-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0002-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0002-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0002-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0002-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0003-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0003-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0003-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0003-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0004-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0004-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0004-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0004-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0005-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0005-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0005-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0005-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0006-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0006-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0006-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0006-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0007-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0007-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0007-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0007-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0008-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0008-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0008-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0008-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0009-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0009-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0009-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0009-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0010-SA	AQUEOUS	PB-FAA-AT	16 JUL 90-D	16 JUL 90-D
010149-0010-SA	AQUEOUS	AS-FAA-AT	16 JUL 90-D	16 JUL 90-D
010149-0010-SA	AQUEOUS	SE-FAA-AT	16 JUL 90-D	16 JUL 90-D
010149-0010-SA	AQUEOUS	HG-CVAA-AT	17 JUL 90-D	17 JUL 90-D
010149-0010-SA	AQUEOUS	ICP-AT	16 JUL 90-D	16 JUL 90-D
010149-0011-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0011-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0011-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0011-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0012-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0012-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B

QC LOT ASSIGNMENT REPORT Metals Analysis and Preparation (cont.)

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010149-0012-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0012-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0013-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0013-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0013-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0013-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0015-SA	SOIL	ICP-S	18 JUL 90-D	18 JUL 90-D
010149-0015-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0015-SA	SOIL	AS-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0015-SA	SOIL	SE-FAA-S	16 JUL 90-D	16 JUL 90-D
010149-0016-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0016-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0016-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0016-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0017-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0017-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0017-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0017-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0018-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0018-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0018-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0018-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0019-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0019-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0019-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0019-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0020-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0020-SA	SOIL	HG-CVAA-S	17 JUL 90-B	17 JUL 90-B
010149-0020-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0020-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0021-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0021-SA	SOIL	HG-CVAA-S	17 JUL 90-C	17 JUL 90-C
010149-0021-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0021-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0022-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0022-SA	SOIL	HG-CVAA-S	17 JUL 90-C	17 JUL 90-C
010149-0022-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0022-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0023-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0023-SA	SOIL	HG-CVAA-S	17 JUL 90-C	17 JUL 90-C
010149-0023-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0023-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0024-SA	SOIL	ICP-S	19 JUL 90-F	19 JUL 90-F
010149-0024-SA	SOIL	HG-CVAA-S	17 JUL 90-C	17 JUL 90-C
010149-0024-SA	SOIL	AS-FAA-S	19 JUL 90-F	19 JUL 90-F
010149-0024-SA	SOIL	SE-FAA-S	19 JUL 90-F	19 JUL 90-F

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation

Analyte	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
	Spiked	DCS1			DCS	Limits	DCS	Limit
Category: ICP-S								
Matrix: SOIL								
QC Lot: 18 JUL 90-D								
Concentration Units: mg/kg								
Aluminum	200	204	203	204	102	75-125	0.6	20
Antimony	50	47.5	45.9	46.7	93	75-125	3.3	20
Arsenic	50	44.7	44.5	44.6	89	75-125	0.5	20
Barium	200	183	181	182	91	75-125	0.9	20
Beryllium	5.0	4.95	5.04	4.99	100	75-125	1.8	20
Cadmium	5.0	4.20	4.14	4.17	83	75-125	1.6	20
Calcium	10000	10200	10100	10200	102	75-125	1.5	20
Chromium	20	20.2	19.7	19.9	100	75-125	2.4	20
Cobalt	50	44.8	44.7	44.7	89	75-125	0.3	20
Copper	25	24.0	23.9	24.0	96	75-125	0.6	20
Iron	100	97.7	97.3	97.5	97	75-125	0.4	20
Lead	50	46.0	44.1	45.0	90	75-125	4.3	20
Magnesium	5000	5210	5140	5180	104	75-125	1.4	20
Manganese	50	46.1	45.7	45.9	92	75-125	0.8	20
Nickel	50	45.8	45.4	45.6	91	75-125	0.7	20
Potassium	5000	5070	5050	5060	101	75-125	0.5	20
Silver	5.0	4.96	4.91	4.94	99	75-125	0.9	20
Sodium	10000	10100	10100	10100	101	75-125	0.3	20
Vanadium	50	50.7	50.6	50.6	101	75-125	0.3	20
Zinc	50	44.7	43.8	44.3	89	75-125	1.9	20

Category: HG-CVAA-S
 Matrix: SOIL
 QC Lot: 17 JUL 90-B
 Concentration Units: mg/kg

Mercury	0.50	0.522	0.534	0.528	106	75-125	2.3	20
---------	------	-------	-------	-------	-----	--------	-----	----

Category: AS-FAA-S
 Matrix: SOIL
 QC Lot: 16 JUL 90-D
 Concentration Units: mg/kg

Arsenic	4.0	3.63	3.78	3.70	93	75-125	4.0	20
---------	-----	------	------	------	----	--------	-----	----

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation (cont.)

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: SE-FAA-S Matrix: SOIL QC Lot: 16 JUL 90-D Concentration Units: mg/kg									
Selenium	1.0	0.920		1.04	0.980	98	75-125	12	20
Category: PB-FAA-AT Matrix: AQUEOUS QC Lot: 16 JUL 90-D Concentration Units: mg/L									
Lead	0.02	0.0226		0.0217	0.0222	111	75-125	4.1	20
Category: AS-FAA-AT Matrix: AQUEOUS QC Lot: 16 JUL 90-D Concentration Units: mg/L									
Arsenic	0.04	0.0342		0.0351	0.0346	87	75-125	2.6	20
Category: SE-FAA-AT Matrix: AQUEOUS QC Lot: 16 JUL 90-D Concentration Units: mg/L									
Selenium	0.01	0.0106		0.0104	0.0105	105	75-125	1.9	20
Category: HG-CVAA-AT Matrix: AQUEOUS QC Lot: 17 JUL 90-D Concentration Units: mg/L									
Mercury	0.0010	0.00104		0.00103	0.00104	104	75-125	1.0	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation (cont.)

Analyte	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
	Spiked	DCS1			DCS	Limits	DCS	Limit
Category: ICP-AT								
Matrix: AQUEOUS								
QC Lot: 16 JUL 90-D								
Concentration Units: mg/L								
Aluminum	2.0	1.98	1.95	1.96	98	75-125	1.7	20
Antimony	0.5	0.470	0.458	0.464	93	75-125	2.6	20
Arsenic	0.5	0.468	0.448	0.458	92	75-125	4.5	20
Barium	2.0	1.80	1.77	1.79	89	75-125	1.9	20
Beryllium	0.05	0.0478	0.0476	0.0477	95	75-125	0.5	20
Cadmium	0.05	0.0499	0.0451	0.0475	95	75-125	10	20
Calcium	100	99.9	99.9	99.9	100	75-125	0.0	20
Chromium	0.2	0.190	0.188	0.189	95	75-125	0.9	20
Cobalt	0.5	0.449	0.438	0.443	89	75-125	2.3	20
Copper	0.25	0.243	0.244	0.244	97	75-125	0.7	20
Iron	1.0	0.957	0.965	0.961	96	75-125	0.8	20
Lead	0.5	0.446	0.442	0.444	89	75-125	0.8	20
Magnesium	50	50.7	50.7	50.7	101	75-125	0.1	20
Manganese	0.5	0.456	0.452	0.454	91	75-125	0.8	20
Nickel	0.5	0.449	0.448	0.449	90	75-125	0.4	20
Potassium	50	50.0	50.4	50.2	100	75-125	0.9	20
Silver	0.05	0.0514	0.0510	0.0512	102	75-125	0.8	20
Sodium	100	99.9	101	100	100	75-125	1.2	20
Vanadium	0.5	0.497	0.490	0.494	99	75-125	1.4	20
Zinc	0.5	0.455	0.448	0.452	90	75-125	1.7	20

Category: ICP-S
 Matrix: SOIL
 QC Lot: 19 JUL 90-F
 Concentration Units: mg/kg

Aluminum	200	190	191	191	95	75-125	0.7	20
Antimony	50	44.9	44.4	44.7	89	75-125	1.2	20
Arsenic	50	42.2	41.4	41.8	84	75-125	1.9	20
Barium	200	170	173	172	86	75-125	1.2	20
Beryllium	5.0	4.71	4.72	4.72	94	75-125	0.3	20
Cadmium	5.0	4.39	3.90	4.14	83	75-125	12	20
Calcium	10000	9580	9670	9620	96	75-125	0.9	20
Chromium	20	19.0	19.3	19.1	96	75-125	1.6	20
Cobalt	50	42.0	42.3	42.1	84	75-125	0.8	20
Copper	25	22.3	22.6	22.5	90	75-125	1.0	20
Iron	100	91.4	91.7	91.5	92	75-125	0.4	20
Lead	50	41.3	42.1	41.7	83	75-125	2.0	20
Magnesium	5000	4880	4920	4900	98	75-125	0.8	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation (cont.)

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: ICP-S									
Matrix: SOIL									
QC Lot: 19 JUL 90-F									
Concentration Units: mg/kg									
Manganese	50	43.1		43.4	43.3	87	75-125	0.7	20
Nickel	50	42.6		42.8	42.7	85	75-125	0.3	20
Potassium	5000	4530		4540	4540	91	75-125	0.2	20
Silver	5.0	5.02		5.06	5.04	101	75-125	0.9	20
Sodium	10000	8890		8930	8910	89	75-125	0.4	20
Vanadium	50	47.0		47.4	47.2	94	75-125	0.7	20
Zinc	50	40.9		41.4	41.1	82	75-125	1.2	20

Category: AS-FAA-S
 Matrix: SOIL
 QC Lot: 19 JUL 90-F
 Concentration Units: mg/kg

Arsenic	4.0	4.01	4.04	4.02	101	75-125	0.8	20
---------	-----	------	------	------	-----	--------	-----	----

Category: SE-FAA-S
 Matrix: SOIL
 QC Lot: 19 JUL 90-F
 Concentration Units: mg/kg

Selenium	1.0	0.890	0.870	0.880	88	75-125	2.3	20
----------	-----	-------	-------	-------	----	--------	-----	----

Category: HG-CVAA-S
 Matrix: SOIL
 QC Lot: 17 JUL 90-C
 Concentration Units: mg/kg

Mercury	0.50	0.522	0.528	0.525	105	75-125	1.1	20
---------	------	-------	-------	-------	-----	--------	-----	----

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: ICP-REF-S			
Matrix: SOIL			
QC Lot: 18 JUL 90-D QC Run: 18 JUL 90-D			
Antimony	ND	mg/kg	6.0
Barium	ND	mg/kg	1.0
Beryllium	ND	mg/kg	0.20
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Cobalt	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Potassium	ND	mg/kg	500
Vanadium	ND	mg/kg	1.0
Zinc	ND	mg/kg	2.0

Test: HG-CVAA-S
Matrix: SOIL
QC Lot: 17 JUL 90-B QC Run: 17 JUL 90-B

Mercury	ND	mg/kg	0.10
---------	----	-------	------

Test: AS-FAA-S
Matrix: SOIL
QC Lot: 16 JUL 90-D QC Run: 16 JUL 90-D

Arsenic	ND	mg/kg	0.50
---------	----	-------	------

Test: SE-FAA-S
Matrix: SOIL
QC Lot: 16 JUL 90-D QC Run: 16 JUL 90-D

Selenium	ND	mg/kg	0.50
----------	----	-------	------

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)

Analyte	Result	Units	Reporting Limit
Test: PB-FAA-AT Matrix: AQUEOUS QC Lot: 16 JUL 90-D QC Run: 16 JUL 90-D			
Lead	ND	mg/L	0.0050
Test: AS-FAA-AT Matrix: AQUEOUS QC Lot: 16 JUL 90-D QC Run: 16 JUL 90-D			
Arsenic	ND	mg/L	0.0050
Test: SE-FAA-AT Matrix: AQUEOUS QC Lot: 16 JUL 90-D QC Run: 16 JUL 90-D			
Selenium	ND	mg/L	0.0050
Test: HG-CVAA-AT Matrix: AQUEOUS QC Lot: 17 JUL 90-D QC Run: 17 JUL 90-D			
Mercury	ND	mg/L	0.00020
Test: ICP-AT Matrix: AQUEOUS QC Lot: 16 JUL 90-D QC Run: 16 JUL 90-D			
Antimony	ND	mg/L	0.060
Barium	ND	mg/L	0.010
Beryllium	ND	mg/L	0.0020
Cadmium	0.0055	mg/L	0.0050
Chromium	ND	mg/L	0.010
Cobalt	ND	mg/L	0.010
Copper	ND	mg/L	0.020
Nickel	ND	mg/L	0.040
Potassium	ND	mg/L	5.0
Vanadium	ND	mg/L	0.010
Zinc	ND	mg/L	0.020

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)

Analyte	Result	Units	Reporting Limit
Test: ICP-REF-S			
Matrix: SOIL			
QC Lot: 19 JUL 90-F QC Run: 19 JUL 90-F			
Antimony	ND	mg/kg	6.0
Barium	ND	mg/kg	1.0
Beryllium	ND	mg/kg	0.20
Cadmium	ND	mg/kg	0.50
Chromium	1.2	mg/kg	1.0
Cobalt	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Potassium	ND	mg/kg	500
Vanadium	ND	mg/kg	1.0
Zinc	ND	mg/kg	2.0

Test: AS-FAA-S
 Matrix: SOIL
 QC Lot: 19 JUL 90-F QC Run: 19 JUL 90-F

Arsenic	ND	mg/kg	0.50
---------	----	-------	------

Test: SE-FAA-S
 Matrix: SOIL
 QC Lot: 19 JUL 90-F QC Run: 19 JUL 90-F

Selenium	ND	mg/kg	0.50
----------	----	-------	------

Test: HG-CVAA-S
 Matrix: SOIL
 QC Lot: 17 JUL 90-C QC Run: 17 JUL 90-C

Mercury	ND	mg/kg	0.10
---------	----	-------	------

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Julie Esley

Enseco Client: Giant Refinery

Project: RFI

Sampling Co.: Giant

Sampling Site: Criza Refinery

Team Leader: Mike McLaughlin

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 1013

1. Packed by: _____ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Good
4. Sealed for Shipping by: Charles S. Sadek
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
06-26-90	7:40	RFI0806 VD 8.0	SOIL	2	SEE Attachment	
06-26-90	8:50	RFI0806 VD 0.5	SOIL	2	SEE Attachment	
06-26-90	9:09	RFI0806 VD 5.0	SOIL	2	SEE Attachment	
06-26-90	11:45	RFI0806 VD 0.5	SOIL	2	SEE Attachment	
06-26-90	12:00	RFI0806 VD 2.5	SOIL	2	SEE Attachment	
06-26-90	10:30	RFI0806 VD 4.5	SOIL	2	SEE Attachment	
06-26-90	12:00	RFI0808 VD 0.5	SOIL	2	SEE Attachment	
06-26-90	12:20	RFI0808 VD 2.5	SOIL	2	SEE Attachment	
06-26-90	12:45	RFI0808 VD 4.5	SOIL	2	SEE Attachment	
06-26-90	10:40	RFI0807 E 2.5-5	Water	8	SEE Attachment	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Charles S. Sadek Date 6-26-90 Time 2:30 PM

2 _____

3 _____

SHIPPING DETAILS

Delivered to Shipper by: Charles S. Sadek

Method of Shipment: Fed Express Airbill # _____

Received for Lab: RMAL Signed: Bob Rik Date/Time 6-26-90 4:30 PM

Enseco Project No. 10149

No. 2 of 3

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Julie Eason

Enseco Client Great Britain
Project RT

Sampling Co. Cubit

Sampling Site Cisiza Refect

Team Leader Clend Kaszuba

MA#

SAMPLE SAFE™ CONDITIONS

1. Packed by: _____ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Good
4. Sealed for Shipping by: Chas. H. Drake
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

[illegible]

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time
<i>Chal Kaval</i>	<i>Chal Kaval</i>	6/26/96	2:30pm

SHIPPING DETAILS

Delivered to Shipper by: Claudio Randoate
Method of Shipment: Fed Express Airbill # 2734N90
Received for Lab: RNAL Signed: Bels Rios Date/Time 8/8/92
Enseco Project No. 10149

Enesco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Julie Eddy

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 3 of 3

1. Packed by: _____ Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: Yes No
3. Condition of Contents: Good
4. Sealed for Shipping by: Charles Rogers
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: Done Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: Yes No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Enesco Client Great Refinery
Project RFT
Sampling Co. Great Refinery Rogers & Co.
Sampling Site Ciniza Refinery
Team Leader Charles Rogers

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
6/26/90	0900	RFT0803A05.0	Soil	2	See Attached	
6/26/90	0930	RFT0803A08.0	Soil	2	See Attached	
6/26/90	0930	RFT0803A10.5	Soil	2	See Attached	
6/26/90	1050	RFT0803A05.0	Soil	2	See Attached	
6/26/90	1050	RFT0803A05.0	Soil	2	See Attached	
6/26/90	1110	RFT0803A08.0	Soil	2	See Attached	
6/26/90	1115	RFT0803A10.5	Soil	2	See Attached	
6/26/90	1225	RFT0801A05.0	Soil	2	See Attached	
6/26/90	1240	RFT0801A08.0	Soil	2	See Attached	
6/26/90	1245	RFT0801A10.5	Soil	2	See Attached	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Charles Rogers Date 6/26/90 2:30pm

SHIPPING DETAILS

Delivered to Shipper by: Charles Rogers
Method of Shipment: Fed Express Airbill # 27 JUN 90
Received for Lab: RNAL Signed: Bob Rigg Date/Time 6/26/90
Enesco Project No. 10149

Section 9.0
RMAL No. 010230

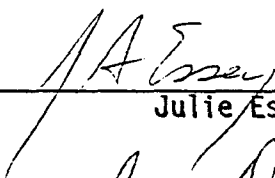
08

ANALYTICAL RESULTS
FOR
GIANT REFINING
ENSECO-RMAL NO. 010230



JULY 31, 1990

Reviewed by:


Julie Essey


Sue Dalla

Enseco Incorporated
4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Fax: 303/431-7171



July 31, 1990

Mr. Claud Rosendale
Giant Refining
17 Miles East of Gallup
I-40, Exit 39
Gallup, NM 87301

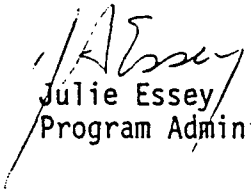
Dear Mr. Rosendale:

Enclosed is the report for 14 soil samples we received at Enseco-Rocky Mountain Analytical Laboratory on July 2, 1990.

Included with the report is a quality control summary.

Please call if you have any questions.

Sincerely,


Julie Essey
Program Administrator

JE/SD/heg
Enclosures

RMAL #010230

Reviewed by:


Sue Dalla
Manager
Program Administration

Introduction

This report presents the analytical results as well as supporting information to aid in the evaluation and interpretation of the data and is arranged in the following order:

- o Sample Description Information
- o Analytical Test Requests
- o Analytical Results
- o Quality Control Report

Consistent with directives in the CLP protocol in SW-846 and other EPA methods, all GC/MS analyses were performed so that the maximum concentration of sample was analyzed. Some samples required dilutions to avoid saturation of the detector, to achieve linearity for a specific target compound or to reduce matrix interferences. As stated in Section 7.5.4 of Method 8270, 7.4.1.16 of Method 8240 and Exhibit E of the CLP protocol these dilutions be performed. The reporting limits for these samples are therefore proportionate to the dilution required. Surrogate compounds may not be measurable in samples which have been diluted.

Due to interferences originating from non-target compounds, dilutions were performed for sample 010230-0009 by Method 8240. The reporting limits were raised accordingly.

An analytical standard is not available for methyl chrysene. Furthermore, many isomers of this compound, including methyl benzantracenes and methyl triphenylenes, exist. These isomers are indistinguishable under the analytical condition of Method 8270. A selected ion current profile at mass 242 was performed to determine if any compounds corresponding to the molecular structure of methyl chrysene were present. All peaks which met this criteria were summed. An estimated concentration of "total methyl chrysenes" was determined by comparing the sum of the peak areas to the internal standard and using a response factor of 1.0. Both the identification and quantification are highly suspect.

Total methyl chrysenes were not detected for this project.

The original preparation for sample 010230-0004 by Method 8270 was performed within holding times, however, assessing the results, a reextraction was performed to improve the quality of the data. The reprep data is reported. The reextraction was completed outside holding times.

The Duplicate Control Sample (DCS) QC Lot 23 JUL 90-A by Method 8270 had phenol and 2,4-Dinitrophenol above Enseco's established limits. The quantitation was rechecked and found to be correct. Based on a thorough review of the data, it was determined that the sample results were not affected. It should also be noted that control limits are statistically determined and do not always reflect best possible recoveries.

All 8270 samples were prepped according to SW-846 using 2.0 grams of sample followed by a 50% partition then concentration to 1.0 mL for analysis. With this prep method nominal reporting limits are generally 10000 ug/kg. After careful review of all chromatograms it has been determined that we can lower the nominal reporting limit to 5000 ug/kg for this project.

Sample Description Information

The Sample Description Information lists all of the samples received in this project together with the internal laboratory identification number assigned for each sample. Each project received at Enseco - RMAL is assigned a unique six digit number. Samples within the project are numbered sequentially. The laboratory identification number is a combination of the six digit project code and the sample sequence number.

Also given in the Sample Description Information is the Sample Type (matrix), Date of Sampling (if known) and Date of Receipt at the laboratory.

Analytical Test Requests

The Analytical Test Requests lists the analyses that were performed on each sample. The Custom Test column indicates where tests have been modified to conform to the specific requirements of this project.

SAMPLE DESCRIPTION INFORMATION
for
Giant Refining

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
010230-0001-SA	RFI 0810V0.0	SOIL	29 JUN 90	07:10	02 JUL 90
010230-0002-SA	RFI 0810V2.0	SOIL	29 JUN 90	07:11	02 JUL 90
010230-0003-SA	RFI 0810V4.5	SOIL	29 JUN 90	07:24	02 JUL 90
010230-0004-SA	RFI 0813V0.0	SOIL	29 JUN 90	07:38	02 JUL 90
010230-0005-SA	RFI 0813V2.0	SOIL	29 JUN 90	07:49	02 JUL 90
010230-0006-SA	RFI 0813V4.5	SOIL	29 JUN 90	07:58	02 JUL 90
010230-0007-SA	RFI 0811V0.0	SOIL	29 JUN 90	08:04	02 JUL 90
010230-0008-SA	RFI 0811V2.0	SOIL	29 JUN 90	08:16	02 JUL 90
010230-0009-SA	RFI 0811V4.5	SOIL	29 JUN 90	08:24	02 JUL 90
010230-0010-SA	RFI 0813D4.5	SOIL	29 JUN 90	07:58	02 JUL 90
010230-0011-SA	RFI 0812V0.0	SOIL	29 JUN 90	08:30	02 JUL 90
010230-0012-SA	RFI 0812V2.0	SOIL	29 JUN 90	08:38	02 JUL 90
010230-0013-SA	RFI 0812V4.5	SOIL	29 JUN 90	08:44	02 JUL 90
010230-0014-SA	RFI 0811D0.0	SOIL	29 JUN 90	08:04	02 JUL 90

ANALYTICAL TEST REQUESTS
for
Giant Refining

Lab ID: 010230	Group Code	Analysis Description	Custom Test?
0001 - 0014	A	ICP Suite (Standard List)	Y
		Prep - Total Metals, ICP	N
		Arsenic by Graphite Furnace AA	N
		Prep - Total Metals, Furnace AA	N
		Selenium by Graphite Furnace AA	N
		Mercury by Cold Vapor AA	N
		Prep - Mercury, Cold Vapor AA	N
		Refinery Hazardous Constituent Volatiles	Y
		GC Screen For Medium Level Soils	N
		Refinery Hazardous Constituent Semivolatiles	Y
		Prep - Semivolatile Organics by GC/MS	N

Analytical Results

The analytical results for this project are presented in the following data tables. Each data table includes sample identification information, and when available and appropriate, dates sampled, received, authorized, prepared and analyzed. The authorization data is the date when the project was defined by the client such that laboratory work could begin.

Data sheets contain a listing of the parameters measured in each test, the analytical results and the Enseco reporting limit. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis, i.e. no correction is made for moisture content.

Enseco-RMAL is no longer routinely blank-correcting analytical data. Uncorrected analytical results are reported, along with associated blank results, for all organic and metals analyses. Analytical results and blank results are reported for conventional inorganic parameters as specified in the method. This policy is described in detail in the Enseco Incorporated Quality Assurance Program Plan for Environmental Chemical Monitoring, Revision 3.3, April, 1989.

The results from the Standard Enseco QA/QC Program, which generates data which are independent of matrix effects, is provided subsequently.

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
Client ID: RFI 0810V0.0
Lab ID: 010230-0001-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081747
Sampled: 29 JUN 90
Prepared: 05 JUL 90

Received: 02 JUL 90
Analyzed: 10 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	102	%	--
4-Bromofluorobenzene	95	%	--
1,2-Dichloroethane-d4	105	%	--

ND = Not detected
NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
Client ID: RFI 0810V2.0
Lab ID: 010230-0002-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081748
Sampled: 29 JUN 90
Prepared: 05 JUL 90

Received: 02 JUL 90
Analyzed: 10 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	97	%	--
4-Bromofluorobenzene	93	%	--
1,2-Dichloroethane-d4	103	%	--

ND = Not detected
NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0810V4.5
 Lab ID: 010230-0003-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081749
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 10 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	95	%	--
4-Bromofluorobenzene	93	%	--
1,2-Dichloroethane-d4	104	%	--

ND = Not detected
 NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0813V0.0
 Lab ID: 010230-0004-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081750
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 10 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	95	%	--
1,2-Dichloroethane-d4	102	%	--

ND = Not detected
 NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0813V2.0
 Lab ID: 010230-0005-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081751
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 10 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	96	%	--
4-Bromofluorobenzene	97	%	--
1,2-Dichloroethane-d4	105	%	--

ND = Not detected
 NA = Not applicable

Reported By: Shawn Kassner

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0813V4.5
 Lab ID: 010230-0006-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081752
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	950	ug/kg	500
Xylenes (total)	1800	ug/kg	500
Toluene-d8	101	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	90	%	--

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
Client ID: RFI 0811V0.0
Lab ID: 010230-0007-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081753
Sampled: 29 JUN 90
Prepared: 05 JUL 90

Received: 02 JUL 90
Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	98	%	--
4-Bromofluorobenzene	96	%	--
1,2-Dichloroethane-d4	88	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff. Lowry

Refinery Hazardous Constituent Volatiles



Method 8240

Client Name: Giant Refining
Client ID: RFI 0811V2.0
Lab ID: 010230-0008-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081754
Sampled: 29 JUN 90
Prepared: 05 JUL 90

Received: 02 JUL 90
Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	100	%	--
4-Bromofluorobenzene	99	%	--
1,2-Dichloroethane-d4	90	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0811V4.5
 Lab ID: 010230-0009-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081755
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	3400
Carbon disulfide	ND	ug/kg	3400
Chlorobenzene	ND	ug/kg	3400
Chloroform	ND	ug/kg	3400
EDB (1,2-Dibromoethane)	ND	ug/kg	6700
1,2-Dichloroethane	ND	ug/kg	3400
1,4-Dioxane	ND	ug/kg	340000
Ethylbenzene	ND	ug/kg	3400
2-Butanone (MEK)	ND	ug/kg	6700
Styrene	ND	ug/kg	3400
Toluene	ND	ug/kg	3400
Xylenes (total)	8700	ug/kg	3400
Toluene-d8	102	%	--
4-Bromofluorobenzene	103	%	--
1,2-Dichloroethane-d4	90	%	--

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0813D4.5
 Lab ID: 010230-0010-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081756
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	108	%	--
4-Bromofluorobenzene	104	%	--
1,2-Dichloroethane-d4	99	%	--

ND = Not detected
 NA = Not applicable

Reported By: Tim Miller

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining

Client ID: RFI 0812V0.0

Lab ID: 010230-0011-SA

Matrix: SOIL

Authorized: 02 JUL 90

Enseco ID: 1081757

Sampled: 29 JUN 90

Prepared: 05 JUL 90

Received: 02 JUL 90

Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	108	%	--
4-Bromofluorobenzene	104	%	--
1,2-Dichloroethane-d4	100	%	--

ND = Not detected
 NA = Not applicable

Reported By: Tim Miller

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0812V2.0
 Lab ID: 010230-0012-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081758
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	106	%	--
4-Bromofluorobenzene	106	%	--
1,2-Dichloroethane-d4	103	%	--

ND = Not detected
 NA = Not applicable

Reported By: Tim Miller

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0812V4.5
 Lab ID: 010230-0013-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081783
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	106	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	98	%	--

ND = Not detected
 NA = Not applicable

Reported By: Tim Miller

Approved By: Jeff Lowry

Refinery Hazardous Constituent Volatiles

Method 8240

Client Name: Giant Refining
 Client ID: RFI 0811D0.0
 Lab ID: 010230-0014-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081784
 Sampled: 29 JUN 90
 Prepared: 05 JUL 90

Received: 02 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500
Toluene-d8	106	%	--
4-Bromofluorobenzene	101	%	--
1,2-Dichloroethane-d4	104	%	--

ND = Not detected
 NA = Not applicable

Reported By: Tim Miller

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI 0810V0.0
 Lab ID: 010230-0001-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081747
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	118	%	--
2-Fluorobiphenyl	125	%	--
Terphenyl-d14	103	%	--
Phenol-d5	117	%	--
2-Fluorophenol	119	%	--
2,4,6-Tribromophenol	101	%	--

ND = Not detected
 NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI 0810V2.0
 Lab ID: 010230-0002-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081748
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	98	%	--
2-Fluorobiphenyl	101	%	--
Terphenyl-d14	88	%	--
Phenol-d5	96	%	--
2-Fluorophenol	98	%	--
2,4,6-Tribromophenol	70	%	--

ND = Not detected
 NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
Client ID: RFI 0810V4.5
Lab ID: 010230-0003-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081749
Sampled: 29 JUN 90
Prepared: 03 JUL 90

Received: 02 JUL 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	78	%	--
2-Fluorobiphenyl	85	%	--
Terphenyl-d14	74	%	--
Phenol-d5	78	%	--
2-Fluorophenol	79	%	--
2,4,6-Tribromophenol	54	%	--

ND = Not detected
NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI 0813V0.0
 Lab ID: 010230-0004-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081750
 Sampled: 29 JUN 90
 Prepared: 23 JUL 90

Received: 02 JUL 90
 Analyzed: 28 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	42	%	--
2-Fluorobiphenyl	46	%	--
Terphenyl-d14	53	%	--
Phenol-d5	57	%	--
2-Fluorophenol	60	%	--
2,4,6-Tribromophenol	65	%	--

ND = Not detected
 NA = Not applicable

Reported By: Mark Dymerski

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI 0813V2.0
 Lab ID: 010230-0005-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081751
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	94	%	--
2-Fluorobiphenyl	96	%	--
Terphenyl-d14	81	%	--
Phenol-d5	90	%	--
2-Fluorophenol	94	%	--
2,4,6-Tribromophenol	59	%	--

ND = Not detected
 NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
Client ID: RFI 0813V4.5
Lab ID: 010230-0006-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081752
Sampled: 29 JUN 90
Prepared: 03 JUL 90

Received: 02 JUL 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	89	%	--
2-Fluorobiphenyl	90	%	--
Terphenyl-d14	78	%	--
Phenol-d5	90	%	--
2-Fluorophenol	92	%	--
2,4,6-Tribromophenol	47	%	--

ND = Not detected
NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI 0811V0.0
 Lab ID: 010230-0007-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081753
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	77	%	--
2-Fluorobiphenyl	80	%	--
Terphenyl-d14	72	%	--
Phenol-d5	78	%	--
2-Fluorophenol	77	%	--
2,4,6-Tribromophenol	44	%	--

ND = Not detected
 NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI 0811V2.0
 Lab ID: 010230-0008-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081754
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	87	%	--
2-Fluorobiphenyl	93	%	--
Terphenyl-d14	105	%	--
Phenol-d5	87	%	--
2-Fluorophenol	87	%	--
2,4,6-Tribromophenol	88	%	--

ND = Not detected
 NA = Not applicable

Reported By: Scott Francis

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI 0811V4.5
 Lab ID: 010230-0009-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081755
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	71000	ug/kg	5000
Naphthalene	27000	ug/kg	5000
Phenanthrene	33000	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	96	%	--
2-Fluorobiphenyl	103	%	--
Terphenyl-d14	104	%	--
Phenol-d5	102	%	--
2-Fluorophenol	100	%	--
2,4,6-Tribromophenol	91	%	--

ND = Not detected
 NA = Not applicable

Reported By: Donna Reinwald

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI 0813D4.5
 Lab ID: 010230-0010-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081756
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	96	%	--
2-Fluorobiphenyl	99	%	--
Terphenyl-d14	117	%	--
Phenol-d5	94	%	--
2-Fluorophenol	95	%	--
2,4,6-Tribromophenol	86	%	--

ND = Not detected
 NA = Not applicable

Reported By: Donna Reinwald

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI 0812V0.0
 Lab ID: 010230-0011-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081757
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	85	%	--
2-Fluorobiphenyl	89	%	--
Terphenyl-d14	103	%	--
Phenol-d5	87	%	--
2-Fluorophenol	85	%	--
2,4,6-Tribromophenol	71	%	--

ND = Not detected
 NA = Not applicable

Reported By: Donna Reinwald

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI 0812V2.0
 Lab ID: 010230-0012-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081758
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	91	%	--
2-Fluorobiphenyl	94	%	--
Terphenyl-d14	116	%	--
Phenol-d5	91	%	--
2-Fluorophenol	89	%	--
2,4,6-Tribromophenol	78	%	--

ND = Not detected
 NA = Not applicable

Reported By: Donna Reinwald

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles



Method 8270

Client Name: Giant Refining
 Client ID: RFI 0812V4.5
 Lab ID: 010230-0013-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081783
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	85	%	--
2-Fluorobiphenyl	86	%	--
Terphenyl-d14	97	%	--
Phenol-d5	85	%	--
2-Fluorophenol	86	%	--
2,4,6-Tribromophenol	62	%	--

ND = Not detected
 NA = Not applicable

Reported By: Donna Reinwald

Approved By: Jeff Lowry

Refinery Hazardous Constituent Semivolatiles

Method 8270

Client Name: Giant Refining
 Client ID: RFI 0811D0.0
 Lab ID: 010230-0014-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081784
 Sampled: 29 JUN 90
 Prepared: 03 JUL 90

Received: 02 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000
Nitrobenzene-d5	91	%	--
2-Fluorobiphenyl	93	%	--
Terphenyl-d14	100	%	--
Phenol-d5	93	%	--
2-Fluorophenol	92	%	--
2,4,6-Tribromophenol	72	%	--

ND = Not detected
 NA = Not applicable

Reported By: Donna Reinwald

Approved By: Jeff Lowry

Total Metals

Client Name: Giant Refining
Client ID: RFI 0810V0.0
Lab ID: 010230-0001-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081747
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	0.51	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	277	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	5.5	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.1	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	5.4	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	10.1	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	7.1	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	980	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	11.8	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	9.8	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
 Client ID: RFI 0810V2.0
 Lab ID: 010230-0002-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081748
 Sampled: 29 JUN 90
 Prepared: See Below

Received: 02 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	280	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	5.6	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.3	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	6.0	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	10.2	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	7.8	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	1000	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	11.7	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	12.0	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
 Client ID: RFI 0810V4.5
 Lab ID: 010230-0003-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081749
 Sampled: 29 JUN 90
 Prepared: See Below

Received: 02 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	266	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	1.0	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	3.8	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	1.4	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	5.2	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	7.7	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	4.7	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	887	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	10.0	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	8.5	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0813V0.0
Lab ID: 010230-0004-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081750
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	1.0	7060	23 JUL 90	26 JUL 90
Barium	260	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	6.8	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.7	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	5.3	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	11.5	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	8.0	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	1040	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	14.2	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	12.3	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI-0813V2.0
Lab ID: 010230-0005-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081751
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	237	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.87	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	5.7	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.1	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	4.2	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	8.0	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	6.2	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	793	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	11.9	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	9.5	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0813V4.5
Lab ID: 010230-0006-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081752
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	183	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.95	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	5.1	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.2	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	4.9	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	7.6	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	5.7	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	1160	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	10.9	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	9.3	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0811V0.0
Lab ID: 010230-0007-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081753
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	0.57	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	262	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	5.8	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.5	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	6.5	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	9.5	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	7.7	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	1550	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	12.8	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	13.2	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0811V2.0
Lab ID: 010230-0008-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081754
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	206	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	7.1	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.9	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	5.1	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	7.8	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	8.2	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	1310	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	13.1	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	12.6	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
 Client ID: RFI 0811V4.5
 Lab ID: 010230-0009-SA
 Matrix: SOIL
 Authorized: 02 JUL 90

Enseco ID: 1081755
 Sampled: 29 JUN 90
 Prepared: See Below

Received: 02 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	213	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.75	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	3.9	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	1.4	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	3.5	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	7.0	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	4.4	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	551	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	10.0	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	7.0	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0813D4.5
Lab ID: 010230-0010-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081756
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	218	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.99	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	5.9	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.2	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	5.0	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	7.1	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	6.3	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	1080	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	11.6	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	9.8	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0812V0.0
Lab ID: 010230-0011-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081757
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	0.58	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	244	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.85	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	6.1	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	1.9	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	4.0	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	15.6	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	5.9	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	747	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	12.5	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	9.5	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John LaFerty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0812V2.0
Lab ID: 010230-0012-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081758
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	1.0	7060	23 JUL 90	26 JUL 90
Barium	159	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.82	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	4.5	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	1.9	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	4.4	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	7.8	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	5.1	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	728	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	8.9	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	7.4	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0812V4.5
Lab ID: 010230-0013-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081783
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	279	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.92	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	3.9	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	1.4	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	4.5	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	7.6	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	5.2	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	620	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	9.9	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	7.8	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Laferty

Total Metals

Client Name: Giant Refining
Client ID: RFI 0811D0.0
Lab ID: 010230-0014-SA
Matrix: SOIL
Authorized: 02 JUL 90

Enseco ID: 1081784
Sampled: 29 JUN 90
Prepared: See Below

Received: 02 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	23 JUL 90	26 JUL 90
Arsenic	ND	mg/kg	0.50	7060	23 JUL 90	26 JUL 90
Barium	176	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Beryllium	0.85	mg/kg	0.20	6010	23 JUL 90	26 JUL 90
Cadmium	ND	mg/kg	0.50	6010	23 JUL 90	26 JUL 90
Chromium	4.8	mg/kg	1.3	6010	23 JUL 90	26 JUL 90
Cobalt	2.0	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Copper	4.4	mg/kg	2.0	6010	23 JUL 90	26 JUL 90
Lead	6.4	mg/kg	5.0	6010	23 JUL 90	26 JUL 90
Mercury	ND	mg/kg	0.20	7471	18 JUL 90	20 JUL 90
Nickel	5.8	mg/kg	4.0	6010	23 JUL 90	26 JUL 90
Potassium	831	mg/kg	500	6010	23 JUL 90	26 JUL 90
Selenium	ND	mg/kg	0.50	7740	23 JUL 90	26 JUL 90
Vanadium	10.0	mg/kg	1.0	6010	23 JUL 90	26 JUL 90
Zinc	9.5	mg/kg	2.0	6010	23 JUL 90	26 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Sandra Jones

Approved By: John Lafferty

Quality Control Results

The Enseco laboratories operate under a vigorous QA/QC program designed to ensure the generation of scientifically valid, legally defensible data by monitoring every aspect of laboratory operations. Routine QA/QC procedures include the use of approved methodologies, independent verification of analytical standards, use of duplicate Laboratory Control Samples to assess the precision and accuracy of the methodology on a routine basis, and a rigorous system of data review.

In addition, the Enseco laboratories maintain a comprehensive set of certifications from both state and federal governmental agencies which require frequent analyses of blind audit samples. Enseco - Rocky Mountain Analytical Laboratory is certified by the EPA under the EPA/CLP program for both Organic and Inorganic analyses, under the USATHAMA (U.S. Army) program, by the Army Corps of Engineers, and the states of Colorado, New Jersey, New York, Utah, and Florida, among others.

The standard laboratory QC package is designed to:

- 1) establish a strong, cost-effective QC program that ensures the generation of scientifically valid, legally defensible data
- 2) assess the laboratory's performance of the analytical method using control limits generated with a well-defined matrix
- 3) establish clear-cut guidelines for acceptability of analytical data so that QC decisions can be made immediately at the bench, and
- 4) provide a standard set of reportables which assures the client of the quality of his data.

The Enseco QC program is based upon monitoring the precision and accuracy of an analytical method by analyzing a set of Duplicate Control Samples (DCS) at frequent, well-defined intervals. Each DCS is a well-characterized matrix which is spiked with target compounds at 5-100 times the reporting limit, depending upon the methodology being monitored. The purpose of the DCS is not to duplicate the sample matrix, but rather to provide an interference-free, homogeneous matrix from which to gather data to establish control limits. These limits are used to determine whether data generated by the laboratory on any given day is in control.

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery ± 3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference $+ 3$ standard deviation units. These control limits are fairly narrow based on the consistency of the matrix being monitored and are updated on a quarterly basis.

For each batch of samples analyzed, an additional control measure is taken in the form of a Single Control Sample (SCS). The SCS consists of a control matrix that is spiked with either representative target compounds or surrogate compounds appropriate to the method being used. An SCS is prepared for each sample lot for which the DCS pair are not analyzed.

Accuracy for DCS and SCS is measured by Percent Recovery.

$$\% \text{ Recovery} = \frac{\text{Measured Concentration}}{\text{Actual Concentration}} \times 100$$

Precision for DCS is measured by Relative Percent Difference (RPD).

$$\text{RPD} = \frac{|\text{Measured Concentration DCS1} - \text{Measured Concentration DCS2}|}{(\text{Measured Concentration DCS1} + \text{Measured Concentration DCS2})/2} \times 100$$

All samples analyzed concurrently by the same test are assigned the same QC lot number. Projects which contain numerous samples, analyzed over several days, may have multiple QC lot numbers associated with each test. The QC information which follows includes a listing of the QC lot numbers associated with each of the samples reported, DCS and SCS (where applicable) recoveries from the QC lots associated with the samples, and control limits for these lots. The QC data is reported by test code, in the order that the tests are reported in the analytical results section of this report.

QC LOT ASSIGNMENT REPORT Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010230-0001-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0001-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0001-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0001-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0002-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0002-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0002-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0002-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0003-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0003-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0003-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0003-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0004-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0004-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0004-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0004-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0005-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0005-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0005-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0005-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0006-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0006-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0006-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0006-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0007-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0007-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0007-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0007-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0008-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0008-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0008-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0008-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0009-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0009-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0009-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0009-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0010-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0010-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0010-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0010-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0011-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0011-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0011-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0011-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0012-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0012-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0012-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D

QC LOT ASSIGNMENT REPORT
Metals Analysis and Preparation (cont.)

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010230-0012-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0013-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0013-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0013-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0013-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B
010230-0014-SA	SOIL	ICP-S	23 JUL 90-D	23 JUL 90-D
010230-0014-SA	SOIL	AS-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0014-SA	SOIL	SE-FAA-S	23 JUL 90-D	23 JUL 90-D
010230-0014-SA	SOIL	HG-CVAA-S	19 JUL 90-B	19 JUL 90-B

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: ICP-S									
Matrix: SOIL									
QC Lot: 23 JUL 90-D									
Concentration Units: mg/kg									
Aluminum	200	189		191	190	95	75-125	1.1	20
Antimony	50	44.2		44.6	44.4	89	75-125	0.9	20
Arsenic	50	41.0		42.4	41.7	83	75-125	3.4	20
Barium	200	170		172	171	86	75-125	1.2	20
Beryllium	5.0	4.63		4.69	4.66	93	75-125	1.3	20
Cadmium	5.0	4.09		3.98	4.04	81	75-125	2.7	20
Calcium	10000	9400		9500	9450	95	75-125	1.1	20
Chromium	20	19.0		19.1	19.0	95	75-125	0.5	20
Cobalt	50	41.5		41.8	41.6	83	75-125	0.7	20
Copper	25	22.0		22.0	22.0	83	75-125	0.0	20
Iron	100	90.5		91.6	91.0	91	75-125	1.2	20
Lead	50	41.2		41.4	41.3	83	75-125	0.5	20
Magnesium	5000	4730		4810	4770	95	75-125	1.7	20
Manganese	50	43.1		43.5	43.3	87	75-125	0.9	20
Nickel	50	42.3		42.4	42.4	85	75-125	0.2	20
Potassium	5000	3920		4120	4020	80	75-125	5.0	20
Silver	5.0	4.68		4.83	4.76	95	75-125	3.2	20
Sodium	10000	8160		8510	8340	83	75-125	4.2	20
Vanadium	50	46.5		46.9	46.7	93	75-125	0.9	20
Zinc	50	40.9		41.3	41.1	82	75-125	1.0	20

Category: AS-FAA-S
 Matrix: SOIL
 QC Lot: 23 JUL 90-D
 Concentration Units: mg/kg

Arsenic	4.0	3.57	3.38	3.48	87	75-125	5.5	20
---------	-----	------	------	------	----	--------	-----	----

Category: SE-FAA-S
 Matrix: SOIL
 QC Lot: 23 JUL 90-D
 Concentration Units: mg/kg

Selenium	1.0	0.800	0.820	0.810	81	75-125	2.5	20
----------	-----	-------	-------	-------	----	--------	-----	----

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation (cont.)

Analyte	Spiked	Concentration		Measured	AVG	Accuracy		Precision
		DCS1	DCS2			DCS	Average (%) Limits	(RPD) DCS Limit

Category: HG-CVAA-S

Matrix: SOIL

QC Lot: 19 JUL 90-B

Concentration Units: mg/kg

Mercury	0.50	0.509	0.521	0.515	103	75-125	2.3	20
---------	------	-------	-------	-------	-----	--------	-----	----

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: ICPOCP-ICPS-S			
Matrix: SOIL			
QC Lot: 23 JUL 90-D QC Run: 23 JUL 90-D			
Antimony	ND	mg/kg	6.0
Barium	ND	mg/kg	1.0
Beryllium	ND	mg/kg	0.20
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Cobalt	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Potassium	ND	mg/kg	500
Vanadium	ND	mg/kg	1.0
Zinc	ND	mg/kg	2.0

Test: GF-ASCP-TAL-S
Matrix: SOIL
QC Lot: 23 JUL 90-D QC Run: 23 JUL 90-D

Arsenic	ND	mg/kg	0.50
---------	----	-------	------

Test: GF-SECP-TAL-S
Matrix: SOIL
QC Lot: 23 JUL 90-D QC Run: 23 JUL 90-D

Selenium	ND	mg/kg	0.50
----------	----	-------	------

Test: CV-HGCP-TAL-S
Matrix: SOIL
QC Lot: 19 JUL 90-B QC Run: 19 JUL 90-B

Mercury	ND	mg/kg	0.20
---------	----	-------	------

QC LOT ASSIGNMENT REPORT
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010230-0001-SA	SOIL	8240-S	10 JUL 90-L	10 JUL 90-L
010230-0002-SA	SOIL	8240-S	10 JUL 90-L	10 JUL 90-L
010230-0003-SA	SOIL	8240-S	10 JUL 90-L	10 JUL 90-L
010230-0004-SA	SOIL	8240-S	10 JUL 90-L	10 JUL 90-L
010230-0005-SA	SOIL	8240-S	10 JUL 90-L	10 JUL 90-L
010230-0006-SA	SOIL	8240-S	10 JUL 90-H	11 JUL 90-H
010230-0007-SA	SOIL	8240-S	10 JUL 90-H	11 JUL 90-H
010230-0008-SA	SOIL	8240-S	10 JUL 90-H	11 JUL 90-H
010230-0009-SA	SOIL	8240-S	10 JUL 90-H	11 JUL 90-H
010230-0010-SA	SOIL	8240-S	11 JUL 90-B	11 JUL 90-B
010230-0011-SA	SOIL	8240-S	11 JUL 90-B	11 JUL 90-B
010230-0012-SA	SOIL	8240-S	11 JUL 90-B	11 JUL 90-B
010230-0013-SA	SOIL	8240-S	11 JUL 90-B	11 JUL 90-B
010230-0014-SA	SOIL	8240-S	11 JUL 90-B	11 JUL 90-B

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		DCS	Average(%) Limits	(RPD)	DCS Limit

Category: 8240-S

Matrix: SOIL

QC Lot: 10 JUL 90-L

Concentration Units: ug/kg

1,1-Dichloroethene	5000	4400	4300	4350	87	59-172	2.3	22
Trichloroethene	5000	4960	5060	5010	100	62-137	2.0	24
Benzene	5000	4710	4870	4790	96	66-142	3.3	21
Toluene	5000	4820	4870	4840	97	59-139	1.0	21
Chlorobenzene	5000	5000	5070	5040	101	60-133	1.4	21

Category: 8240-S

Matrix: SOIL

QC Lot: 10 JUL 90-H

Concentration Units: ug/kg

1,1-Dichloroethene	5000	4940	5230	5080	102	59-172	5.7	22
Trichloroethene	5000	5100	5290	5200	104	62-137	3.7	24
Benzene	5000	5250	5340	5300	106	66-142	1.7	21
Toluene	5000	5030	5430	5230	105	59-139	7.6	21
Chlorobenzene	5000	5050	5320	5180	104	60-133	5.2	21

Category: 8240-S

Matrix: SOIL

QC Lot: 11 JUL 90-B

Concentration Units: ug/kg

1,1-Dichloroethene	5000	4800	5050	4920	99	59-172	5.1	22
Trichloroethene	5000	5210	5180	5200	104	62-137	0.6	24
Benzene	5000	5550	5200	5380	108	66-142	6.5	21
Toluene	5000	5680	6160	5920	118	59-139	8.1	21
Chlorobenzene	5000	5890	6120	6000	120	60-133	3.8	21

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8240-S

Matrix: SOIL

QC Lot: 10 JUL 90-L QC Run: 10 JUL 90-L

Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	4760	95	70-121
4-Bromofluorobenzene	5000	4670	93	74-121
Toluene-d8	5000	4900	98	81-117

Category: 8240-S

Matrix: SOIL

QC Lot: 10 JUL 90-H QC Run: 11 JUL 90-H

Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	5230	105	70-121
4-Bromofluorobenzene	5000	5100	102	74-121
Toluene-d8	5000	4900	98	81-117

Category: 8240-S

Matrix: SOIL

QC Lot: 11 JUL 90-B QC Run: 11 JUL 90-B

Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	5070	101	70-121
4-Bromofluorobenzene	5000	5250	105	74-121
Toluene-d8	5000	5240	105	81-117

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240-REF-S			
Matrix: SOIL			
QC Lot: 10 JUL 90-L QC Run: 10 JUL 90-L			
Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500

Test: 8240-REF-S
 Matrix: SOIL
 QC Lot: 10 JUL 90-H QC Run: 11 JUL 90-H

Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500

Test: 8240-REF-S
 Matrix: SOIL
 QC Lot: 11 JUL 90-B QC Run: 11 JUL 90-B

Benzene	ND	ug/kg	500
Carbon disulfide	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Chloroform	ND	ug/kg	500
EDB (1,2-Dibromoethane)	ND	ug/kg	1000

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240-REF-S			
Matrix: SOIL			
QC Lot: 11 JUL 90-B QC Run: 11 JUL 90-B			
1,2-Dichloroethane	ND	ug/kg	500
1,4-Dioxane	ND	ug/kg	50000
Ethylbenzene	ND	ug/kg	500
2-Butanone (MEK)	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Xylenes (total)	ND	ug/kg	500

QC LOT ASSIGNMENT REPORT
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010230-0001-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0002-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0003-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0004-SA	SOIL	8270-S	23 JUL 90-A	23 JUL 90-B
010230-0005-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0006-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0007-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0008-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0009-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0010-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0011-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0012-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0013-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C
010230-0014-SA	SOIL	8270-S	03 JUL 90-B	03 JUL 90-C

DUPLICATE CONTROL SAMPLE REPORT
 Semivolatile Organics by GC/MS

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		Average (%)	Limits	(RPD)	DCS Limit

Category: 8270-S
 Matrix: SOIL
 QC Lot: 03 JUL 90-B
 Concentration Units: ug/kg

Phenol	6670	5480	4900	5190	78	26- 90	11	35
2-Chlorophenol	6670	5260	4960	5110	77	25-102	5.9	50
1,4-Dichlorobenzene	3330	2180	2100	2140	64	28-104	3.7	27
N-Nitroso-di-								
n-propylamine	3330	2400	2400	2400	72	41-126	0.0	38
1,2,4-Trichlorobenzene	3330	2350	2390	2370	71	38-107	1.7	23
4-Chloro-3-methylphenol	6670	6160	5770	5960	89	26-103	6.5	33
Acenaphthene	3330	2380	2220	2300	69	31-137	7.0	19
4-Nitrophenol	6670	3900	4630	4260	64	11-114	17	50
2,4-Dinitrotoluene	3330	2840	2710	2780	83	28- 89	4.7	47
Pentachlorophenol	6670	3780	5770	4780	72	17-109	42	47
Pyrene	3330	3070	2840	2960	89	35-142	7.8	36

Category: 8270-S
 Matrix: SOIL
 QC Lot: 23 JUL 90-A
 Concentration Units: ug/kg

Phenol	6670	6590	6870	6730	101	26- 90	4.2	35
2-Chlorophenol	6670	6120	6680	6400	96	25-102	8.8	50
1,4-Dichlorobenzene	3330	2410	2440	2420	73	28-104	1.2	27
N-Nitroso-di-								
n-propylamine	3330	2960	3060	3010	90	41-126	3.3	38
1,2,4-Trichlorobenzene	3330	2640	2660	2650	80	38-107	0.8	23
4-Chloro-3-methylphenol	6670	5760	5760	5760	86	26-103	0.0	33
Acenaphthene	3330	2630	2670	2650	80	31-137	1.5	19
4-Nitrophenol	6670	5160	5350	5260	79	11-114	3.6	50
2,4-Dinitrotoluene	3330	3470	3480	3480	104	28- 89	0.3	47
Pentachlorophenol	6670	6200	5840	6020	90	17-109	6.0	47
Pyrene	3330	3550	3490	3520	106	35-142	1.7	36

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT Semivolatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8270-S

Matrix: SOIL

QC Lot: 03 JUL 90-B QC Run: 03 JUL 90-C

Concentration Units: ug/kg

Nitrobenzene-d5	1670	1050	63	23-120
2-Fluorobiphenyl	1670	1090	65	30-115
Terphenyl-d14	1670	1240	74	18-137
2-Fluorophenol	3330	2150	65	25-121
Phenol-d5	3330	2090	63	24-113
2,4,6-Tribromophenol	3330	2490	75	19-122

Category: 8270-S

Matrix: SOIL

QC Lot: 23 JUL 90-A QC Run: 23 JUL 90-B

Concentration Units: ug/kg

Nitrobenzene-d5	1670	1500	90	23-120
2-Fluorobiphenyl	1670	1490	89	30-115
Terphenyl-d14	1670	1860	111	18-137
2-Fluorophenol	3330	2880	86	25-121
Phenol-d5	3330	3000	90	24-113
2,4,6-Tribromophenol	3330	2520	76	19-122

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
 Semivolatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8270-REF-S			
Matrix: SOIL			
QC Lot: 03 JUL 90-B QC Run: 03 JUL 90-C			
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-REF-S			
Matrix: SOIL			
QC Lot: 23 JUL 90-A QC Run: 23 JUL 90-B			
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
7,12-Dimethylbenz(a)- anthracene	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Indene	ND	ug/kg	5000
1-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
Pyridine	ND	ug/kg	10000
Quinoline	ND	ug/kg	25000
Benzenethiol	ND	ug/kg	--
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
2,4-Dinitrophenol	ND	ug/kg	25000
4-Nitrophenol	ND	ug/kg	25000
Phenol	ND	ug/kg	5000

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Julie Essey

Enseco Client Giant Refinery

Project RFI

Sampling Co. Giant

Sampling Site Laiza

Team Leader C Roseendale

CHAIN OF CUSTODY

No.

SAMPLE SAFE™ CONDITIONS

1. Packed by: Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: ☒ Yes ☐ No
3. Condition of Contents: Good
4. Sealed for Shipping by: C Roseendale
5. Initial Contents Temp.: _____ °C Seal # _____
6. Sampling Status: ☒ Done ☐ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: ☒ Yes ☐ No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
6-29-90	7:10	RFI 0810 V 0.0	SOIL	2	Metals, VOA, Organics	
6-29-90	7:11	RFI 0810 V 2.0	SOIL	2	Metals, VOA, Organics	
6-29-90	7:24	RFI 0810 V 4.5	SOIL	2	Metals, VOA, Organics	
6-29-90	7:38	RFI 0813 V 0.0	SOIL	2	Metals, VOA, Organics	
6-29-90	7:49	RFI 0813 V 2.0	SOIL	2	Metals, VOA, Organics	
6-29-90	7:58	RFI 0813 V 4.5	SOIL	2	Metals, VOA, Organics	
6-29-90	8:04	RFI 0811 V 0.0	SOIL	2	Metals, VOA, Organics	
6-29-90	8:16	RFI 0811 V 2.0	SOIL	2	Metals, VOA, Organics	
6-29-90	8:24	RFI 0811 V 4.5	SOIL	2	Metals, VOA, Organics	
6-29-90	7:58	RFI 0813 V 4.5	SOIL	2	Metals, VOA, Organics	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Charles Roseendale Date 6-29-90 Time 4:00pm

Received by: (signed) _____ Date _____ Time _____

Delivered to Shipper by: C Roseendale Airbill # _____

Method of Shipment: Fed Express

Received for Lab: RNAL Signed: Bob Reid Date/Time 6-29-90 2:30pm

Enseco Project No. 10230

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

Q 56

3. Condition of Contents: Good
4. Sealed for Shipping by: Basendal

6. Sampling Status: Done Continuing Until _____

7. Seal Intact Upon Receipt by Laboratory:

8. Contents Temperature Upon Receipt by Lab: _____

[illegible]

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	Date	Time
<i>David Masenda</i>		6-22-90	2:00pm

SHIPPING DETAILS

Delivered to Shipper by: C. Rosendale
Method of Shipment: Exd Express Airbill # 2 545370
Received for Lab: RNAL Signed: BGR RAG Date/Time 8/8/64
Enseco Project No. 10230

Section 9.0
RMAL No. 010258

ANALYTICAL RESULTS
FOR
GIANT REFINING
ENSECO-RMAL NO. 010258



AUGUST 3, 1990

Reviewed by:



Julie Essey



Sue Dalla

Enseco Incorporated
4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Fax: 303/431-7171



August 3, 1990

Mr. Claud Rosendale
Giant Refining
17 Miles East of Gallup
I-40, Exit 39
Gallup, NM 87301

Dear Mr. Rosendale:

Enclosed is the report for 18 samples we received at Enseco-Rocky Mountain Analytical Laboratory on July 5, 1990.

Included with the report is a quality control summary.

Please call if you have any questions.

Sincerely,

Julie Essey
Program Administrator

Reviewed by:

Sue Dalla
Manager
Program Administration

JE/SD/dmh
Enclosures

RMAL #010258

Introduction

This report presents the analytical results as well as supporting information to aid in the evaluation and interpretation of the data and is arranged in the following order:

- o Sample Description Information
- o Analytical Test Requests
- o Analytical Results
- o Quality Control Report

All analyses at Enseco are performed so that the maximum concentration of sample consistent with the method is analyzed. Dilutions are at times required to avoid saturation of the detector, to achieve linearity for a specific target compound or to reduce matrix interferences. In this event, reporting limits are adjusted proportionately. Surrogate compounds may not be measurable in samples which have been diluted.

Ethanol, by Method 8240, was found in the methanol blank associated with samples 010258-0002, -0004, -0007, -0008, and -0009. It was present at 25000 ug/kg. This value is comparable to what was detected in the samples and laboratory contamination is suspected. Also note that Enseco does not blank correct sample data.

The Duplicate Control Sample (DCS) QC Lot 08 JUL 90-A by Method 8270 had a recovery for 2,4-Dinitrotoluene above Enseco's established limits. The quantitation was rechecked and found to be correct. Based on a thorough review of the data, it was determined that the sample results were not affected. It should also be noted that control limits are based on statistical data and do not always reflect the best possible recoveries.

The Duplicate Control Sample (DCS) QC Lot 08 JUL 90-B by Method 8270 had the Relative Percent Difference (RPD) for 1,2,4-Trichlorobenzene and 4-Nitrophenol above Enseco's established limits. Based on a thorough review of the data, it was determined that the sample results were not affected.

All 8270 samples were prepped accordingly to SW-846 using 2.0 grams of sample followed by a 50 percent partition then concentration to 1.0 mL for analysis. With this prep method nominal reporting limits are generally 10000 ug/kg. After careful review of all chromatograms it has been determined that we can lower the nominal reporting limit to 5000 ug/kg for this project.

For this project, samples 010258-0013 and -0015 by Method 6010 were diluted due to concentrations of calcium in the samples. In both cases, the reporting limits were raised proportionately.

Sample Description Information

The Sample Description Information lists all of the samples received in this project together with the internal laboratory identification number assigned for each sample. Each project received at Enseco - RMAL is assigned a unique six digit number. Samples within the project are numbered sequentially. The laboratory identification number is a combination of the six digit project code and the sample sequence number.

Also given in the Sample Description Information is the Sample Type (matrix), Date of Sampling (if known) and Date of Receipt at the laboratory.

Analytical Test Requests

The Analytical Test Requests lists the analyses that were performed on each sample. The Custom Test column indicates where tests have been modified to conform to the specific requirements of this project.

SAMPLE DESCRIPTION INFORMATION
for
Giant Refining

Lab ID	Client ID	Matrix	Sampled		Received
			Date	Time	Date
010258-0001-SA	RFI0901V0.0	SOIL	02 JUL 90	07:53	05 JUL 90
010258-0002-SA	RFI0901V3.0	SOIL	02 JUL 90	07:54	05 JUL 90
010258-0003-SA	RFI0901V5.0	SOIL	02 JUL 90	08:03	05 JUL 90
010258-0004-SA	RFI0901V7.0	SOIL	02 JUL 90	08:17	05 JUL 90
010258-0005-SA	RFI0901E5.0	AQUEOUS	02 JUL 90	08:00	05 JUL 90
010258-0006-SA	RFI0904V0.0	SOIL	02 JUL 90	08:25	05 JUL 90
010258-0007-SA	RFI0904V3.0	SOIL	02 JUL 90	08:40	05 JUL 90
010258-0008-SA	RFI0904V5.0	SOIL	02 JUL 90	08:51	05 JUL 90
010258-0009-SA	RFI0904V7.0	SOIL	02 JUL 90	09:03	05 JUL 90
010258-0010-SA	RFI0902V0.0	SOIL	02 JUL 90	09:10	05 JUL 90
010258-0011-SA	RFI0902V3.0	SOIL	02 JUL 90	09:20	05 JUL 90
010258-0012-SA	RFI0902V5.0	SOIL	02 JUL 90	09:28	05 JUL 90
010258-0013-SA	RFI0902V7.0	SOIL	02 JUL 90	09:45	05 JUL 90
010258-0014-SA	RFI0905V0.0	SOIL	02 JUL 90	09:50	05 JUL 90
010258-0015-SA	RFI0905V3.0	SOIL	02 JUL 90	09:58	05 JUL 90
010258-0016-SA	RFI0905V5.0	SOIL	02 JUL 90	10:06	05 JUL 90
010258-0017-SA	RFI0905V7.0	SOIL	02 JUL 90	10:14	05 JUL 90
010258-0018-SA	RFI0905D5.0	SOIL	02 JUL 90	10:06	05 JUL 90

ANALYTICAL TEST REQUESTS for Giant Refining

Lab ID: 010258	Group Code	Analysis Description	Custom Test?
0001 - 0004, 0006 - 0018	A	ICP Suite (Standard List)	Y
		Prep - Total Metals, ICP	N
		Arsenic by Graphite Furnace AA	N
		Prep - Total Metals, Furnace AA	N
		Selenium by Graphite Furnace AA	N
		Mercury by Cold Vapor AA	N
		Prep - Mercury, Cold Vapor AA	N
		Appendix IX Semivolatile Organics	Y
		Prep - Semivolatile Organics by GC/MS	N
		Priority Pollutant Volatile Organics	Y
		GC Screen For Medium Level Soils	N
0005	B	Priority Pollutant Volatile Organics	Y
		Prep-Volatile Organics by GC/MS	N
		Target Analyte List Metals by ICP, Total	Y
		Prep - Total Metals, ICP	N
		Arsenic by Graphite Furnace AA, Total	N
		Prep - Total Metals, Furnace AA	N
		Selenium by Graphite Furnace AA, Total	N
		Lead by Graphite Furnace AA, Total	N
		Mercury by Cold Vapor AA, Total	N
		Prep - Mercury, Cold Vapor AA (Total)	N
		Appendix IX Semivolatile Organics	Y
		Prep - Semivolatile Organics by GC/MS	N

Analytical Results

The analytical results for this project are presented in the following data tables. Each data table includes sample identification information, and when available and appropriate, dates sampled, received, authorized, prepared and analyzed. The authorization data is the date when the project was defined by the client such that laboratory work could begin.

Data sheets contain a listing of the parameters measured in each test, the analytical results and the Enseco reporting limit. Reporting limits are adjusted to reflect dilution of the sample, when appropriate. Solid and waste samples are reported on an "as received" basis, i.e. no correction is made for moisture content.

Enseco-RMAL is no longer routinely blank-correcting analytical data. Uncorrected analytical results are reported, along with associated blank results, for all organic and metals analyses. Analytical results and blank results are reported for conventional inorganic parameters as specified in the method. This policy is described in detail in the Enseco Incorporated Quality Assurance Program Plan for Environmental Chemical Monitoring, Revision 3.3, April, 1989.

The results from the Standard Enseco QA/QC Program, which generates data which are independent of matrix effects, is provided subsequently.

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0901V0.0
 Lab ID: 010258-0001-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082061
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene			
(cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-			
2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0901V0.0
Lab ID: 010258-0001-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082061
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	96	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	95	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0901V3.0
 Lab ID: 010258-0002-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082062
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	16000	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0901V3.0
Lab ID: 010258-0002-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082062
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	98	%	--
4-Bromofluorobenzene	105	%	--
1,2-Dichloroethane-d4	96	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
 Client ID: RFI0901V7.0
 Lab ID: 010258-0004-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082064
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 11 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	99	%	--
4-Bromofluorobenzene	105	%	--
1,2-Dichloroethane-d4	96	%	--

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 624

Client Name: Giant Refining
 Client ID: RFI0901E5.0
 Lab ID: 010258-0005-SA
 Matrix: AQUEOUS
 Authorized: 05 JUL 90

Enseco ID: 1082065
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 13 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
Methylene chloride	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene			
(cis/trans)	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
2-Chloroethyl vinyl ether	ND	ug/L	10
Bromoform	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0
Acetone	ND	ug/L	50
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Carbon disulfide	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-			
2-butene	ND	ug/L	5.0
Dichlorodifluoromethane	ND	ug/L	20
trans-1,2-Dichloroethene	ND	ug/L	5.0
Ethanol	ND	ug/L	100
Iodomethane	ND	ug/L	5.0
2-Butanone	ND	ug/L	50
4-Methyl-2-pentanone	ND	ug/L	10

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 624

Client Name: Giant Refining
 Client ID: RFI0901E5.0
 Lab ID: 010258-0005-SA
 Matrix: AQUEOUS
 Authorized: 05 JUL 90

Enseco ID: 1082065
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 13 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0
Ethyl methacrylate	ND	ug/L	10
2-Hexanone	ND	ug/L	10
Toluene-d8	100	%	--
4-Bromofluorobenzene	99	%	--
1,2-Dichloroethane-d4	102	%	--

ND = Not detected
 NA = Not applicable

Reported By: Michael Blades

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0904V0.0
 Lab ID: 010258-0006-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082066
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0904V0.0
Lab ID: 010258-0006-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082066
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
 Toluene-d8	 98	 %	 --
4-Bromofluorobenzene	107	%	--
1,2-Dichloroethane-d4	96	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0904V3.0
 Lab ID: 010258-0007-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082067
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	20000	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0904V3.0
Lab ID: 010258-0007-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082067
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	100	%	--
4-Bromofluorobenzene	107	%	--
1,2-Dichloroethane-d4	95	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0904V5.0
 Lab ID: 010258-0008-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082068
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	22000	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0904V5.0
Lab ID: 010258-0008-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082068
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
Ethyl methacrylate	ND	ug/kg	1000
2-Hexanone	ND	ug/kg	1000
Toluene-d8	98	%	--
4-Bromofluorobenzene	107	%	--
1,2-Dichloroethane-d4	96	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0904V7.0
 Lab ID: 010258-0009-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082069
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro- 2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	12000	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0904V7.0
Lab ID: 010258-0009-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082069
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	100	%	--
4-Bromofluorobenzene	107	%	--
1,2-Dichloroethane-d4	97	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RF10902V0.0
 Lab ID: 010258-0010-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082070
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0902V0.0
Lab ID: 010258-0010-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082070
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	101	%	--
4-Bromofluorobenzene	109	%	--
1,2-Dichloroethane-d4	100	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0902V3.0
 Lab ID: 010258-0011-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082071
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	23000	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0902V3.0
Lab ID: 010258-0011-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082071
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	100	%	--
4-Bromofluorobenzene	109	%	--
1,2-Dichloroethane-d4	99	%	--

ND = Not detected
NA = Not applicable

Reported By: Keith Beauvais

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining

Client ID: RFI0902V5.0

Lab ID: 010258-0012-SA

Matrix: SOIL

Authorized: 05 JUL 90

Enseco ID: 1082072

Sampled: 02 JUL 90

Prepared: 11 JUL 90

Received: 05 JUL 90

Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro- 2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0902V5.0
Lab ID: 010258-0012-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082072
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	100	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	99	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
Client ID: RFI0902V7.0
Lab ID: 010258-0013-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082073
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene	ND	ug/kg	500
(cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-			
2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
 Client ID: RFI0902V7.0
 Lab ID: 010258-0013-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082073
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	101	%	--
4-Bromofluorobenzene	102	%	--
1,2-Dichloroethane-d4	99	%	--

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0905V0.0
 Lab ID: 010258-0014-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082074
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro- 2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0905V0.0
Lab ID: 010258-0014-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082074
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	101	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	98	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0905V3.0
 Lab ID: 010258-0015-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082075
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0905V3.0
Lab ID: 010258-0015-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082075
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
 Toluene-d8	 102	 %	 --
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	97	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
Client ID: RFI0905V5.0
Lab ID: 010258-0016-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082076
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro- 2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0905V5.0
Lab ID: 010258-0016-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082076
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
Ethyl methacrylate	ND	ug/kg	1000
2-Hexanone	ND	ug/kg	1000
Toluene-d8	101	%	--
4-Bromofluorobenzene	98	%	--
1,2-Dichloroethane-d4	96	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0905V7.0
 Lab ID: 010258-0017-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082077
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene			
(cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-			
2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
Client ID: RFI0905V7.0
Lab ID: 010258-0017-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082077
Sampled: 02 JUL 90
Prepared: 11 JUL 90

Received: 05 JUL 90
Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Ethyl methacrylate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
2-Hexanone	ND	ug/kg	1000
Toluene-d8	100	%	--
4-Bromofluorobenzene	96	%	--
1,2-Dichloroethane-d4	95	%	--

ND = Not detected
NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics

Method 8240

Client Name: Giant Refining
 Client ID: RFI0905D5.0
 Lab ID: 010258-0018-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082078
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Priority Pollutant Volatile Organics (CONT.)

Method 8240

Client Name: Giant Refining
 Client ID: RFI0905D5.0
 Lab ID: 010258-0018-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082078
 Sampled: 02 JUL 90
 Prepared: 11 JUL 90

Received: 05 JUL 90
 Analyzed: 12 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
Ethyl methacrylate	ND	ug/kg	1000
2-Hexanone	ND	ug/kg	1000
Toluene-d8	103	%	--
4-Bromofluorobenzene	100	%	--
1,2-Dichloroethane-d4	97	%	--

ND = Not detected
 NA = Not applicable

Reported By: Terry Riddle

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0901V0.0
Lab ID: 010258-0001-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082061
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V0.0
 Lab ID: 010258-0001-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082061
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V0.0
 Lab ID: 010258-0001-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082061
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	91	%	--
2-Fluorobiphenyl	98	%	--
Terphenyl-d14	100	%	--
Phenol-d5	88	%	--
2-Fluorophenol	91	%	--
2,4,6-Tribromophenol	85	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturański

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V3.0
 Lab ID: 010258-0002-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082062
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

 Client Name: Giant Refining
 Client ID: RFI0901V3.0
 Lab ID: 010258-0002-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

 Enseco ID: 1082062
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

 Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

 ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V3.0
 Lab ID: 010258-0002-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082062
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	101	%	--
2-Fluorobiphenyl	114	%	--
Terphenyl-d14	127	%	--
Phenol-d5	99	%	--
2-Fluorophenol	101	%	--
2,4,6-Tribromophenol	69	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V5.0
 Lab ID: 010258-0003-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082063
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V5.0
 Lab ID: 010258-0003-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082063
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V5.0
 Lab ID: 010258-0003-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082063
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	89	%	--
2-Fluorobiphenyl	101	%	--
Terphenyl-d14	118	%	--
Phenol-d5	86	%	--
2-Fluorophenol	90	%	--
2,4,6-Tribromophenol	69	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V7.0
 Lab ID: 010258-0004-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082064
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V7.0
 Lab ID: 010258-0004-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082064
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901V7.0
 Lab ID: 010258-0004-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082064
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro-benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	98	%	--
2-Fluorobiphenyl	114	%	--
Terphenyl-d14	124	%	--
Phenol-d5	98	%	--
2-Fluorophenol	100	%	--
2,4,6-Tribromophenol	71	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturaliski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901E5.0
 Lab ID: 010258-0005-SA
 Matrix: AQUEOUS
 Authorized: 05 JUL 90

Enseco ID: 1082065
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/L	10
Acenaphthylene	ND	ug/L	10
Acetophenone	ND	ug/L	10
4-Aminobiphenyl	ND	ug/L	10
Aniline	ND	ug/L	10
Anthracene	ND	ug/L	10
Benzo(a)anthracene	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(g,h,i)perylene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
Benzyl alcohol	ND	ug/L	20
bis(2-Chloroethoxy)-methane	ND	ug/L	10
bis(2-Chloroethyl) ether	ND	ug/L	10
bis(2-Chloroisopropyl)-ether	ND	ug/L	10
bis(2-Ethylhexyl) phthalate	ND	ug/L	10
4-Bromophenyl phenyl ether	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
4-Chloroaniline	ND	ug/L	20
4-Chloro-3-methylphenol	ND	ug/L	20
2-Chloronaphthalene	ND	ug/L	10
2-Chlorophenol	ND	ug/L	10
4-Chlorophenyl phenyl ether	ND	ug/L	10
o-Cresol	ND	ug/L	10
m & p-Cresol(s)	ND	ug/L	10
Chrysene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10
3,3'-Dichlorobenzidine	ND	ug/L	20
2,4-Dichlorophenol	ND	ug/L	10
2,6-Dichlorophenol	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10
p-Dimethylaminoazobenzene	ND	ug/L	10

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0901E5.0
Lab ID: 010258-0005-SA
Matrix: AQUEOUS
Authorized: 05 JUL 90

Enseco ID: 1082065
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/L	10
a,a-Dimethylphenethyl-amine	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
Dimethyl phthalate	ND	ug/L	10
1,3-Dinitrobenzene	ND	ug/L	10
4,6-Dinitro-o-cresol	ND	ug/L	50
2,4-Dinitrophenol	ND	ug/L	50
2,4-Dinitrotoluene	ND	ug/L	10
2,6-Dinitrotoluene	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Diphenylamine	ND	ug/L	10
Ethyl methanesulfonate	ND	ug/L	10
Fluoranthene	ND	ug/L	10
Fluorene	ND	ug/L	10
Hexachlorobenzene	ND	ug/L	10
Hexachlorobutadiene	ND	ug/L	10
Hexachlorocyclopentadiene	ND	ug/L	10
Hexachloroethane	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	ND	ug/L	10
Isophorone	ND	ug/L	10
3-Methylcholanthrene	ND	ug/L	20
Methyl methanesulfonate	ND	ug/L	10
2-Methylnaphthalene	ND	ug/L	10
Naphthalene	ND	ug/L	10
1-Naphthylamine	ND	ug/L	10
2-Naphthylamine	ND	ug/L	10
2-Nitroaniline	ND	ug/L	50
3-Nitroaniline	ND	ug/L	50
4-Nitroaniline	ND	ug/L	50
Nitrobenzene	ND	ug/L	10
2-Nitrophenol	ND	ug/L	10
4-Nitrophenol	ND	ug/L	50
N-Nitroso-di-n-butylamine	ND	ug/L	10
N-Nitrosodimethylamine	ND	ug/L	10
N-Nitrosodiphenylamine	ND	ug/L	10
N-Nitroso-di-n-propylamine	ND	ug/L	10
N-Nitrosopiperidine	ND	ug/L	10
Pentachlorobenzene	ND	ug/L	10

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0901E5.0
 Lab ID: 010258-0005-SA
 Matrix: AQUEOUS
 Authorized: 05 JUL 90

Enseco ID: 1082065
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/L	50
Pentachlorophenol	ND	ug/L	50
Phenacetin	ND	ug/L	10
Phenanthrene	ND	ug/L	10
Phenol	ND	ug/L	10
2-Picoline	ND	ug/L	10
Pronamide	ND	ug/L	20
Pyrene	ND	ug/L	10
1,2,4,5-Tetrachloro- benzene	ND	ug/L	10
2,3,4,6-Tetrachlorophenol	ND	ug/L	20
1,2,4-Trichlorobenzene	ND	ug/L	10
2,4,5-Trichlorophenol	ND	ug/L	50
2,4,6-Trichlorophenol	ND	ug/L	10
Benzidine	ND	ug/L	--
Benzoic acid	ND	ug/L	50
1-Chloronaphthalene	ND	ug/L	--
1,2-Diphenylhydrazine	ND	ug/L	50
Nitrobenzene-d5	67	%	--
2-Fluorobiphenyl	70	%	--
Terphenyl-d14	113	%	--
Phenol-d5	61	%	--
2-Fluorophenol	58	%	--
2,4,6-Tribromophenol	88	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V0.0
 Lab ID: 010258-0006-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082066
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V0.0
 Lab ID: 010258-0006-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082066
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V0.0
 Lab ID: 010258-0006-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082066
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro-benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	88	%	--
2-Fluorobiphenyl	109	%	--
Terphenyl-d14	95	%	--
Phenol-d5	89	%	--
2-Fluorophenol	97	%	--
2,4,6-Tribromophenol	93	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V3.0
 Lab ID: 010258-0007-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082067
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V3.0
 Lab ID: 010258-0007-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082067
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0904V3.0
Lab ID: 010258-0007-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082067
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	88	%	--
2-Fluorobiphenyl	99	%	--
Terphenyl-d14	101	%	--
Phenol-d5	85	%	--
2-Fluorophenol	91	%	--
2,4,6-Tribromophenol	66	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturański

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0904V5.0
Lab ID: 010258-0008-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082068
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V5.0
 Lab ID: 010258-0008-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082068
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethylamine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0904V5.0
Lab ID: 010258-0008-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082068
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	87	%	--
2-Fluorobiphenyl	109	%	--
Terphenyl-d14	107	%	--
Phenol-d5	87	%	--
2-Fluorophenol	92	%	--
2,4,6-Tribromophenol	65	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining

Client ID: RFI0904V7.0

Lab ID: 010258-0009-SA

Matrix: SOIL

Authorized: 05 JUL 90

Enseco ID: 1082069

Sampled: 02 JUL 90

Prepared: 08 JUL 90

Received: 05 JUL 90

Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V7.0
 Lab ID: 010258-0009-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082069
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethylamine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0904V7.0
 Lab ID: 010258-0009-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082069
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 23 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	81	%	--
2-Fluorobiphenyl	100	%	--
Terphenyl-d14	105	%	--
Phenol-d5	78	%	--
2-Fluorophenol	85	%	--
2,4,6-Tribromophenol	60	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0902V0.0
 Lab ID: 010258-0010-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082070
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0902V0.0
 Lab ID: 010258-0010-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082070
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0902V0.0
 Lab ID: 010258-0010-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082070
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	96	%	--
2-Fluorobiphenyl	101	%	--
Terphenyl-d14	115	%	--
Phenol-d5	100	%	--
2-Fluorophenol	102	%	--
2,4,6-Tribromophenol	79	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturaliski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0902V3.0
Lab ID: 010258-0011-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082071
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0902V3.0
 Lab ID: 010258-0011-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082071
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0902V3.0
Lab ID: 010258-0011-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082071
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	88	%	--
2-Fluorobiphenyl	93	%	--
Terphenyl-d14	102	%	--
Phenol-d5	93	%	--
2-Fluorophenol	96	%	--
2,4,6-Tribromophenol	68	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Potural'ski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0902V5.0
Lab ID: 010258-0012-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082072
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0902V5.0
Lab ID: 010258-0012-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082072
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethylamine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0902V5.0
 Lab ID: 010258-0012-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082072
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	89	%	--
2-Fluorobiphenyl	95	%	--
Terphenyl-d14	109	%	--
Phenol-d5	93	%	--
2-Fluorophenol	93	%	--
2,4,6-Tribromophenol	73	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0902V7.0
Lab ID: 010258-0013-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082073
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0902V7.0
Lab ID: 010258-0013-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082073
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0902V7.0
 Lab ID: 010258-0013-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082073
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro-benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	85	%	--
2-Fluorobiphenyl	92	%	--
Terphenyl-d14	101	%	--
Phenol-d5	87	%	--
2-Fluorophenol	90	%	--
2,4,6-Tribromophenol	68	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0905V0.0
Lab ID: 010258-0014-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082074
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0905V0.0
Lab ID: 010258-0014-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082074
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethylamine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0905V0.0
 Lab ID: 010258-0014-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082074
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro-benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	87	%	--
2-Fluorobiphenyl	99	%	--
Terphenyl-d14	113	%	--
Phenol-d5	92	%	--
2-Fluorophenol	94	%	--
2,4,6-Tribromophenol	72	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0905V3.0
Lab ID: 010258-0015-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082075
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI0905V3.0
 Lab ID: 010258-0015-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082075
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethylamine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RF10905V3.0
 Lab ID: 010258-0015-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082075
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 24 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	81	%	--
2-Fluorobiphenyl	90	%	--
Terphenyl-d14	70	%	--
Phenol-d5	82	%	--
2-Fluorophenol	82	%	--
2,4,6-Tribromophenol	74	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturafski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
Client ID: RFI0905V5.0
Lab ID: 010258-0016-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082076
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 25 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0905V5.0
Lab ID: 010258-0016-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082076
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 25 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	101	%	--
2-Fluorobiphenyl	106	%	--
Terphenyl-d14	100	%	--
Phenol-d5	103	%	--
2-Fluorophenol	104	%	--
2,4,6-Tribromophenol	76	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturański

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RFI0905V7.0
Lab ID: 010258-0017-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082077
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 25 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
Client ID: RF10905V7.0
Lab ID: 010258-0017-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082077
Sampled: 02 JUL 90
Prepared: 08 JUL 90

Received: 05 JUL 90
Analyzed: 25 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	86	%	--
2-Fluorobiphenyl	89	%	--
Terphenyl-d14	86	%	--
Phenol-d5	85	%	--
2-Fluorophenol	88	%	--
2,4,6-Tribromophenol	61	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics

Method 8270

Client Name: Giant Refining
 Client ID: RFI0905D5.0
 Lab ID: 010258-0018-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082078
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 25 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/kg	5000
Acenaphthylene	ND	ug/kg	5000
Acetophenone	ND	ug/kg	5000
4-Aminobiphenyl	ND	ug/kg	--
Aniline	ND	ug/kg	5000
Anthracene	ND	ug/kg	5000
Benzo(a)anthracene	ND	ug/kg	5000
Benzo(b)fluoranthene	ND	ug/kg	5000
Benzo(k)fluoranthene	ND	ug/kg	5000
Benzo(g,h,i)perylene	ND	ug/kg	5000
Benzo(a)pyrene	ND	ug/kg	5000
Benzyl alcohol	ND	ug/kg	5000
bis(2-Chloroethoxy)-methane	ND	ug/kg	5000
bis(2-Chloroethyl) ether	ND	ug/kg	5000
bis(2-Chloroisopropyl)-ether	ND	ug/kg	5000
bis(2-Ethylhexyl) phthalate	ND	ug/kg	5000
4-Bromophenyl phenyl ether	ND	ug/kg	5000
Butyl benzyl phthalate	ND	ug/kg	5000
4-Chloroaniline	ND	ug/kg	5000
4-Chloro-3-methylphenol	ND	ug/kg	5000
2-Chloronaphthalene	ND	ug/kg	5000
2-Chlorophenol	ND	ug/kg	5000
4-Chlorophenyl phenyl ether	ND	ug/kg	5000
o-Cresol	ND	ug/kg	5000
m & p-Cresol(s)	ND	ug/kg	5000
Chrysene	ND	ug/kg	5000
Dibenz(a,h)anthracene	ND	ug/kg	5000
Di-n-butyl phthalate	ND	ug/kg	5000
1,2-Dichlorobenzene	ND	ug/kg	5000
1,3-Dichlorobenzene	ND	ug/kg	5000
1,4-Dichlorobenzene	ND	ug/kg	5000
3,3'-Dichlorobenzidine	ND	ug/kg	10000
2,4-Dichlorophenol	ND	ug/kg	5000
2,6-Dichlorophenol	ND	ug/kg	5000
Diethyl phthalate	ND	ug/kg	5000
p-Dimethylaminoazobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI090505.0
 Lab ID: 010258-0018-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082078
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 25 JUL 90

Parameter	Result	Units	Reporting Limit
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Appendix IX Semivolatile Organics (CONT.)

Method 8270

Client Name: Giant Refining
 Client ID: RFI090505.0
 Lab ID: 010258-0018-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082078
 Sampled: 02 JUL 90
 Prepared: 08 JUL 90

Received: 05 JUL 90
 Analyzed: 25 JUL 90

Parameter	Result	Units	Reporting Limit
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000
Nitrobenzene-d5	87	%	--
2-Fluorobiphenyl	96	%	--
Terphenyl-d14	91	%	--
Phenol-d5	87	%	--
2-Fluorophenol	88	%	--
2,4,6-Tribromophenol	60	%	--

ND = Not detected
 NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Total Metals

Client Name: Giant Refining
Client ID: RF10901V0.0
Lab ID: 010258-0001-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082061

Sampled: 02 JUL 90

Prepared: See Below

Received: 05 JUL 90

Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	0.86	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	316	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	0.95	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	13.9	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	3.2	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	7.4	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	13.5	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	6.3	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	1210	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	12.9	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	19.7	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosa's

Total Metals

Client Name: Giant Refining
 Client ID: RFI0901V3.0
 Lab ID: 010258-0002-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082062
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	ND	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	330	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	0.88	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	4.8	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	2.8	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	3.6	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	11.4	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	5.2	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	712	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	12.9	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	6.9	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0901V5.0
 Lab ID: 010258-0003-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082063
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	ND	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	332	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	5.4	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	3.8	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	5.3	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	9.8	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	5.7	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	1400	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	14.1	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	9.3	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rösas

Total Metals

Client Name: Giant Refining
Client ID: RFI0901V7.0
Lab ID: 010258-0004-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082064
Sampled: 02 JUL 90
Prepared: See Below

Received: 05 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	ND	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	309	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	5.4	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	4.0	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	5.7	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	13.2	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	6.7	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	963	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	14.7	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	9.2	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0901E5.0
 Lab ID: 010258-0005-SA
 Matrix: AQUEOUS
 Authorized: 05 JUL 90

Enseco ID: 1082065
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/L	0.060	6010	17 JUL 90	18 JUL 90
Arsenic	ND	mg/L	0.0050	7060	23 JUL 90	25 JUL 90
Barium	ND	mg/L	0.010	6010	17 JUL 90	18 JUL 90
Beryllium	ND	mg/L	0.0020	6010	17 JUL 90	18 JUL 90
Cadmium	ND	mg/L	0.0050	6010	17 JUL 90	18 JUL 90
Chromium	ND	mg/L	0.010	6010	17 JUL 90	18 JUL 90
Cobalt	ND	mg/L	0.010	6010	17 JUL 90	18 JUL 90
Copper	ND	mg/L	0.020	6010	17 JUL 90	18 JUL 90
Lead	ND	mg/L	0.0050	7421	23 JUL 90	01 AUG 90
Mercury	ND	mg/L	0.00020	7470	20 JUL 90	24 JUL 90
Nickel	ND	mg/L	0.040	6010	17 JUL 90	18 JUL 90
Potassium	ND	mg/L	5.0	6010	17 JUL 90	18 JUL 90
Selenium	ND	mg/L	0.0050	7740	23 JUL 90	25 JUL 90
Vanadium	ND	mg/L	0.010	6010	17 JUL 90	18 JUL 90
Zinc	ND	mg/L	0.020	6010	17 JUL 90	18 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Sandra Jones

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
Client ID: RFI0904V0.0
Lab ID: 010258-0006-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082066
Sampled: 02 JUL 90
Prepared: See Below

Received: 05 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	2.1	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	406	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	0.91	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	42.3	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	4.4	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	13.9	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	29.7	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	10.0	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	1250	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	16.4	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	69.6	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
Client ID: RFI0904V3.0
Lab ID: 010258-0007-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082067
Sampled: 02 JUL 90
Prepared: See Below

Received: 05 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	ND	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	275	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	1.3	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	6.7	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	4.1	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	6.5	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	13.8	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	7.4	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	1180	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	16.4	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	11.1	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0904V5.0
 Lab ID: 010258-0008-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082068
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	ND	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	309	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	1.1	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	5.2	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	3.4	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	5.2	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	12.4	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	5.1	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	983	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	12.8	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	9.1	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
Client ID: RFI0904V7.0
Lab ID: 010258-0009-SA
Matrix: SOIL
Authorized: 05 JUL 90

Enseco ID: 1082069
Sampled: 02 JUL 90
Prepared: See Below

Received: 05 JUL 90
Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	ND	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	239	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	1.4	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	8.1	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	4.8	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	7.2	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	16.4	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	7.8	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	1560	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	18.1	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	14.0	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0902V0.0
 Lab ID: 010258-0010-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082070
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	30 JUL 90
Arsenic	ND	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	302	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Beryllium	1.3	mg/kg	0.20	6010	25 JUL 90	30 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	30 JUL 90
Chromium	11.8	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Cobalt	5.8	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Copper	8.1	mg/kg	2.0	6010	25 JUL 90	30 JUL 90
Lead	16.1	mg/kg	5.0	6010	25 JUL 90	30 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	11.4	mg/kg	4.0	6010	25 JUL 90	30 JUL 90
Potassium	2110	mg/kg	500	6010	25 JUL 90	30 JUL 90
Selenium	ND	mg/kg	1.0	7740	25 JUL 90	29 JUL 90
Vanadium	20.4	mg/kg	1.0	6010	25 JUL 90	30 JUL 90
Zinc	18.4	mg/kg	2.0	6010	25 JUL 90	30 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0902V3.0
 Lab ID: 010258-0011-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082071
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	318	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	31 JUL 90
Chromium	6.3	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Cobalt	3.7	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Copper	5.6	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Lead	13.9	mg/kg	5.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	6.8	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Potassium	1220	mg/kg	500	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	16.0	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Zinc	12.0	mg/kg	2.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0902V5.0
 Lab ID: 010258-0012-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082072
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	237	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	31 JUL 90
Chromium	7.2	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Cobalt	4.4	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Copper	5.7	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Lead	13.4	mg/kg	5.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	8.2	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Potassium	1640	mg/kg	500	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	15.9	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Zinc	12.3	mg/kg	2.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0902V7.0
 Lab ID: 010258-0013-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082073
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	12.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	262	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Beryllium	0.59	mg/kg	0.40	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Chromium	2.3	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Cobalt	2.0	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Copper	ND	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Lead	11.9	mg/kg	10.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	ND	mg/kg	8.0	6010	25 JUL 90	31 JUL 90
Potassium	ND	mg/kg	1000	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	9.5	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Zinc	5.7	mg/kg	4.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0905V0.0
 Lab ID: 010258-0014-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082074
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	285	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Beryllium	1.2	mg/kg	0.20	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	31 JUL 90
Chromium	8.1	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Cobalt	4.6	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Copper	5.5	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Lead	14.9	mg/kg	5.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	9.1	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Potassium	1160	mg/kg	500	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	17.9	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Zinc	12.1	mg/kg	2.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0905V3.0
 Lab ID: 010258-0015-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082075
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	12.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	2.5	7060	25 JUL 90	01 AUG 90
Barium	418	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Beryllium	0.77	mg/kg	0.40	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Chromium	32.2	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Cobalt	5.0	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Copper	11.9	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Lead	31.0	mg/kg	10.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	8.7	mg/kg	8.0	6010	25 JUL 90	31 JUL 90
Potassium	1100	mg/kg	1000	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	1.0	7740	25 JUL 90	29 JUL 90
Vanadium	16.9	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Zinc	55.6	mg/kg	4.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0905V5.0
 Lab ID: 010258-0016-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082076
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	333	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Beryllium	0.94	mg/kg	0.20	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	31 JUL 90
Chromium	6.1	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Cobalt	3.5	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Copper	3.7	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Lead	13.7	mg/kg	5.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	5.5	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Potassium	825	mg/kg	500	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	15.5	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Zinc	8.4	mg/kg	2.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0905V7.0
 Lab ID: 010258-0017-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082077
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	0.50	7060	25 JUL 90	01 AUG 90
Barium	313	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Beryllium	1.3	mg/kg	0.20	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	31 JUL 90
Chromium	8.5	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Cobalt	4.5	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Copper	6.4	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Lead	12.8	mg/kg	5.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	9.2	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Potassium	1590	mg/kg	500	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	18.5	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Zinc	13.3	mg/kg	2.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Total Metals

Client Name: Giant Refining
 Client ID: RFI0905D5.0
 Lab ID: 010258-0018-SA
 Matrix: SOIL
 Authorized: 05 JUL 90

Enseco ID: 1082078
 Sampled: 02 JUL 90
 Prepared: See Below

Received: 05 JUL 90
 Analyzed: See Below

Parameter	Result	Wet wt. Reporting Units	Limit	Analytical Method	Prepared Date	Analyzed Date
Antimony	ND	mg/kg	6.0	6010	25 JUL 90	31 JUL 90
Arsenic	ND	mg/kg	1.0	7060	25 JUL 90	01 AUG 90
Barium	375	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Beryllium	0.91	mg/kg	0.20	6010	25 JUL 90	31 JUL 90
Cadmium	ND	mg/kg	0.50	6010	25 JUL 90	31 JUL 90
Chromium	6.8	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Cobalt	3.9	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Copper	4.2	mg/kg	2.0	6010	25 JUL 90	31 JUL 90
Lead	14.4	mg/kg	5.0	6010	25 JUL 90	31 JUL 90
Mercury	ND	mg/kg	0.10	7471	18 JUL 90	19 JUL 90
Nickel	6.9	mg/kg	4.0	6010	25 JUL 90	31 JUL 90
Potassium	936	mg/kg	500	6010	25 JUL 90	31 JUL 90
Selenium	ND	mg/kg	0.50	7740	25 JUL 90	29 JUL 90
Vanadium	16.4	mg/kg	1.0	6010	25 JUL 90	31 JUL 90
Zinc	10.1	mg/kg	2.0	6010	25 JUL 90	31 JUL 90

ND = Not detected
 NA = Not applicable

Reported By: Dave Roberts

Approved By: Pam Rosas

Quality Control Results

The Enseco laboratories operate under a vigorous QA/QC program designed to ensure the generation of scientifically valid, legally defensible data by monitoring every aspect of laboratory operations. Routine QA/QC procedures include the use of approved methodologies, independent verification of analytical standards, use of duplicate Laboratory Control Samples to assess the precision and accuracy of the methodology on a routine basis, and a rigorous system of data review.

In addition, the Enseco laboratories maintain a comprehensive set of certifications from both state and federal governmental agencies which require frequent analyses of blind audit samples. Enseco - Rocky Mountain Analytical Laboratory is certified by the EPA under the EPA/CLP program for both Organic and Inorganic analyses, under the USATHAMA (U.S. Army) program, by the Army Corps of Engineers, and the states of Colorado, New Jersey, New York, Utah, and Florida, among others.

The standard laboratory QC package is designed to:

- 1) establish a strong, cost-effective QC program that ensures the generation of scientifically valid, legally defensible data
- 2) assess the laboratory's performance of the analytical method using control limits generated with a well-defined matrix
- 3) establish clear-cut guidelines for acceptability of analytical data so that QC decisions can be made immediately at the bench, and
- 4) provide a standard set of reportables which assures the client of the quality of his data.

The Enseco QC program is based upon monitoring the precision and accuracy of an analytical method by analyzing a set of Duplicate Control Samples (DCS) at frequent, well-defined intervals. Each DCS is a well-characterized matrix which is spiked with target compounds at 5-100 times the reporting limit, depending upon the methodology being monitored. The purpose of the DCS is not to duplicate the sample matrix, but rather to provide an interference-free, homogeneous matrix from which to gather data to establish control limits. These limits are used to determine whether data generated by the laboratory on any given day is in control.

Control limits for accuracy (percent recovery) are based on the average, historical percent recovery $\pm$ 3 standard deviation units. Control limits for precision (relative percent difference) range from 0 (identical duplicate DCS results) to the average, historical relative percent difference $\pm$ 3 standard deviation units. These control limits are fairly narrow based on the consistency of the matrix being monitored and are updated on a quarterly basis.

For each batch of samples analyzed, an additional control measure is taken in the form of a Single Control Sample (SCS). The SCS consists of a control matrix that is spiked with either representative target compounds or surrogate compounds appropriate to the method being used. An SCS is prepared for each sample lot for which the DCS pair are not analyzed.

Accuracy for DCS and SCS is measured by Percent Recovery.

$$\% \text{ Recovery} = \frac{\text{Measured Concentration}}{\text{Actual Concentration}} \times 100$$

Precision for DCS is measured by Relative Percent Difference (RPD).

$$\text{RPD} = \frac{|\text{Measured Concentration DCS1} - \text{Measured Concentration DCS2}|}{(\text{Measured Concentration DCS1} + \text{Measured Concentration DCS2})/2} \times 100$$

All samples analyzed concurrently by the same test are assigned the same QC lot number. Projects which contain numerous samples, analyzed over several days, may have multiple QC lot numbers associated with each test. The QC information which follows includes a listing of the QC lot numbers associated with each of the samples reported, DCS and SCS (where applicable) recoveries from the QC lots associated with the samples, and control limits for these lots. The QC data is reported by test code, in the order that the tests are reported in the analytical results section of this report.

QC LOT ASSIGNMENT REPORT
Volatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010258-0001-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0002-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0003-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0004-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0005-SA	AQUEOUS	624-A	11 JUL 90-H	12 JUL 90-H2
010258-0006-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0007-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0008-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0009-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0010-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0011-SA	SOIL	8240-S	18 JUN 90-D	11 JUL 90-D
010258-0012-SA	SOIL	8240-S	10 JUL 90-H	12 JUL 90-H
010258-0013-SA	SOIL	8240-S	10 JUL 90-H	12 JUL 90-H
010258-0014-SA	SOIL	8240-S	10 JUL 90-H	12 JUL 90-H
010258-0015-SA	SOIL	8240-S	10 JUL 90-H	12 JUL 90-H
010258-0016-SA	SOIL	8240-S	10 JUL 90-H	12 JUL 90-H
010258-0017-SA	SOIL	8240-S	10 JUL 90-H	12 JUL 90-H
010258-0018-SA	SOIL	8240-S	10 JUL 90-H	12 JUL 90-H

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		Average(%) DCS	Limits	(RPD) DCS	Limit
Category: 8240-S								
Matrix: SOIL								
QC Lot: 18 JUN 90-D								
Concentration Units: ug/kg								
1,1-Dichloroethene	5000	5370	4890	5130	103	59-172	9.4	22
Trichloroethene	5000	5540	5380	5460	109	62-137	2.9	24
Benzene	5000	5680	5790	5740	115	66-142	1.9	21
Toluene	5000	5340	5470	5400	108	59-139	2.4	21
Chlorobenzene	5000	5440	5570	5500	110	60-133	2.4	21

Category: 624-A
 Matrix: AQUEOUS
 QC Lot: 11 JUL 90-H
 Concentration Units: ug/L

1,1-Dichloroethene	50	47.2	44.8	46.0	92	61-145	5.2	14
Trichloroethene	50	54.3	50.6	52.4	105	71-120	7.1	14
Benzene	50	58.3	54.4	56.4	113	76-127	6.9	11
Toluene	50	54.6	51.7	53.2	106	76-125	5.5	13
Chlorobenzene	50	56.5	52.3	54.4	109	75-130	7.7	13

Category: 8240-S
 Matrix: SOIL
 QC Lot: 10 JUL 90-H
 Concentration Units: ug/kg

1,1-Dichloroethene	5000	4940	5230	5080	102	59-172	5.7	22
Trichloroethene	5000	5100	5290	5200	104	62-137	3.7	24
Benzene	5000	5250	5340	5300	106	66-142	1.7	21
Toluene	5000	5030	5430	5230	105	59-139	7.6	21
Chlorobenzene	5000	5050	5320	5180	104	60-133	5.2	21

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8240-S
Matrix: SOIL
QC Lot: 18 JUN 90-D QC Run: 11 JUL 90-D
Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	5000	100	70-121
4-Bromofluorobenzene	5000	4900	98	74-121
Toluene-d8	5000	4910	98	81-117

Category: 624-A
Matrix: AQUEOUS
QC Lot: 11 JUL 90-H QC Run: 12 JUL 90-H2
Concentration Units: ug/L

1,2-Dichloroethane-d4	50.0	49.7	99	76-114
4-Bromofluorobenzene	50.0	49.8	100	86-115
Toluene-d8	50.0	48.9	98	88-110

Category: 8240-S
Matrix: SOIL
QC Lot: 10 JUL 90-H QC Run: 12 JUL 90-H
Concentration Units: ug/kg

1,2-Dichloroethane-d4	5000	5050	101	70-121
4-Bromofluorobenzene	5000	5030	101	74-121
Toluene-d8	5000	5060	101	81-117

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
 Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 8240-PP-S			
Matrix: SOIL			
QC Lot: 18 JUN 90-D QC Run: 11 JUL 90-D			
Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene	ND	ug/kg	500
(cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-			
2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000

METHOD BLANK REPORT
 Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
---------	--------	-------	-----------------

Test: 8240-PP-S

Matrix: SOIL

QC Lot: 18 JUN 90-D QC Run: 11 JUL 90-D

Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
Ethyl methacrylate	ND	ug/kg	1000
2-Hexanone	ND	ug/kg	1000

Test: 624-PP-AP

Matrix: AQUEOUS

QC Lot: 11 JUL 90-H QC Run: 12 JUL 90-H2

Chloromethane	ND	ug/L	10
Bromomethane	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Chloroethane	ND	ug/L	10
Methylene chloride	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene (cis/trans)	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Dibromochloromethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
2-Chloroethyl vinyl ether	ND	ug/L	10
Bromoform	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Ethylbenzene	ND	ug/L	5.0

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-PP-AP			
Matrix: AQUEOUS			
QC Lot: 11 JUL 90-H QC Run: 12 JUL 90-H2			
Acetone	ND	ug/L	50
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Carbon disulfide	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0
Dichlorodifluoromethane	ND	ug/L	20
trans-1,2-Dichloroethene	ND	ug/L	5.0
Ethanol	ND	ug/L	100
Iodomethane	ND	ug/L	5.0
2-Butanone	ND	ug/L	50
4-Methyl-2-pentanone	ND	ug/L	10
Styrene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0
Ethyl methacrylate	ND	ug/L	10
2-Hexanone	ND	ug/L	10

Test: 8240-PP-S
 Matrix: SOIL
 QC Lot: 10 JUL 90-H QC Run: 12 JUL 90-H

Chloromethane	ND	ug/kg	1000
Bromomethane	ND	ug/kg	1000
Vinyl chloride	ND	ug/kg	1000
Chloroethane	ND	ug/kg	1000
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	500
1,1-Dichloroethane	ND	ug/kg	500
1,2-Dichloroethene (cis/trans)	ND	ug/kg	500
Chloroform	ND	ug/kg	500
1,2-Dichloroethane	ND	ug/kg	500
1,1,1-Trichloroethane	ND	ug/kg	500
Carbon tetrachloride	ND	ug/kg	500
Bromodichloromethane	ND	ug/kg	500
1,2-Dichloropropane	ND	ug/kg	500

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8240-PP-S			
Matrix: SOIL			
QC Lot: 10 JUL 90-H QC Run: 12 JUL 90-H			
trans-1,3-Dichloropropene	ND	ug/kg	500
Trichloroethene	ND	ug/kg	500
Dibromochloromethane	ND	ug/kg	500
1,1,2-Trichloroethane	ND	ug/kg	500
Benzene	ND	ug/kg	500
cis-1,3-Dichloropropene	ND	ug/kg	500
2-Chloroethyl vinyl ether	ND	ug/kg	1000
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	500
Tetrachloroethene	ND	ug/kg	500
Toluene	ND	ug/kg	500
Chlorobenzene	ND	ug/kg	500
Ethylbenzene	ND	ug/kg	500
Acetone	ND	ug/kg	5000
Acrolein	ND	ug/kg	10000
Acrylonitrile	ND	ug/kg	10000
Carbon disulfide	ND	ug/kg	500
Dibromomethane	ND	ug/kg	500
trans-1,4-Dichloro-2-butene	ND	ug/kg	500
Dichlorodifluoromethane	ND	ug/kg	2000
trans-1,2-Dichloroethene	ND	ug/kg	500
Ethanol	ND	ug/kg	10000
Iodomethane	ND	ug/kg	500
2-Butanone	ND	ug/kg	5000
4-Methyl-2-pentanone	ND	ug/kg	1000
Styrene	ND	ug/kg	500
Trichlorofluoromethane	ND	ug/kg	500
1,2,3-Trichloropropane	ND	ug/kg	500
Vinyl acetate	ND	ug/kg	1000
Xylenes (total)	ND	ug/kg	500
Ethyl methacrylate	ND	ug/kg	1000
2-Hexanone	ND	ug/kg	1000

QC LOT ASSIGNMENT REPORT
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010258-0001-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0002-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0003-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0004-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0005-SA	AQUEOUS	625-A	08 JUL 90-B	08 JUL 90-B
010258-0006-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0007-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0008-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0009-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0010-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0011-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0012-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0013-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0014-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0015-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0016-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0017-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A
010258-0018-SA	SOIL	8270-S	08 JUL 90-A	08 JUL 90-A

DUPLICATE CONTROL SAMPLE REPORT Semivolatiles Organics by GC/MS

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		Average(%)	Limits	(RPD)	DCS Limit
Category: 8270-S								
Matrix: SOIL								
QC Lot: 08 JUL 90-A								
Concentration Units: ug/kg								
Phenol	6670	5010	5590	5300	79	26- 90	11	35
2-Chlorophenol	6670	5980	5600	5790	87	25-102	6.6	50
1,4-Dichlorobenzene	3330	2450	2240	2340	70	28-104	9.0	27
N-Nitroso-di-								
n-propylamine	3330	2970	2690	2830	85	41-126	9.9	38
1,2,4-Trichlorobenzene	3330	2710	2510	2610	78	38-107	7.7	23
4-Chloro-3-methylphenol	6670	6710	6470	6590	99	26-103	3.6	33
Acenaphthene	3330	2710	2650	2680	80	31-137	2.2	19
4-Nitrophenol	6670	5570	7340	6460	97	11-114	27	50
2,4-Dinitrotoluene	3330	3300	3080	3190	96	28- 89	6.9	47
Pentachlorophenol	6670	7400	6690	7040	106	17-109	10	47
Pyrene	3330	2840	2690	2760	83	35-142	5.4	36

Category: 625-A
Matrix: AQUEOUS
QC Lot: 08 JUL 90-B
Concentration Units: ug/L

Phenol	100	73.2	70.0	71.6	72	12- 89	4.5	42
2-Chlorophenol	100	83.9	83.1	83.5	84	27-123	1.0	40
1,4-Dichlorobenzene	50.0	31.1	31.9	31.5	63	36- 97	2.5	28
N-Nitroso-di-								
n-propylamine	50.0	54.7	43.3	49.0	98	41-116	23	38
1,2,4-Trichlorobenzene	50.0	25.6	35.0	30.3	61	39- 98	31	28
4-Chloro-3-methylphenol	100	82.2	76.0	79.1	79	23- 97	7.8	42
Acenaphthene	50.0	36.0	37.4	36.7	73	46-118	3.8	31
4-Nitrophenol	100	94.5	84.0	89.2	89	10- 80	12	50
2,4-Dinitrotoluene	50.0	44.7	46.9	45.8	92	24- 96	4.8	38
Pentachlorophenol	100	46.7	40.8	43.8	44	9-103	13	50
Pyrene	50.0	41.6	42.1	41.8	84	26-127	1.2	31

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 8270-S
 Matrix: SOIL
 QC Lot: 08 JUL 90-A QC Run: 08 JUL 90-A
 Concentration Units: ug/kg

Nitrobenzene-d5	1670	1240	74	23-120
2-Fluorobiphenyl	1670	1400	84	30-115
Terphenyl-d14	1670	1550	93	18-137
2-Fluorophenol	3330	2650	80	25-121
Phenol-d5	3330	2460	74	24-113
2,4,6-Tribromophenol	3330	2800	84	19-122

Category: 625-A
 Matrix: AQUEOUS
 QC Lot: 08 JUL 90-B QC Run: 08 JUL 90-B
 Concentration Units: ug/L

Nitrobenzene-d5	100	80.0	80	35-114
2-Fluorobiphenyl	100	69.4	69	43-116
Terphenyl-d14	100	62.0	62	33-141
2-Fluorophenol	200	125	62	21-100
Phenol-d5	200	130	65	10- 94
2,4,6-Tribromophenol	200	95.6	48	10-123

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-AP9-S			
Matrix: SOIL			
QC Lot: 08 JUL 90-A QC Run: 08 JUL 90-A			
7,12-Dimethylbenz(a)-anthracene	ND	ug/kg	5000
a,a-Dimethylphenethyl-amine	ND	ug/kg	5000
2,4-Dimethylphenol	ND	ug/kg	5000
Dimethyl phthalate	ND	ug/kg	5000
1,3-Dinitrobenzene	ND	ug/kg	5000
4,6-Dinitro-o-cresol	ND	ug/kg	25000
2,4-Dinitrophenol	ND	ug/kg	25000
2,4-Dinitrotoluene	ND	ug/kg	5000
2,6-Dinitrotoluene	ND	ug/kg	5000
Di-n-octyl phthalate	ND	ug/kg	5000
Diphenylamine	ND	ug/kg	5000
Ethyl methanesulfonate	ND	ug/kg	5000
Fluoranthene	ND	ug/kg	5000
Fluorene	ND	ug/kg	5000
Hexachlorobenzene	ND	ug/kg	5000
Hexachlorobutadiene	ND	ug/kg	5000
Hexachlorocyclopentadiene	ND	ug/kg	5000
Hexachloroethane	ND	ug/kg	5000
Indeno(1,2,3-cd)pyrene	ND	ug/kg	5000
Isophorone	ND	ug/kg	5000
3-Methylcholanthrene	ND	ug/kg	5000
Methyl methanesulfonate	ND	ug/kg	5000
2-Methylnaphthalene	ND	ug/kg	5000
Naphthalene	ND	ug/kg	5000
1-Naphthylamine	ND	ug/kg	5000
2-Naphthylamine	ND	ug/kg	5000
2-Nitroaniline	ND	ug/kg	25000
3-Nitroaniline	ND	ug/kg	25000
4-Nitroaniline	ND	ug/kg	25000
Nitrobenzene	ND	ug/kg	5000
2-Nitrophenol	ND	ug/kg	5000
4-Nitrophenol	ND	ug/kg	25000
N-Nitroso-di-n-butylamine	ND	ug/kg	5000
N-Nitrosodimethylamine	ND	ug/kg	5000
N-Nitrosodiphenylamine	ND	ug/kg	5000
N-Nitroso-di-n-propylamine	ND	ug/kg	5000
N-Nitrosopiperidine	ND	ug/kg	5000
Pentachlorobenzene	ND	ug/kg	5000

METHOD BLANK REPORT
 Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8270-AP9-S			
Matrix: SOIL			
QC Lot: 08 JUL 90-A QC Run: 08 JUL 90-A			
Pentachloronitrobenzene	ND	ug/kg	25000
Pentachlorophenol	ND	ug/kg	25000
Phenacetin	ND	ug/kg	5000
Phenanthrene	ND	ug/kg	5000
Phenol	ND	ug/kg	5000
2-Picoline	ND	ug/kg	5000
Pronamide	ND	ug/kg	5000
Pyrene	ND	ug/kg	5000
1,2,4,5-Tetrachloro- benzene	ND	ug/kg	5000
2,3,4,6-Tetrachlorophenol	ND	ug/kg	25000
1,2,4-Trichlorobenzene	ND	ug/kg	5000
2,4,5-Trichlorophenol	ND	ug/kg	25000
2,4,6-Trichlorophenol	ND	ug/kg	5000
Benzidine	ND	ug/kg	--
Benzoic acid	ND	ug/kg	5000
1-Chloronaphthalene	ND	ug/kg	--
1,2-Diphenylhydrazine	ND	ug/kg	5000

Test: 625-AP9-A
 Matrix: AQUEOUS
 QC Lot: 08 JUL 90-B QC Run: 08 JUL 90-B

Acenaphthene	ND	ug/L	10
Acenaphthylene	ND	ug/L	10
Acetophenone	ND	ug/L	10
4-Aminobiphenyl	ND	ug/L	10
Aniline	ND	ug/L	10
Anthracene	ND	ug/L	10
Benzo(a)anthracene	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(g,h,i)perylene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
Benzyl alcohol	ND	ug/L	20
bis(2-Chloroethoxy)- methane	ND	ug/L	10
bis(2-Chloroethyl) ether	ND	ug/L	10
bis(2-Chloroisopropyl)- ether	ND	ug/L	10

METHOD BLANK REPORT
 Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 625-AP9-A			
Matrix: AQUEOUS			
QC Lot: 08 JUL 90-B QC Run: 08 JUL 90-B			
bis(2-Ethylhexyl)			
phthalate	ND	ug/L	10
4-Bromophenyl			
phenyl ether	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
4-Chloroaniline	ND	ug/L	20
4-Chloro-3-methylphenol	ND	ug/L	20
2-Chloronaphthalene	ND	ug/L	10
2-Chlorophenol	ND	ug/L	10
4-Chlorophenyl			
phenyl ether	ND	ug/L	10
o-Cresol	ND	ug/L	10
m & p-Cresol(s)	ND	ug/L	10
Chrysene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10
3,3'-Dichlorobenzidine	ND	ug/L	20
2,4-Dichlorophenol	ND	ug/L	10
2,6-Dichlorophenol	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10
p-Dimethylaminoazobenzene	ND	ug/L	10
7,12-Dimethylbenz(a)-			
anthracene	ND	ug/L	10
a,a-Dimethylphenethyl-			
amine	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
Dimethyl phthalate	ND	ug/L	10
1,3-Dinitrobenzene	ND	ug/L	10
4,6-Dinitro-o-cresol	ND	ug/L	50
2,4-Dinitrophenol	ND	ug/L	50
2,4-Dinitrotoluene	ND	ug/L	10
2,6-Dinitrotoluene	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Diphenylamine	ND	ug/L	10
Ethyl methanesulfonate	ND	ug/L	10
Fluoranthene	ND	ug/L	10
Fluorene	ND	ug/L	10
Hexachlorobenzene	ND	ug/L	10

METHOD BLANK REPORT
 Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 625-AP9-A			
Matrix: AQUEOUS			
QC Lot: 08 JUL 90-B QC Run: 08 JUL 90-B			
Hexachlorobutadiene	ND	ug/L	10
Hexachlorocyclopentadiene	ND	ug/L	10
Hexachloroethane	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	ND	ug/L	10
Isophorone	ND	ug/L	10
3-Methylcholanthrene	ND	ug/L	20
Methyl methanesulfonate	ND	ug/L	10
2-Methylnaphthalene	ND	ug/L	10
Naphthalene	ND	ug/L	10
1-Naphthylamine	ND	ug/L	10
2-Naphthylamine	ND	ug/L	10
2-Nitroaniline	ND	ug/L	50
3-Nitroaniline	ND	ug/L	50
4-Nitroaniline	ND	ug/L	50
Nitrobenzene	ND	ug/L	10
2-Nitrophenol	ND	ug/L	10
4-Nitrophenol	ND	ug/L	50
N-Nitroso-di-n-butylamine	ND	ug/L	10
N-Nitrosodimethylamine	ND	ug/L	10
N-Nitrosodiphenylamine	ND	ug/L	10
N-Nitroso-di-n-propylamine	ND	ug/L	10
N-Nitrosopiperidine	ND	ug/L	10
Pentachlorobenzene	ND	ug/L	10
Pentachloronitrobenzene	ND	ug/L	50
Pentachlorophenol	ND	ug/L	50
Phenacetin	ND	ug/L	10
Phenanthrene	ND	ug/L	10
Phenol	ND	ug/L	10
2-Picoline	ND	ug/L	10
Pronamide	ND	ug/L	20
Pyrene	ND	ug/L	10
1,2,4,5-Tetrachloro-benzene	ND	ug/L	10
2,3,4,6-Tetrachlorophenol	ND	ug/L	20
1,2,4-Trichlorobenzene	ND	ug/L	10
2,4,5-Trichlorophenol	ND	ug/L	50
2,4,6-Trichlorophenol	ND	ug/L	10
Benzidine	ND	ug/L	--
Benzoic acid	ND	ug/L	50
1-Chloronaphthalene	ND	ug/L	--

METHOD BLANK REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 625-AP9-A			
Matrix: AQUEOUS			
QC Lot: 08 JUL 90-B QC Run: 08 JUL 90-B			
1,2-Diphenylhydrazine	ND	ug/L	50

QC LOT ASSIGNMENT REPORT
Metals Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010258-0001-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0001-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0001-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0001-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0002-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0002-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0002-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0002-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0003-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0003-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0003-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0003-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0004-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0004-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0004-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0004-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0005-SA	AQUEOUS	ICP-AT	17 JUL 90-E	17 JUL 90-E
010258-0005-SA	AQUEOUS	AS-FAA-AT	23 JUL 90-E	23 JUL 90-E
010258-0005-SA	AQUEOUS	SE-FAA-AT	23 JUL 90-E	23 JUL 90-E
010258-0005-SA	AQUEOUS	PB-FAA-AT	23 JUL 90-E	23 JUL 90-E
010258-0005-SA	AQUEOUS	HG-CVAA-AT	20 JUL 90-A	20 JUL 90-A
010258-0006-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0006-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0006-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0006-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0007-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0007-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0007-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0007-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0008-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0008-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0008-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0008-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0009-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0009-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0009-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0009-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0010-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0010-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0010-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0010-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0011-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0011-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0011-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0011-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0012-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0012-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F

QC LOT ASSIGNMENT REPORT
Metals Analysis and Preparation (cont.)

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010258-0012-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0012-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0013-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0013-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0013-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0013-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0014-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0014-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0014-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0014-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0015-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0015-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0015-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0015-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0016-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0016-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0016-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0016-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0017-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0017-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0017-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0017-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A
010258-0018-SA	SOIL	ICP-S	25 JUL 90-L	25 JUL 90-L
010258-0018-SA	SOIL	AS-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0018-SA	SOIL	SE-FAA-S	25 JUL 90-F	25 JUL 90-F
010258-0018-SA	SOIL	HG-CVAA-S	18 JUL 90-A	18 JUL 90-A

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation

Analyte	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
	Spiked	DCS1			DCS	Limits	DCS	Limit
Category: ICP-S								
Matrix: SOIL								
QC Lot: 25 JUL 90-L								
Concentration Units: mg/kg								
Aluminum	200	191	197	194	97	75-125	3.3	20
Antimony	50	49.9	48.8	49.4	99	75-125	2.3	20
Arsenic	50	44.7	48.6	46.6	93	75-125	8.3	20
Barium	200	173	178	176	88	75-125	3.0	20
Beryllium	5.0	5.12	5.22	5.17	103	75-125	1.9	20
Cadmium	5.0	3.98	3.90	3.94	79	75-125	2.0	20
Calcium	10000	9620	9930	9770	98	75-125	3.2	20
Chromium	20	18.6	19.1	18.9	94	75-125	2.9	20
Cobalt	50	43.3	45.1	44.2	88	75-125	4.2	20
Copper	25	23.2	24.3	23.7	95	75-125	4.8	20
Iron	100	90.4	92.8	91.6	92	75-125	2.6	20
Lead	50	45.0	46.3	45.6	91	75-125	2.8	20
Magnesium	5000	4790	4990	4890	98	75-125	4.2	20
Manganese	50	44.3	45.4	44.9	90	75-125	2.6	20
Nickel	50	43.9	45.8	44.9	90	75-125	4.4	20
Potassium	5000	4550	4850	4700	94	75-125	6.4	20
Silver	5.0	4.84	4.94	4.89	98	75-125	2.0	20
Sodium	10000	9430	9840	9640	96	75-125	4.2	20
Vanadium	50	47.7	49.1	48.4	97	75-125	2.9	20
Zinc	50	44.0	45.7	44.8	90	75-125	3.7	20

Category: AS-FAA-S
 Matrix: SOIL
 QC Lot: 25 JUL 90-F
 Concentration Units: mg/kg

Arsenic	4.0	3.67	3.60	3.64	91	75-125	1.9	20
---------	-----	------	------	------	----	--------	-----	----

Category: SE-FAA-S
 Matrix: SOIL
 QC Lot: 25 JUL 90-F
 Concentration Units: mg/kg

Selenium	1	0.890	0.790	0.840	84	75-125	12	20
----------	---	-------	-------	-------	----	--------	----	----

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT Metals Analysis and Preparation (cont.)

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		DCS	Average(%) Limits	(RPD) DCS Limit	

Category: HG-CVAA-S

Matrix: SOIL

QC Lot: 18 JUL 90-A

Concentration Units: mg/kg

Mercury	0.50	0.491	0.507	0.499	100	75-125	3.2	20
---------	------	-------	-------	-------	-----	--------	-----	----

Category: ICP-AT

Matrix: AQUEOUS

QC Lot: 17 JUL 90-E

Concentration Units: mg/L

Aluminum	2.0	1.94	1.98	1.96	98	75-125	2.3	20
Antimony	0.5	0.469	0.487	0.478	96	75-125	3.8	20
Arsenic	0.5	0.453	0.471	0.462	92	75-125	3.9	20
Barium	2.0	1.76	1.80	1.78	89	75-125	1.9	20
Beryllium	0.05	0.0462	0.0473	0.0468	94	75-125	2.3	20
Cadmium	0.05	0.0449	0.0474	0.0462	92	75-125	5.5	20
Calcium	100	97.1	98.4	97.7	98	75-125	1.4	20
Chromium	0.2	0.187	0.186	0.187	93	75-125	0.4	20
Cobalt	0.5	0.437	0.448	0.442	88	75-125	2.6	20
Copper	0.25	0.230	0.235	0.233	93	75-125	2.3	20
Iron	1.0	0.934	0.942	0.938	94	75-125	0.9	20
Lead	0.5	0.442	0.461	0.452	90	75-125	4.3	20
Magnesium	50	49.1	49.8	49.4	99	75-125	1.4	20
Manganese	0.5	0.436	0.446	0.441	88	75-125	2.4	20
Nickel	0.5	0.447	0.457	0.452	90	75-125	2.2	20
Potassium	50	47.8	48.2	48.0	96	75-125	1.0	20
Silver	0.05	0.0502	0.0498	0.0500	100	75-125	0.8	20
Sodium	100	95.3	96.6	96.0	96	75-125	1.4	20
Vanadium	0.5	0.478	0.487	0.482	96	75-125	1.8	20
Zinc	0.5	0.452	0.464	0.458	92	75-125	2.5	20

Category: AS-FAA-AT

Matrix: AQUEOUS

QC Lot: 23 JUL 90-E

Concentration Units: mg/L

Arsenic	0.04	0.0364	0.0378	0.0371	93	75-125	3.8	20
---------	------	--------	--------	--------	----	--------	-----	----

Calculations are performed before rounding to avoid round-off errors in calculated results.

DUPLICATE CONTROL SAMPLE REPORT
 Metals Analysis and Preparation (cont.)

Analyte	Spiked	Concentration		AVG	Accuracy		Precision	
		DCS1	Measured DCS2		DCS	Average (%) Limits	(RPD) DCS Limit	

Category: SE-FAA-AT
 Matrix: AQUEOUS
 QC Lot: 23 JUL 90-E
 Concentration Units: mg/L

Selenium	0.01	0.00880	0.00950	0.00915	92	75-125	7.7	20
----------	------	---------	---------	---------	----	--------	-----	----

Category: PB-FAA-AT
 Matrix: AQUEOUS
 QC Lot: 23 JUL 90-E
 Concentration Units: mg/L

Lead	0.02	0.0197	0.0209	0.0203	102	75-125	5.9	20
------	------	--------	--------	--------	-----	--------	-----	----

Category: HG-CVAA-AT
 Matrix: AQUEOUS
 QC Lot: 20 JUL 90-A
 Concentration Units: mg/L

Mercury	0.0010	0.00101	0.00107	0.00104	104	75-125	5.8	20
---------	--------	---------	---------	---------	-----	--------	-----	----

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Metals Analysis and Preparation

Analyte	Result	Units	Reporting Limit
Test: ICPOCP-ICPS-S			
Matrix: SOIL			
QC Lot: 25 JUL 90-L QC Run: 25 JUL 90-L			
Antimony	ND	mg/kg	6.0
Barium	ND	mg/kg	1.0
Beryllium	ND	mg/kg	0.20
Cadmium	ND	mg/kg	0.50
Chromium	ND	mg/kg	1.0
Cobalt	ND	mg/kg	1.0
Copper	ND	mg/kg	2.0
Lead	ND	mg/kg	5.0
Nickel	ND	mg/kg	4.0
Potassium	ND	mg/kg	500
Vanadium	ND	mg/kg	1.0
Zinc	ND	mg/kg	2.0

Test: GF-ASCP-TAL-S			
Matrix: SOIL			
QC Lot: 25 JUL 90-F QC Run: 25 JUL 90-F			
Arsenic	ND	mg/kg	0.50

Test: GF-SECP-TAL-S			
Matrix: SOIL			
QC Lot: 25 JUL 90-F QC Run: 25 JUL 90-F			
Selenium	ND	mg/kg	0.50

Test: CV-HGCP-TAL-S			
Matrix: SOIL			
QC Lot: 18 JUL 90-A QC Run: 18 JUL 90-A			
Mercury	ND	mg/kg	0.10

METHOD BLANK REPORT
Metals Analysis and Preparation (cont.)

Analyte	Result	Units	Reporting Limit
Test: ICPOCP-TAL-AT			
Matrix: AQUEOUS			
QC Lot: 17 JUL 90-E QC Run: 17 JUL 90-E			
Antimony	ND	mg/L	0.060
Barium	ND	mg/L	0.010
Beryllium	ND	mg/L	0.0020
Cadmium	ND	mg/L	0.0050
Chromium	ND	mg/L	0.010
Cobalt	ND	mg/L	0.010
Copper	ND	mg/L	0.020
Nickel	ND	mg/L	0.040
Potassium	ND	mg/L	5.0
Vanadium	ND	mg/L	0.010
Zinc	ND	mg/L	0.020

Test: GF-ASCP-TAL-AT
 Matrix: AQUEOUS
 QC Lot: 23 JUL 90-E QC Run: 23 JUL 90-E

Arsenic	ND	mg/L	0.0050
---------	----	------	--------

Test: GF-SECP-TAL-AT
 Matrix: AQUEOUS
 QC Lot: 23 JUL 90-E QC Run: 23 JUL 90-E

Selenium	ND	mg/L	0.0050
----------	----	------	--------

Test: GF-PBCP-TAL-AT
 Matrix: AQUEOUS
 QC Lot: 23 JUL 90-E QC Run: 23 JUL 90-E

Lead	ND	mg/L	0.0050
------	----	------	--------

Test: CV-HGCP-TAL-AT
 Matrix: AQUEOUS
 QC Lot: 20 JUL 90-A QC Run: 20 JUL 90-A

Mercury	ND	mg/L	0.00020
---------	----	------	---------

Enseco - Rocky Mountain Analytical

4955 Yarrow Street
 Arvada, Colorado 80002
 303/421-6611 Facsimile: 303/431-7171

Attn: Julie Essey

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No.

- Packed by: _____ Seal # _____
- Seal Intact Upon Receipt by Sampling Co.: Good Yes ☒ No ☐
- Condition of Contents: Good
- Sealed for Shipping by: C. Rosenda
- Initial Contents Temp.: _____ °C Seal # _____
- Sampling Status: Done Continuing Until _____
- Seal Intact Upon Receipt by Laboratory: Yes ☐ No ☐
- Contents Temperature Upon Receipt by Lab: _____ °C
- Condition of Contents: _____

Enseco Client: Giant Refinery
 Project: REF
 Sampling Co.: Giant
 Sampling Site: Caiza
 Team Leader: M. McLaughlin
 RNAL # 10258

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7-2-90	7:53	RFI0901V0.0	Soil	2	Metals, 8240, 8270	
7-2-90	7:54	RFI0901V3.0	Soil	2	Metals, 8240, 8270	
7-2-90	8:03	RFI0901V5.0	Soil	2	Metals, 8240, 8270	
7-2-90	8:17	RFI0901V7.0	Soil	2	Metals, 8240, 8270	
7-2-90	8:00	RFI0901V5.0	Water	6	Metals, 8240, 8270	SE
7-2-90	8:25	RFI0904V0.0	Soil	2	Metals, 8240, 8270	checked
7-2-90	8:44	RFI0904V3.0	Soil	2	Metals, 8240, 8270	
7-2-90	8:51	RFI0904V5.0	Soil	2	Metals, 8240, 8270	
7-2-90	9:03	RFI0904V7.0	Soil	2	Metals, 8240, 8270	
7-2-90	9:00	RFI0902V0.0	Soil	2	Metals, 8240, 8270	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) [Signature] Date 7-2-90 Time 1:45pm
 Received by: (signed) Joseph A. Myers Date 7-3-90 Time 6:50

SHIPPING DETAILS

Delivered to Shipper by: C. Rosenda
 Method of Shipment: Fed Express Airbill # _____
 Received for Lab: RNAL Signed: Joseph A. Myers Date/Time 7-3-90
 Enseco Project No. 0802

Enseco - Rocky Mountain Analytical

CHAIN OF CUSTODY

No.

SAMPLE SAFE™ CONDITIONS

4955 Yarrow Street
Arvada, Colorado 80002
303/421-6611 Facsimile: 303/431-7171

Attn: Julie Fessy

1. Packed by: _____ Seal # _____

2. Seal Intact Upon Receipt by Sampling Co.: Yes No

3. Condition of Contents: Good

4. Sealed for Shipping by: Chasenda

5. Initial Contents Temp.: _____ °C Seal # _____

6. Sampling Status: Done Continuing Until _____

7. Seal Intact Upon Receipt by Laboratory: Yes No

8. Contents Temperature Upon Receipt by Lab: _____ °C

9. Condition of Contents: _____

Enseco Client Giant

Project RFI

Sampling Co. Giant

Sampling Site Cin 29

Team Leader M. McCaslin

RNAL # 10258

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7-2-90	9:20	RFI0902V30	Soil	2	Metals, 8240, 8270	
7-2-90	9:38	RFI0902V5.0	Soil	2	Metals, 8240, 8270	
7-2-90	9:45	RFI0902V7.0	Soil	2	Metals, 8240, 8270	
7-2-90	9:50	RFI0905V0.0	Soil	2	Metals, 8240, 8270	
7-2-90	9:58	RFI0905V3.0	Soil	2	Metals, 8240, 8270	
7-2-90	10:06	RFI0905V5.0	Soil	2	Metals, 8240, 8270	
7-2-90	10:14	RFI0905V7.0	Soil	2	Metals, 8240, 8270	
7-2-90	10:06	RFI0905V5.0	Soil	2	Metals, 8240, 8270	
7-2-90	10:24	RFI0903V6.0	Soil	2	Metals, 8240, 8270	
7-2-90	10:38	RFI0903V3.0	Soil	2	Metals, 8240, 8270	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Charles Date 7-2-90 Time 1:45pm

Received by: (signed) Joseph A. Mee Date 7-3-90 Time 0800

SHIPPING DETAILS

Delivered to Shipper by: Chasenda

Method of Shipment: Fed Express Airbill # _____

Received for Lab: RNAL Signed: Joseph A. Mee Date/Time 7-3-90 0800

Enseco Project No. _____

White and Pink Copies to Lab Yellow to Sampler