

GW - 1

MONITORING REPORTS

DATE:

2004



Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

Certified Mail: 7099 3220 0010 2242 5181

December 16, 2004

Re: **River Samples & River Terrace Analysis**

Dear Mr. Price,

Giant Refining Company – Bloomfield Refinery conducted river sampling events per the "Monitoring and Contingency Plan". Enclosed in this packet is the hardcopy of the analysis of samples taken from November 3, 2004. There was not an exceedance of any WQCC standard or EPA maximum contaminant level during the monitoring event.

River samples were pulled again on December 7, 2004. The downstream sample point will be analyzed for all the constituents mentioned in the "Monitoring and Contingency Plan" from August 2004. The analysis will be forwarded on to you when it is completed.

Hope Monzeglio of NMED verbally requested hard copies of the analytical data that was summarized in the "River Terrace Investigation" letter from November 24, 2004. Please find that information enclosed with this packet.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Cindy Hurtado".

Cindy Hurtado

Cc: Hope Monzeglio – NMED
Denny Foust – OCD
Bob Wilkinson - USEPA
Randy Schmaltz – Giant Refining

PHONE

505-632-8013

FAX

505-632-3911

50 ROAD 4990
P.O. BOX 159
BLOOMFIELD
NEW MEXICO
87413



COVER LETTER

November 23, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: River Sampling November 2004

Order No.: 0411071

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 5 samples on 11/4/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

A handwritten signature in black ink, appearing to read "Andy Freeman", written over a horizontal line.

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411071
Project: River Sampling November 2004
Lab ID: 0411071-01

Client Sample ID: River-Upstream
Collection Date: 11/3/2004 2:00:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.23	0.10		mg/L	1	11/5/2004 4:06:09 PM
Chloride	4.5	0.10		mg/L	1	11/4/2004 6:39:20 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/4/2004 6:39:20 PM
Bromide	ND	0.10		mg/L	1	11/4/2004 6:39:20 PM
Nitrogen, Nitrate (As N)	0.10	0.10		mg/L	1	11/4/2004 6:39:20 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/4/2004 6:39:20 PM
Sulfate	100	2.5		mg/L	5	11/5/2004 4:22:57 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO ₃)	120	2.0		mg/L CaCO ₃	2	11/17/2004
Carbonate	ND	2.0		mg/L CaCO ₃	2	11/17/2004
Bicarbonate	120	2.0		mg/L CaCO ₃	2	11/17/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/9/2004 6:56:05 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/9/2004 6:56:05 PM
Surr: DNOP	119	58-140		%REC	1	11/9/2004 6:56:05 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/10/2004 3:17:21 PM
Surr: BFB	104	74-118		%REC	1	11/10/2004 3:17:21 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/10/2004 3:17:21 PM
Benzene	ND	0.50		µg/L	1	11/10/2004 3:17:21 PM
Toluene	ND	0.50		µg/L	1	11/10/2004 3:17:21 PM
Ethylbenzene	ND	0.50		µg/L	1	11/10/2004 3:17:21 PM
Xylenes, Total	ND	0.50		µg/L	1	11/10/2004 3:17:21 PM
Surr: 4-Bromofluorobenzene	95.2	74-118		%REC	1	11/10/2004 3:17:21 PM
EPA METHOD 8270C: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	11/12/2004
Acenaphthylene	ND	10		µg/L	1	11/12/2004
Aniline	ND	10		µg/L	1	11/12/2004
Anthracene	ND	10		µg/L	1	11/12/2004
Azobenzene	ND	10		µg/L	1	11/12/2004
Benz(a)anthracene	ND	15		µg/L	1	11/12/2004
Benzo(a)pyrene	ND	10		µg/L	1	11/12/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	11/12/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/12/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	11/12/2004
Benzoic acid	ND	50		µg/L	1	11/12/2004
Benzyl alcohol	ND	20		µg/L	1	11/12/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River-Upstream

Lab Order: 0411071

Collection Date: 11/3/2004 2:00:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/12/2004
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/12/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/12/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/12/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/12/2004
Butyl benzyl phthalate	ND	15		µg/L	1	11/12/2004
Carbazole	ND	10		µg/L	1	11/12/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/12/2004
4-Chloroaniline	ND	20		µg/L	1	11/12/2004
2-Chloronaphthalene	ND	10		µg/L	1	11/12/2004
2-Chlorophenol	ND	10		µg/L	1	11/12/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/12/2004
Chrysene	ND	15		µg/L	1	11/12/2004
Di-n-butyl phthalate	ND	10		µg/L	1	11/12/2004
Di-n-octyl phthalate	ND	15		µg/L	1	11/12/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/12/2004
Dibenzofuran	ND	10		µg/L	1	11/12/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	11/12/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	11/12/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	11/12/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/12/2004
Diethyl phthalate	ND	10		µg/L	1	11/12/2004
Dimethyl phthalate	ND	10		µg/L	1	11/12/2004
2,4-Dichlorophenol	ND	10		µg/L	1	11/12/2004
2,4-Dimethylphenol	ND	10		µg/L	1	11/12/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/12/2004
2,4-Dinitrophenol	ND	50		µg/L	1	11/12/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	11/12/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	11/12/2004
Fluoranthene	ND	10		µg/L	1	11/12/2004
Fluorene	ND	10		µg/L	1	11/12/2004
Hexachlorobenzene	ND	10		µg/L	1	11/12/2004
Hexachlorobutadiene	ND	10		µg/L	1	11/12/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/12/2004
Hexachloroethane	ND	10		µg/L	1	11/12/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/12/2004
Isophorone	ND	10		µg/L	1	11/12/2004
2-Methylnaphthalene	ND	10		µg/L	1	11/12/2004
2-Methylphenol	ND	15		µg/L	1	11/12/2004
3+4-Methylphenol	ND	10		µg/L	1	11/12/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/12/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	11/12/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level 2 / 40

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River-Upstream

Lab Order: 0411071

Collection Date: 11/3/2004 2:00:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/12/2004
Naphthalene	ND	10		µg/L	1	11/12/2004
2-Nitroaniline	ND	50		µg/L	1	11/12/2004
3-Nitroaniline	ND	50		µg/L	1	11/12/2004
4-Nitroaniline	ND	20		µg/L	1	11/12/2004
Nitrobenzene	ND	10		µg/L	1	11/12/2004
2-Nitrophenol	ND	15		µg/L	1	11/12/2004
4-Nitrophenol	ND	50		µg/L	1	11/12/2004
Pentachlorophenol	ND	50		µg/L	1	11/12/2004
Phenanthrene	ND	10		µg/L	1	11/12/2004
Phenol	ND	10		µg/L	1	11/12/2004
Pyrene	ND	15		µg/L	1	11/12/2004
Pyridine	ND	30		µg/L	1	11/12/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/12/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/12/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/12/2004
Surr: 2,4,6-Tribromophenol	20.4	16.6-115		%REC	1	11/12/2004
Surr: 2-Fluorobiphenyl	67.3	37-95.7		%REC	1	11/12/2004
Surr: 2-Fluorophenol	38.2	9.54-89.8		%REC	1	11/12/2004
Surr: 4-Terphenyl-d14	74.9	47.9-115		%REC	1	11/12/2004
Surr: Nitrobenzene-d5	64.7	38-106		%REC	1	11/12/2004
Surr: Phenol-d6	38.9	10.7-63.4		%REC	1	11/12/2004

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: MAP

Specific Conductance	360	0.010		µmhos/cm	1	11/16/2004
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EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury	ND	0.00020		mg/L	1	11/8/2004
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EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020		mg/L	1	11/16/2004 11:52:55 AM
Barium	0.076	0.0020		mg/L	1	11/16/2004 11:52:55 AM
Cadmium	ND	0.0020		mg/L	1	11/16/2004 11:52:55 AM
Calcium	43	1.0		mg/L	1	11/16/2004 11:52:55 AM
Chromium	ND	0.0060		mg/L	1	11/16/2004 11:52:55 AM
Copper	ND	0.0060		mg/L	1	11/16/2004 11:52:55 AM
Iron	0.021	0.020		mg/L	1	11/16/2004 11:52:55 AM
Lead	ND	0.0050		mg/L	1	11/16/2004 11:52:55 AM
Magnesium	7.6	1.0		mg/L	1	11/16/2004 11:52:55 AM
Manganese	0.012	0.0020		mg/L	1	11/16/2004 11:52:55 AM
Potassium	2.1	1.0		mg/L	1	11/16/2004 11:52:55 AM
Selenium	ND	0.050		mg/L	1	11/16/2004 11:52:55 AM
Silver	ND	0.0050		mg/L	1	11/16/2004 11:52:55 AM
Sodium	31	1.0		mg/L	1	11/16/2004 11:52:55 AM

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River-Upstream

Lab Order: 0411071

Collection Date: 11/3/2004 2:00:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Uranium	ND	0.10		mg/L	1	11/16/2004 11:52:55 AM
Zinc	0.012	0.0050		mg/L	1	11/16/2004 11:52:55 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/9/2004 10:24:09 AM
Barium	0.086	0.020		mg/L	1	11/9/2004 10:24:09 AM
Cadmium	ND	0.0020		mg/L	1	11/9/2004 10:24:09 AM
Chromium	ND	0.0060		mg/L	1	11/9/2004 10:24:09 AM
Lead	ND	0.0050		mg/L	1	11/9/2004 10:24:09 AM
Selenium	ND	0.050		mg/L	1	11/9/2004 10:24:09 AM
Silver	ND	0.0050		mg/L	1	11/9/2004 10:24:09 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	280	50		mg/L	1	11/8/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level 4 / 40

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411071
Project: River Sampling November 2004
Lab ID: 0411071-02

Client Sample ID: River N of MW #45
Collection Date: 11/3/2004 12:40:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.25	0.10		mg/L	1	11/5/2004 5:13:22 PM
Chloride	5.0	0.10		mg/L	1	11/4/2004 7:46:33 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/4/2004 7:46:33 PM
Bromide	ND	0.10		mg/L	1	11/4/2004 7:46:33 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/4/2004 7:46:33 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/4/2004 7:46:33 PM
Sulfate	110	2.5		mg/L	5	11/5/2004 5:30:10 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO ₃)	110	2.0		mg/L CaCO ₃	2	11/17/2004
Carbonate	ND	2.0		mg/L CaCO ₃	2	11/17/2004
Bicarbonate	110	2.0		mg/L CaCO ₃	2	11/17/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/9/2004 7:25:38 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/9/2004 7:25:38 PM
Surr: DNOP	125	58-140		%REC	1	11/9/2004 7:25:38 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/10/2004 12:47:33 PM
Surr: BFB	106	74-118		%REC	1	11/10/2004 12:47:33 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/10/2004 12:47:33 PM
Benzene	ND	0.50		µg/L	1	11/10/2004 12:47:33 PM
Toluene	ND	0.50		µg/L	1	11/10/2004 12:47:33 PM
Ethylbenzene	ND	0.50		µg/L	1	11/10/2004 12:47:33 PM
Xylenes, Total	ND	0.50		µg/L	1	11/10/2004 12:47:33 PM
Surr: 4-Bromofluorobenzene	96.6	74-118		%REC	1	11/10/2004 12:47:33 PM
EPA METHOD 8270C: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	11/12/2004
Acenaphthylene	ND	10		µg/L	1	11/12/2004
Aniline	ND	10		µg/L	1	11/12/2004
Anthracene	ND	10		µg/L	1	11/12/2004
Azobenzene	ND	10		µg/L	1	11/12/2004
Benz(a)anthracene	ND	15		µg/L	1	11/12/2004
Benzo(a)pyrene	ND	10		µg/L	1	11/12/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	11/12/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/12/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	11/12/2004
Benzoic acid	ND	50		µg/L	1	11/12/2004
Benzyl alcohol	ND	20		µg/L	1	11/12/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW #45

Lab Order: 0411071

Collection Date: 11/3/2004 12:40:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/12/2004
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/12/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/12/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/12/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/12/2004
Butyl benzyl phthalate	ND	15		µg/L	1	11/12/2004
Carbazole	ND	10		µg/L	1	11/12/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/12/2004
4-Chloroaniline	ND	20		µg/L	1	11/12/2004
2-Chloronaphthalene	ND	10		µg/L	1	11/12/2004
2-Chlorophenol	ND	10		µg/L	1	11/12/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/12/2004
Chrysene	ND	15		µg/L	1	11/12/2004
Di-n-butyl phthalate	ND	10		µg/L	1	11/12/2004
Di-n-octyl phthalate	ND	15		µg/L	1	11/12/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/12/2004
Dibenzofuran	ND	10		µg/L	1	11/12/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	11/12/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	11/12/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	11/12/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/12/2004
Diethyl phthalate	ND	10		µg/L	1	11/12/2004
Dimethyl phthalate	ND	10		µg/L	1	11/12/2004
2,4-Dichlorophenol	ND	10		µg/L	1	11/12/2004
2,4-Dimethylphenol	ND	10		µg/L	1	11/12/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/12/2004
2,4-Dinitrophenol	ND	50		µg/L	1	11/12/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	11/12/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	11/12/2004
Fluoranthene	ND	10		µg/L	1	11/12/2004
Fluorene	ND	10		µg/L	1	11/12/2004
Hexachlorobenzene	ND	10		µg/L	1	11/12/2004
Hexachlorobutadiene	ND	10		µg/L	1	11/12/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/12/2004
Hexachloroethane	ND	10		µg/L	1	11/12/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/12/2004
Isophorone	ND	10		µg/L	1	11/12/2004
2-Methylnaphthalene	ND	10		µg/L	1	11/12/2004
2-Methylphenol	ND	15		µg/L	1	11/12/2004
3+4-Methylphenol	ND	10		µg/L	1	11/12/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/12/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	11/12/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW #45

Lab Order: 0411071

Collection Date: 11/3/2004 12:40:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/12/2004
Naphthalene	ND	10		µg/L	1	11/12/2004
2-Nitroaniline	ND	50		µg/L	1	11/12/2004
3-Nitroaniline	ND	50		µg/L	1	11/12/2004
4-Nitroaniline	ND	20		µg/L	1	11/12/2004
Nitrobenzene	ND	10		µg/L	1	11/12/2004
2-Nitrophenol	ND	15		µg/L	1	11/12/2004
4-Nitrophenol	ND	50		µg/L	1	11/12/2004
Pentachlorophenol	ND	50		µg/L	1	11/12/2004
Phenanthrene	ND	10		µg/L	1	11/12/2004
Phenol	ND	10		µg/L	1	11/12/2004
Pyrene	ND	15		µg/L	1	11/12/2004
Pyridine	ND	30		µg/L	1	11/12/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/12/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/12/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/12/2004
Surr: 2,4,6-Tribromophenol	6.84	16.6-115	S	%REC	1	11/12/2004
Surr: 2-Fluorobiphenyl	61.1	37-95.7		%REC	1	11/12/2004
Surr: 2-Fluorophenol	14.9	9.54-89.8		%REC	1	11/12/2004
Surr: 4-Terphenyl-d14	65.8	47.9-115		%REC	1	11/12/2004
Surr: Nitrobenzene-d5	54.9	38-106		%REC	1	11/12/2004
Surr: Phenol-d6	28.6	10.7-63.4		%REC	1	11/12/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MAP
Specific Conductance	370	0.010		µmhos/cm	1	11/16/2004
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	11/8/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/16/2004 12:03:06 PM
Barium	0.073	0.0020		mg/L	1	11/16/2004 12:03:06 PM
Cadmium	ND	0.0020		mg/L	1	11/16/2004 12:03:06 PM
Calcium	44	1.0		mg/L	1	11/16/2004 12:03:06 PM
Chromium	ND	0.0060		mg/L	1	11/16/2004 12:03:06 PM
Copper	ND	0.0060		mg/L	1	11/16/2004 12:03:06 PM
Iron	ND	0.020		mg/L	1	11/16/2004 12:03:06 PM
Lead	0.0071	0.0050		mg/L	1	11/16/2004 12:03:06 PM
Magnesium	7.8	1.0		mg/L	1	11/16/2004 12:03:06 PM
Manganese	0.017	0.0020		mg/L	1	11/16/2004 12:03:06 PM
Potassium	2.0	1.0		mg/L	1	11/16/2004 12:03:06 PM
Selenium	ND	0.050		mg/L	1	11/16/2004 12:03:06 PM
Silver	ND	0.0050		mg/L	1	11/16/2004 12:03:06 PM
Sodium	31	1.0		mg/L	1	11/16/2004 12:03:06 PM

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW #45

Lab Order: 0411071

Collection Date: 11/3/2004 12:40:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Uranium	ND	0.10		mg/L	1	11/16/2004 12:03:06 PM
Zinc	0.011	0.0050		mg/L	1	11/16/2004 12:03:06 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/9/2004 10:34:30 AM
Barium	0.10	0.020		mg/L	1	11/9/2004 10:34:30 AM
Cadmium	ND	0.0020		mg/L	1	11/9/2004 10:34:30 AM
Chromium	ND	0.0060		mg/L	1	11/9/2004 10:34:30 AM
Lead	ND	0.0050		mg/L	1	11/9/2004 10:34:30 AM
Selenium	ND	0.050		mg/L	1	11/9/2004 10:34:30 AM
Silver	ND	0.0050		mg/L	1	11/9/2004 10:34:30 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	290	50		mg/L	1	11/8/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River-N of MW #46

Lab Order: 0411071

Collection Date: 11/3/2004 1:30:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS Analyst: MAP						
Fluoride	0.24	0.10		mg/L	1	11/5/2004 5:46:59 PM
Chloride	4.7	0.10		mg/L	1	11/4/2004 8:03:21 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/4/2004 8:03:21 PM
Bromide	ND	0.10		mg/L	1	11/4/2004 8:03:21 PM
Nitrogen, Nitrate (As N)	0.11	0.10		mg/L	1	11/4/2004 8:03:21 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/4/2004 8:03:21 PM
Sulfate	110	2.5		mg/L	5	11/5/2004 6:03:47 PM
EPA METHOD 310.1: ALKALINITY Analyst: MAP						
Alkalinity, Total (As CaCO ₃)	110	2.0		mg/L CaCO ₃	2	11/17/2004
Carbonate	ND	2.0		mg/L CaCO ₃	2	11/17/2004
Bicarbonate	110	2.0		mg/L CaCO ₃	2	11/17/2004
EPA METHOD 8015B: DIESEL RANGE Analyst: JMP						
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/9/2004 7:55:17 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/9/2004 7:55:17 PM
Surr: DNOP	129	58-140		%REC	1	11/9/2004 7:55:17 PM
EPA METHOD 8015B: GASOLINE RANGE Analyst: NSB						
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/10/2004 1:17:24 PM
Surr: BFB	105	74-118		%REC	1	11/10/2004 1:17:24 PM
EPA METHOD 8021B: VOLATILES Analyst: NSB						
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/10/2004 1:17:24 PM
Benzene	ND	0.50		µg/L	1	11/10/2004 1:17:24 PM
Toluene	ND	0.50		µg/L	1	11/10/2004 1:17:24 PM
Ethylbenzene	ND	0.50		µg/L	1	11/10/2004 1:17:24 PM
Xylenes, Total	ND	0.50		µg/L	1	11/10/2004 1:17:24 PM
Surr: 4-Bromofluorobenzene	96.8	74-118		%REC	1	11/10/2004 1:17:24 PM
EPA METHOD 8270C: SEMIVOLATILES Analyst: GAB						
Acenaphthene	ND	10		µg/L	1	11/19/2004
Acenaphthylene	ND	10		µg/L	1	11/19/2004
Aniline	ND	10		µg/L	1	11/19/2004
Anthracene	ND	10		µg/L	1	11/19/2004
Azobenzene	ND	10		µg/L	1	11/19/2004
Benz(a)anthracene	ND	15		µg/L	1	11/19/2004
Benzo(a)pyrene	ND	10		µg/L	1	11/19/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	11/19/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/19/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	11/19/2004
Benzoic acid	ND	50		µg/L	1	11/19/2004
Benzyl alcohol	ND	20		µg/L	1	11/19/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River-N of MW #46

Lab Order: 0411071

Collection Date: 11/3/2004 1:30:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/19/2004
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/19/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/19/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/19/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/19/2004
Butyl benzyl phthalate	ND	15		µg/L	1	11/19/2004
Carbazole	ND	10		µg/L	1	11/19/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/19/2004
4-Chloroaniline	ND	20		µg/L	1	11/19/2004
2-Chloronaphthalene	ND	10		µg/L	1	11/19/2004
2-Chlorophenol	ND	10		µg/L	1	11/19/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/19/2004
Chrysene	ND	15		µg/L	1	11/19/2004
Di-n-butyl phthalate	ND	10		µg/L	1	11/19/2004
Di-n-octyl phthalate	ND	15		µg/L	1	11/19/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/19/2004
Dibenzofuran	ND	10		µg/L	1	11/19/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	11/19/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	11/19/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	11/19/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/19/2004
Diethyl phthalate	ND	10		µg/L	1	11/19/2004
Dimethyl phthalate	ND	10		µg/L	1	11/19/2004
2,4-Dichlorophenol	ND	10		µg/L	1	11/19/2004
2,4-Dimethylphenol	ND	10		µg/L	1	11/19/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/19/2004
2,4-Dinitrophenol	ND	50		µg/L	1	11/19/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	11/19/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	11/19/2004
Fluoranthene	ND	10		µg/L	1	11/19/2004
Fluorene	ND	10		µg/L	1	11/19/2004
Hexachlorobenzene	ND	10		µg/L	1	11/19/2004
Hexachlorobutadiene	ND	10		µg/L	1	11/19/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/19/2004
Hexachloroethane	ND	10		µg/L	1	11/19/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/19/2004
Isophorone	ND	10		µg/L	1	11/19/2004
2-Methylnaphthalene	ND	10		µg/L	1	11/19/2004
2-Methylphenol	ND	15		µg/L	1	11/19/2004
3+4-Methylphenol	ND	10		µg/L	1	11/19/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/19/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	11/19/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level 10 / 40

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River-N of MW #46

Lab Order: 0411071

Collection Date: 11/3/2004 1:30:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/19/2004
Naphthalene	ND	10		µg/L	1	11/19/2004
2-Nitroaniline	ND	50		µg/L	1	11/19/2004
3-Nitroaniline	ND	50		µg/L	1	11/19/2004
4-Nitroaniline	ND	20		µg/L	1	11/19/2004
Nitrobenzene	ND	10		µg/L	1	11/19/2004
2-Nitrophenol	ND	15		µg/L	1	11/19/2004
4-Nitrophenol	ND	50		µg/L	1	11/19/2004
Pentachlorophenol	ND	50		µg/L	1	11/19/2004
Phenanthrene	ND	10		µg/L	1	11/19/2004
Phenol	ND	10		µg/L	1	11/19/2004
Pyrene	ND	15		µg/L	1	11/19/2004
Pyridine	ND	30		µg/L	1	11/19/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/19/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/19/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/19/2004
Surr: 2,4,6-Tribromophenol	39.0	16.6-115		%REC	1	11/19/2004
Surr: 2-Fluorobiphenyl	77.6	37-95.7		%REC	1	11/19/2004
Surr: 2-Fluorophenol	67.3	9.54-89.8		%REC	1	11/19/2004
Surr: 4-Terphenyl-d14	95.8	47.9-115		%REC	1	11/19/2004
Surr: Nitrobenzene-d5	71.2	38-106		%REC	1	11/19/2004
Surr: Phenol-d6	45.3	10.7-63.4		%REC	1	11/19/2004

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: MAP

Specific Conductance	370	0.010		µmhos/cm	1	11/16/2004
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EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury	ND	0.00020		mg/L	1	11/8/2004
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EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020		mg/L	1	11/16/2004 12:05:32 PM
Barium	0.075	0.0020		mg/L	1	11/16/2004 12:05:32 PM
Cadmium	ND	0.0020		mg/L	1	11/16/2004 12:05:32 PM
Calcium	43	1.0		mg/L	1	11/16/2004 12:05:32 PM
Chromium	ND	0.0060		mg/L	1	11/16/2004 12:05:32 PM
Copper	ND	0.0060		mg/L	1	11/16/2004 12:05:32 PM
Iron	0.030	0.020		mg/L	1	11/16/2004 12:05:32 PM
Lead	ND	0.0050		mg/L	1	11/16/2004 12:05:32 PM
Magnesium	7.6	1.0		mg/L	1	11/16/2004 12:05:32 PM
Manganese	0.011	0.0020		mg/L	1	11/16/2004 12:05:32 PM
Potassium	2.0	1.0		mg/L	1	11/16/2004 12:05:32 PM
Selenium	ND	0.050		mg/L	1	11/16/2004 12:05:32 PM
Silver	ND	0.0050		mg/L	1	11/16/2004 12:05:32 PM
Sodium	30	1.0		mg/L	1	11/16/2004 12:05:32 PM

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level 11 / 40

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River-N of MW #46

Lab Order: 0411071

Collection Date: 11/3/2004 1:30:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Uranium	ND	0.10		mg/L	1	11/16/2004 12:05:32 PM
Zinc	0.017	0.0050		mg/L	1	11/16/2004 12:05:32 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/9/2004 10:36:57 AM
Barium	0.088	0.020		mg/L	1	11/9/2004 10:36:57 AM
Cadmium	ND	0.0020		mg/L	1	11/9/2004 10:36:57 AM
Chromium	ND	0.0060		mg/L	1	11/9/2004 10:36:57 AM
Lead	ND	0.0050		mg/L	1	11/9/2004 10:36:57 AM
Selenium	ND	0.050		mg/L	1	11/9/2004 10:36:57 AM
Silver	ND	0.0050		mg/L	1	11/9/2004 10:36:57 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	290	50		mg/L	1	11/8/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: River Downstream

Lab Order: 0411071

Collection Date: 11/3/2004 2:20:00 PM

Project: River Sampling November 2004

Lab ID: 0411071-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/9/2004 8:24:56 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/9/2004 8:24:56 PM
Surr: DNOP	120	58-140		%REC	1	11/9/2004 8:24:56 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/10/2004 1:47:19 PM
Surr: BFB	99.7	74-118		%REC	1	11/10/2004 1:47:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/10/2004 1:47:19 PM
Benzene	ND	0.50		µg/L	1	11/10/2004 1:47:19 PM
Toluene	ND	0.50		µg/L	1	11/10/2004 1:47:19 PM
Ethylbenzene	ND	0.50		µg/L	1	11/10/2004 1:47:19 PM
Xylenes, Total	ND	0.50		µg/L	1	11/10/2004 1:47:19 PM
Surr: 4-Bromofluorobenzene	94.9	74-118		%REC	1	11/10/2004 1:47:19 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining

Client Sample ID: Trip Blank

Lab Order: 0411071

Collection Date:

Project: River Sampling November 2004

Lab ID: 0411071-05

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/9/2004 8:54:29 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/9/2004 8:54:29 PM
Surr: DNOP	126	58-140		%REC	1	11/9/2004 8:54:29 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/10/2004 2:17:18 PM
Surr: BFB	107	74-118		%REC	1	11/10/2004 2:17:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/10/2004 2:17:18 PM
Benzene	ND	0.50		µg/L	1	11/10/2004 2:17:18 PM
Toluene	ND	0.50		µg/L	1	11/10/2004 2:17:18 PM
Ethylbenzene	ND	0.50		µg/L	1	11/10/2004 2:17:18 PM
Xylenes, Total	ND	0.50		µg/L	1	11/10/2004 2:17:18 PM
Surr: 4-Bromofluorobenzene	95.2	74-118		%REC	1	11/10/2004 2:17:18 PM

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level 14 / 40

Hall Environmental Analysis Laboratory

Date: 23-Nov-04

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R13680	Test Code: E300	Units: mg/L	Analysis Date 11/4/2004 12:12:59 PM	Prep Date					
Client ID:			Run ID: LC_041104A		SeqNo: 317758						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND										
Chloride	ND										
Nitrogen, Nitrite (As N)	ND										
Bromide	ND										
Nitrogen, Nitrate (As N)	ND										
Phosphorus, Orthophosphate (As P)	ND										
Sulfate	ND										

Sample ID	MBLK	Batch ID: R13680	Test Code: E300	Units: mg/L	Analysis Date	11/4/2004 6:05:43 PM	Prep Date				
Client ID:			Run ID: LC_041104A		SeqNo:	317774					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Bromide	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

Sample ID	MBLK	Batch ID: R13687	Test Code: E300	Units: mg/L	Analysis Date	11/5/2004 1:51:44 PM	Prep Date				
Client ID:			Run ID: LC_041105A		SeqNo: 318112						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Bromide	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID	MBLK	Batch ID: R13687	Test Code: E300	Units: mg/L	Analysis Date	11/5/2004 8:35:02 PM	Prep Date				
Client ID:			Run ID: LC_041105A		SeqNo:	318136					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Bromide	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID	MBLK	Batch ID: R13818	Test Code: E310.1	Units: mg/L CaCO3	Analysis Date	11/17/2004	Prep Date				
Client ID:			Run ID: WC_041117A		SeqNo:	321303					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2									
Carbonate	ND	2									
Bicarbonate	ND	2									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Sample ID	MB-6834	Batch ID	6834	Test Code	SW8015	Units	mg/L	Analysis Date	11/9/2004 5:27:23 PM	Prep Date	11/9/2004
Client ID:		Run ID:	FID(17A)_2_041108A	SeqNo:	319025						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1									
Motor Oil Range Organics (MRO)	ND	5									
Surr: DNOP	1.212	0	1	0	121	58	140	0			

Sample ID	Reagent Blank 5m	Batch ID	R13733	Test Code	SW8015	Units	mg/L	Analysis Date	11/10/2004 9:25:14 AM	Prep Date	
Client ID:		Run ID:	PIDFID_041110A	SeqNo:	319234						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.05									
Surr: BFB	20.22	0	20	0	101	74	118	0			

Sample ID	Reagent Blank 5m	Batch ID	R13733	Test Code	SW8021	Units	µg/L	Analysis Date	11/10/2004 9:25:14 AM	Prep Date	
Client ID:		Run ID:	PIDFID_041110A	SeqNo:	319233						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	18.24	0	20	0	91.2	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

Sample ID mb-6803

Batch ID: 6803

Analysis Date 11/12/2004

Prep Date 11/5/2004

Client ID:

Run ID: ELMO_041112A

SeqNo: 320161

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	10									
Acenaphthylene	ND	10									
Aniline	ND	10									
Anthracene	ND	10									
Azobenzene	ND	10									
Benz(a)anthracene	ND	15									
Benzo(a)pyrene	ND	10									
Benzo(b)fluoranthene	ND	10									
Benzo(g,h,i)perylene	ND	10									
Benzo(k)fluoranthene	ND	10									
Benzoic acid	ND	50									
Benzyl alcohol	ND	20									
Bis(2-chloroethoxy)methane	ND	10									
Bis(2-chloroethyl)ether	ND	15									
Bis(2-chloroisopropyl)ether	ND	15									
Bis(2-ethylhexyl)phthalate	ND	15									
4-Bromophenyl phenyl ether	ND	10									
Butyl benzyl phthalate	ND	15									
Carbazole	ND	10									
4-Chloro-3-methylphenol	ND	20									
4-Chloroaniline	ND	20									
2-Chloronaphthalene	ND	10									
2-Chlorophenol	ND	10									
4-Chlorophenyl phenyl ether	ND	15									
Chrysene	ND	15									
Di-n-butyl phthalate	ND	10									
Di-n-octyl phthalate	ND	15									
Dibenz(a,h)anthracene	ND	10									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Dibenzofuran	ND	10
1,2-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
3,3'-Dichlorobenzidine	ND	15
Diethyl phthalate	ND	10
Dimethyl phthalate	ND	10
2,4-Dichlorophenol	ND	10
2,4-Dimethylphenol	ND	10
4,6-Dinitro-2-methylphenol	ND	50
2,4-Dinitrophenol	ND	50
2,4-Dinitrotoluene	ND	10
2,6-Dinitrotoluene	ND	10
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorobutadiene	ND	10
Hexachlorocyclopentadiene	ND	10
Hexachloroethane	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2-Methylnaphthalene	ND	10
2-Methylphenol	ND	15
3+4-Methylphenol	ND	10
N-Nitrosodi-n-propylamine	ND	10
N-Nitrosodimethylamine	ND	10
N-Nitrosodiphenylamine	ND	10
Naphthalene	ND	10
2-Nitroaniline	ND	50
3-Nitroaniline	ND	50
4-Nitroaniline	ND	20
Nitrobenzene	ND	10
2-Nitrophenol	ND	15

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

QC SUMMARY REPORT

Method Blank

Sample ID	Batch ID	Test Code	Units	Analysis Date	Prep Date
mb-6918	6918	SW8270C	µg/L	11/19/2004	11/18/2004
Client ID	Run ID	SeqNo	HighLimit	LowLimit	RPDLimit
	ELMO_041119A	322336			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC
Acenaphthene	ND	10			
Acenaphthylene	ND	10			
Aniline	ND	10			
Anthracene	ND	10			
Azobenzene	ND	10			
Benz(a)anthracene	ND	15			
Benzo(a)pyrene	ND	10			
Benzo(b)fluoranthene	ND	10			
Benzo(g,h,i)perylene	ND	10			
Benzo(k)fluoranthene	ND	10			
Benzoic acid	ND	50			
Benzyl alcohol	ND	20			
Bis(2-chloroethoxy)methane	ND	10			
Bis(2-chloroethyl)ether	ND	15			
Bis(2-chloroisopropyl)ether	ND	15			
Bis(2-ethylhexyl)phthalate	ND	15			
4-Bromophenyl phenyl ether	ND	10			
Butyl benzyl phthalate	ND	15			
Carbazole	ND	10			
4-Chloro-3-methylphenol	ND	20			
4-Chloroaniline	ND	20			
2-Chloronaphthalene	ND	10			
2-Chlorophenol	ND	10			
4-Chlorophenyl phenyl ether	ND	15			
Chrysene	ND	15			
Di-n-butyl phthalate	ND	10			
Di-n-octyl phthalate	ND	15			
Dibenz(a,h)anthracene	ND	10			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Dibenzofuran	ND	10
1,2-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
3,3'-Dichlorobenzidine	ND	15
Diethyl phthalate	ND	10
Dimethyl phthalate	ND	10
2,4-Dichlorophenol	ND	10
2,4-Dimethylphenol	ND	10
4,6-Dinitro-2-methylphenol	ND	50
2,4-Dinitrophenol	ND	50
2,4-Dinitrotoluene	ND	10
2,6-Dinitrotoluene	ND	10
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorobutadiene	ND	10
Hexachlorocyclopentadiene	ND	10
Hexachloroethane	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2-Methylnaphthalene	ND	10
2-Methylphenol	ND	15
3+4-Methylphenol	ND	10
N-Nitrosodi-n-propylamine	ND	10
N-Nitrosodimethylamine	ND	10
N-Nitrosodiphenylamine	ND	10
Naphthalene	ND	10
2-Nitroaniline	ND	50
3-Nitroaniline	ND	50
4-Nitroaniline	ND	20
Nitrobenzene	ND	10
2-Nitrophenol	ND	15

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Method Blank

Project: River Sampling November 2004

Compound	Concentration (ppm)	Peak Data
4-Nitrophenol	50	ND
Pentachlorophenol	50	ND
Phenanthrene	10	ND
Phenol	10	ND
Pyrene	15	ND
Pyridine	30	ND
1,2,4-Trichlorobenzene	10	ND
2,4,5-Trichlorophenol	10	ND
2,4,6-Trichlorophenol	15	ND
Surr: 2,4,6-Tribromophenol	200	146.5
Surr: 2-Fluorobiphenyl	100	100.4
Surr: 2-Fluorophenol	200	192.5
Surr: 4-Terphenyl-d14	100	105
Surr: Nitrobenzene-d5	100	92.86
Surr: Phenol-d6	200	137.8

Sample ID	Batch ID	Test Code	Units	mg/L	Analysis Date	Prep Date
MB-6819	6819	SW7470			11/8/2004	11/8/2004
Client ID:		Run ID:	MI-LA254_041108A		SeqNo: 318408	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit
				RPD Ref Val	%RPD	RPDLimit
	0.00005025		0.0002			Qual

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	9

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Sample ID	MB	Batch ID: R13803	Test Code: SW6010A	Units: mg/L	Analysis Date	11/16/2004 11:26:44 A	Prep Date				
Client ID:			Run ID: ICP_041116B		SeqNo:	320758					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.002									
Cadmium	ND	0.002									
Calcium	ND	1									
Chromium	ND	0.006									
Copper	ND	0.006									
Iron	ND	0.02									
Lead	ND	0.005									
Magnesium	ND	1									
Manganese	0.000152	0.002									J
Potassium	ND	1									
Selenium	ND	0.05									
Silver	ND	0.005									
Sodium	ND	1									
Uranium	ND	0.1									
Zinc	ND	0.005									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0411071
Project: River Sampling November 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MB	Batch ID: R13803	Test Code: SW6010A	Units: mg/L	Analysis Date	11/16/2004 1:53:57 PM	Prep Date				
Client ID:		Run ID: ICP_041116B			SeqNo:	320799					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									J
Barium	0.0002371	0.002									
Cadmium	ND	0.002									
Calcium	ND	1									
Chromium	ND	0.006									
Copper	ND	0.006									
Iron	ND	0.02									
Lead	ND	0.005									
Magnesium	ND	1									
Manganese	0.0001535	0.002									J
Potassium	ND	1									
Selenium	ND	0.05									
Silver	ND	0.005									
Sodium	ND	1									
Uranium	ND	0.1									
Zinc	ND	0.005									

Sample ID	MB-6822	Batch ID:	6822	Test Code:	SW6010A	Units:	mg/L	Analysis Date	11/9/2004 10:01:12 AM	Prep Date	11/8/2004
Client ID:		Run ID:	ICP_041109B <td></td> <td></td> <td></td> <td></td> <td>SeqNo:</td> <td>318774</td> <td></td> <td></td>					SeqNo:	318774		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.02									
Cadmium	0.0008085	0.002									J
Chromium	ND	0.006									
Lead	ND	0.005									
Selenium	ND	0.05									
Silver	ND	0.005									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Method Blank

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

Sample ID MB-6807 Batch ID: 6807

Batch ID: 6807 Test Code: E160.1

Units: mg/L

Analysis Date 11/8/2004

Prep Date 11/5/2004

Client ID:

Run ID: WC_041108A

SeqNo: 318325

Analyte

Result

PQL

SPK value

SPK Ref Val

%REC

HighLimit RPD Ref Val

HighLimit RPD Ref Val

HighLimit RPD Ref Val

%RPD

RPDLimit

Qual

Total Dissolved Solids

50

QZ

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

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Date: 23-Nov-04

Hall Environmental Analysis Laboratory

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0411071-01C DUP	Batch ID: R13680	Test Code: E300	Units: mg/L	Analysis Date	11/4/2004 6:56:08 PM	Prep Date				
Client ID:	River Upstream	Run ID:	LC_041104A		SeqNo:	317777					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.501	0.1	0	0	0	0	0	4.492	0.192	20	
Nitrogen, Nitrite (As N)	ND	0.1	0	0	0	0	0	0	0	20	
Bromide	ND	0.1	0	0	0	0	0	0	0	20	
Nitrogen, Nitrate (As N)	0.1509	0.1	0	0	0	0	0	0.1036	37.2	20	R
Phosphorus, Orthophosphate (As P)	ND	0.5	0	0	0	0	0	0	0	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 23-Nov-04

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0411071-01C MS	Batch ID: R13680	Test Code: E300	Units: mg/L	Analysis Date	11/4/2004 7:12:56 PM	Prep Date				
Client ID:	River Upstream		Run ID: LC_041104A		SeqNo:	317778					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8.667	0.1	5	4.492	83.5	80	120	0			
Nitrogen, Nitrite (As N)	0.8433	0.1	1	0	84.3	80	120	0			
Bromide	2.282	0.1	2.5	0	91.3	80	120	0			
Nitrogen, Nitrate (As N)	2.23	0.1	2.5	0.1036	85.1	80	120	0			
Phosphorus, Orthophosphate (As P)	4.35	0.5	5	0	87.0	80	120	0			

Sample ID	0411071-01C MSD	Batch ID: R13680	Test Code: E300	Units: mg/L	Analysis Date	11/4/2004 7:29:44 PM	Prep Date				
Client ID:	River Upstream		Run ID: LC_041104A		SeqNo:	317779					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	8.49	0.1	5	4.492	80.0	80	120	8.667	2.06	20	S
Nitrogen, Nitrite (As N)	0.8863	0.1	1	0	88.6	80	120	0.8433	4.97	20	
Bromide	2.278	0.1	2.5	0	91.1	80	120	2.282	0.151	20	
Nitrogen, Nitrate (As N)	2.271	0.1	2.5	0.1036	86.7	80	120	2.23	1.81	20	
Phosphorus, Orthophosphate (As P)	4.352	0.5	5	0	87.0	80	120	4.35	0.0473	20	

Sample ID	0411071-02a.ms	Batch ID: R13733	Test Code: SW8015	Units: mg/L	Analysis Date	11/10/2004 5:16:46 PM	Prep Date				
Client ID:	River N of MW #4		Run ID: PIDFID_041110A		SeqNo:	319262					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5346	0.05	0.5	0	107	80.3	116	0			
Surr: BFB	26.65	0	25	0	107	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Sample ID	0411071-02a msd	Batch ID: R13733	Test Code: SW8015	Units: mg/L	Analysis Date	11/10/2004 5:46:36 PM	Prep Date					
Client ID:	River N of MW #4	Run ID:	PIDFID_041110A		SeqNo:	319263						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.5604	0.05	0.5	0	112	80.3	116	0.5346	4.71	8.39	
Surr: BFB		26.57	0	25	0	106	74	118	26.65	0.331	0	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Date: 23-Nov-04

Hall Environmental Analysis Laboratory

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13680	Test Code: E300	Units: mg/L	Analysis Date	11/4/2004 12:29:47 PM	Prep Date				
Client ID:		Run ID: LC_041104A			SeqNo:	317759					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4523	0.1	0.5	0	90.5	90	110	0			
Chloride	4.585	0.1	5	0	91.7	90	110	0			
Nitrogen, Nitrite (As N)	0.9396	0.1	1	0	94.0	90	110	0			
Bromide	2.353	0.1	2.5	0	94.1	90	110	0			
Nitrogen, Nitrate (As N)	2.36	0.1	2.5	0	94.4	90	110	0			
Phosphorus, Orthophosphate (As P)	4.675	0.5	5	0	93.5	90	110	0			
Sulfate	9.198	0.5	10	0	92.0	90	110	0			

Sample ID	LCS	Batch ID: R13680	Test Code: E300	Units: mg/L	Analysis Date	11/4/2004 6:22:31 PM	Prep Date				
Client ID:		Run ID: LC_041104A			SeqNo:	317775					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chloride	4.563	0.1	5	0	91.3	90	110	0			
Nitrogen, Nitrite (As N)	0.9254	0.1	1	0	92.5	90	110	0			
Bromide	2.348	0.1	2.5	0	93.9	90	110	0			
Nitrogen, Nitrate (As N)	2.384	0.1	2.5	0	95.4	90	110	0			
Phosphorus, Orthophosphate (As P)	4.55	0.5	5	0	91.0	90	110	0			
Sulfate	9.5	0.5	10	0	95.0	90	110	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits /

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining
Work Order: 0411071
Project: River Sampling November 2004

Sample ID	LCS	Batch ID: R13687	Test Code: E300	Units: mg/L	Analysis Date	11/5/2004 2:08:33 PM	Prep Date				
Client ID:		Run ID: LC_041105A			SeqNo: 318113						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4535	0.1	0.5	0	90.7	90	110	0			
Chloride	4.564	0.1	5	0	91.3	90	110	0			
Nitrogen, Nitrite (As N)	0.9098	0.1	1	0	91.0	90	110	0			
Bromide	2.307	0.1	2.5	0	92.3	90	110	0			
Nitrogen, Nitrate (As N)	2.314	0.1	2.5	0	92.6	90	110	0			
Phosphorus, Orthophosphate (As P)	4.605	0.5	5	0	92.1	90	110	0			
Sulfate	9.429	0.5	10	0	94.3	90	110	0			

Sample ID	LCS	Batch ID: R13687	Test Code: E300	Units: mg/L	Analysis Date	11/5/2004 8:51:50 PM	Prep Date				
Client ID:		Run ID: LC_041105A			SeqNo: 318137						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4516	0.1	0.5	0	90.3	90	110	0			
Nitrogen, Nitrite (As N)	0.934	0.1	1	0	93.4	90	110	0			
Bromide	2.295	0.1	2.5	0	91.8	90	110	0			
Nitrogen, Nitrate (As N)	2.291	0.1	2.5	0	91.7	90	110	0			
Sulfate	9.176	0.5	10	0	91.8	90	110	0			

Sample ID	LCS-6834	Batch ID: 6834	Test Code: SW8015	Units: mg/L	Analysis Date	11/9/2004 5:56:58 PM	Prep Date	11/9/2004			
Client ID:		Run ID: FID(17A) 2_041108A			SeqNo: 319026						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.13	1	5	0	123	81.2	149	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0411071
Project: River Sampling November 2004

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID	LCSD-6834	Batch ID:	6834	Test Code:	SW8015	Units:	mg/L	Analysis Date	11/9/2004 6:26:33 PM	Prep Date	11/9/2004
Client ID:		Run ID:		FID(17A) 2_041108A				SeqNo:	319027		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)		6.613		1	5	0	132	81.2	149	6.13	7.59 23

Sample ID	GRO std 2.50ug	Batch ID:	R13733	Test Code:	SW8015	Units:	mg/L	Analysis Date	11/10/2004 8:45:14 PM	Prep Date	
Client ID:		Run ID:		PIDFID_041110A				SeqNo:	319264		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)		0.5066		0.05	0.5	0	101	80.3	116	0	

Sample ID	BTEX std 100ng	Batch ID:	R13733	Test Code:	SW8021	Units:	µg/L	Analysis Date	11/11/2004 4:11:23 AM	Prep Date	
Client ID:		Run ID:		PIDFID_041110A				SeqNo:	319255		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Methyl tert-butyl ether (MTBE)		41.68		2.5	40	0	104	54.9	142	0	
Benzene		21.02		0.5	20	0	105	81.3	121	0	
Toluene		21.32		0.5	20	0	107	84.9	118	0	
Ethylbenzene		21.36		0.5	20	0	107	53.8	149	0	
Xylenes, Total		63.95		0.5	60	0	107	83.1	122	0	

Qualifiers: ND - Not Detected at the Reporting Limit
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 R - RPD outside accepted recovery limits
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CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	Ics-6803	Batch ID: 6803	Test Code: SW8270C	Units: µg/L	Analysis Date	11/12/2004	Prep Date	11/5/2004			
Client ID:	Run ID: ELMO_041112A			SeqNo: 320163							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	73.42	10	100	0	73.4	11	123	0			
4-Chloro-3-methylphenol	178.4	20	200	0	89.2	15.4	119	0			
2-Chlorophenol	185	10	200	0	92.5	12.2	122	0			
1,4-Dichlorobenzene	69.4	10	100	0	69.4	16.9	100	0			
2,4-Dinitrotoluene	84.28	10	100	0	84.3	13	138	0			
N-Nitrosodi-n-propylamine	77.04	10	100	0	77.0	9.93	122	0			
4-Nitrophenol	98.54	50	200	0	49.3	-20.5	87.4	0			
Pentachlorophenol	166.6	50	200	0	83.3	-0.355	114	0			
Phenol	95.98	10	200	0	48.0	7.53	73.1	0			
Pyrene	80.68	15	100	0	80.7	12.6	140	0			
1,2,4-Trichlorobenzene	74.02	10	100	0	74.0	17.4	98.7	0			

Sample ID	Icsd-6803	Batch ID: 6803	Test Code: SW8270C	Units: µg/L	Analysis Date	11/12/2004	Prep Date	11/5/2004			
Client ID:	ELMO_041112A				SeqNo:	320165					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	74.2	10	100	0	74.2	11	123	73.42	1.06	30.5	
4-Chloro-3-methylphenol	170.5	20	200	0	85.3	15.4	119	178.4	4.54	28.6	
2-Chlorophenol	179.6	10	200	0	89.8	12.2	122	185	2.92	107	
1,4-Dichlorobenzene	76.76	10	100	0	76.8	16.9	100	69.4	10.1	62.1	
2,4-Dinitrotoluene	79.4	10	100	0	79.4	13	138	84.28	5.96	14.7	
N-Nitrosodi-n-propylamine	71.68	10	100	0	71.7	9.93	122	77.04	7.21	30.3	
4-Nitrophenol	93.12	50	200	0	46.6	12.5	87.4	98.54	5.66	36.3	
Pentachlorophenol	137	50	200	0	68.5	3.55	114	166.6	19.5	49	
Phenol	88.24	10	200	0	44.1	7.53	73.1	95.98	8.40	52.4	
Pyrene	75.34	15	100	0	75.3	12.6	140	80.68	6.85	16.3	
1,2,4-Trichlorobenzene	79.84	10	100	0	79.8	17.4	98.7	74.02	7.57	36.4	

Qualifiers: ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank
4

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

Sample ID	Ics-6918	Batch ID: 6918	Test Code: SW8270C	Units: µg/L	Analysis Date	11/19/2004	Prep Date	11/18/2004			
Client ID:			Run ID:	ELMO_041119A	SeqNo:	322337					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	89.72	10	100	0	89.7	11	123	0			
4-Chloro-3-methylphenol	209.6	20	200	0	105	15.4	119	0			
2-Chlorophenol	225.1	10	200	0	113	12.2	122	0			
1,4-Dichlorobenzene	87.74	10	100	0	87.7	16.9	100	0			
2,4-Dinitrotoluene	83.52	10	100	0	83.5	13	138	0			
N-Nitrosodi-n-propylamine	92.16	10	100	0	92.2	9.93	122	0			
4-Nitrophenol	30.82	50	200	0	15.4	-20.5	87.4	0			J
Pentachlorophenol	59.98	50	200	0	30.0	-0.355	114	0			
Phenol	112.6	10	200	0	56.3	7.53	73.1	0			
Pyrene	95.56	15	100	0	95.6	12.6	140	0			
1,2,4-Trichlorobenzene	88.76	10	100	0	88.8	17.4	98.7	0			

Sample ID	Icsd-6918	Batch ID: 6918	Test Code: SW8270C	Units: µg/L	Analysis Date	11/19/2004	Prep Date	11/18/2004			
Client ID:			Run ID: ELMO_041119A		SeqNo: 322338						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	79.98	10	100	0	80.0	11	123	89.72	11.5	30.5	
4-Chloro-3-methylphenol	167.7	20	200	0	83.9	15.4	119	209.6	22.2	28.6	
2-Chlorophenol	194.6	10	200	0	97.3	12.2	122	225.1	14.6	107	
1,4-Dichlorobenzene	85.98	10	100	0	86.0	16.9	100	87.74	2.03	62.1	
2,4-Dinitrotoluene	79.94	10	100	0	79.9	13	138	83.52	4.38	14.7	
N-Nitrosodi-n-propylamine	73.18	10	100	0	73.2	9.93	122	92.16	23.0	30.3	
4-Nitrophenol	76.72	50	200	0	38.4	12.5	87.4	30.82	85.4	36.3	R
Pentachlorophenol	136.5	50	200	0	68.3	3.55	114	59.98	77.9	49	R
Phenol	97.82	10	200	0	48.9	7.53	73.1	112.6	14.1	52.4	
Pyrene	82.12	15	100	0	82.1	12.6	140	95.56	15.1	16.3	
2,4-Trichlorobenzene	82.88	10	100	0	82.9	17.4	98.7	88.76	6.85	36.4	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Sample ID	LCS-6819	Batch ID: 6819	Test Code: SW7470	Units: mg/L	Analysis Date	11/8/2004	Prep Date	11/8/2004			
Client ID:			Run ID: MI-LA254_041108A		SeqNo: 318409						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00508	0.0002	0.005	0.00005025	101	75.2	134	0			
Sample ID	LCSD-6819	Batch ID: 6819	Test Code: SW7470	Units: mg/L	Analysis Date	11/8/2004	Prep Date	11/8/2004			
Client ID:			Run ID: MI-LA254_041108A		SeqNo: 318410						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005232	0.0002	0.005	0.00005025	104	75.2	134	0.00508	2.96	0	
Sample ID	LCS	Batch ID: R13803	Test Code: SW6010A	Units: mg/L	Analysis Date	11/16/2004 11:29:28 A	Prep Date				
Client ID:			Run ID: ICP_041116B		SeqNo: 320759						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4772	0.02	0.5	0	95.4	80	120	0			
Barium	0.4847	0.002	0.5	0	96.9	80	120	0			
Cadmium	0.49	0.002	0.5	0	98.0	80	120	0			
Calcium	46.15	1	50.5	0	91.4	80	120	0			
Chromium	0.4868	0.006	0.5	0	97.4	80	120	0			
Copper	0.4853	0.006	0.5	0	97.1	80	120	0			
Iron	0.5126	0.02	0.5	0	103	80	120	0			
Lead	0.4886	0.005	0.5	0	97.7	80	120	0			
Magnesium	47.29	1	50.5	0	93.6	80	120	0			
Manganese	0.4904	0.002	0.5	0.000152	98.1	80	120	0			
Potassium	49.17	1	55	0	89.4	80	120	0			
Selenium	0.4562	0.05	0.5	0	91.2	80	120	0			
Silver	0.5039	0.005	0.5	0	101	80	120	0			
Sodium	53.91	1	50.5	0	107	80	120	0			
Uranium	4.83	0.1	5	0	96.6	80	120	0			
Zinc	0.5822	0.005	0.5	0	116	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Sample ID	LCSD	Batch ID: R13803	Test Code: SW6010A	Units: mg/L	Analysis Date	11/16/2004 11:32:04 A	Prep Date				
Client ID:		Run ID: ICP_041116B			SeqNo:	320760					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5243	0.02	0.5	0	105	80	120	0.4772	9.40	20	
Barium	0.504	0.002	0.5	0	101	80	120	0.4847	3.90	20	
Cadmium	0.5301	0.002	0.5	0	106	80	120	0.49	7.87	20	
Calcium	49.32	1	50.5	0	97.7	80	120	46.15	6.63	20	
Chromium	0.5279	0.006	0.5	0	106	80	120	0.4868	8.10	20	
Chromium	0.5057	0.006	0.5	0	101	80	120	0.4853	4.11	20	
Copper	0.531	0.02	0.5	0	106	80	120	0.5126	3.52	20	
Iron	0.5282	0.005	0.5	0	106	80	120	0.4886	7.79	20	
Lead	50.61	1	50.5	0	100	80	120	47.29	6.79	20	
Magnesium	0.5115	0.002	0.5	0.000152	102	80	120	0.4904	4.21	20	
Manganese	52.83	1	55	0	96.1	80	120	49.17	7.18	20	
Potassium	0.4902	0.05	0.5	0	98.0	80	120	0.4562	7.18	20	
Selenium	0.521	0.005	0.5	0	104	80	120	0.5039	3.35	20	
Silver	57.72	1	50.5	0	114	80	120	53.91	6.82	20	
Sodium	5.008	0.1	5	0	100	80	120	4.83	3.62	20	
Uranium	0.5067	0.005	0.5	0	101	80	120	0.5822	13.9	20	
Zinc											

Qualifiers: ND - Not Detected at the Reporting Limit
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 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining
 Work Order: 0411071
 Project: River Sampling November 2004

Sample ID	LCS	Batch ID: R13803	Test Code: SW6010A	Units: mg/L	Analysis Date	11/16/2004 1:56:37 PM	Prep Date				
Client ID:		Run ID:	ICP_041116B		SeqNo:	320800					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5574	0.02	0.5	0	111	80	120	0			
Barium	0.5225	0.002	0.5	0.0002371	104	80	120	0			
Cadmium	0.5453	0.002	0.5	0	109	80	120	0			
Calcium	42.59	1	50.5	0	84.3	80	120	0			
Chromium	0.5376	0.006	0.5	0	108	80	120	0			
Copper	0.5155	0.006	0.5	0	103	80	120	0			
Iron	0.5447	0.02	0.5	0	109	80	120	0			
Lead	0.5575	0.005	0.5	0	112	80	120	0			
Magnesium	43.67	1	50.5	0	86.5	80	120	0			
Manganese	0.5319	0.002	0.5	0.0001535	106	80	120	0			
Potassium	46.83	1	55	0	85.1	80	120	0			
Selenium	0.5321	0.05	0.5	0	106	80	120	0			
Silver	0.5509	0.005	0.5	0	110	80	120	0			
Sodium	50.71	1	50.5	0	100	80	120	0			
Uranium	4.912	0.1	5	0	98.2	80	120	0			
Zinc	0.534	0.005	0.5	0	107	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
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 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD	Batch ID: R13803	Test Code: SW6010A	Units: mg/L	Analysis Date	11/16/2004 1:58:36 PM	Prep Date				
Client ID:		Run ID: ICP_041116B			SeqNo: 320801						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5632	0.02	0.5	0	113	80	120	0.5574	1.03	20	
Barium	0.5413	0.002	0.5	0.0002371	108	80	120	0.5225	3.55	20	
Cadmium	0.5599	0.002	0.5	0	112	80	120	0.5453	2.64	20	
Calcium	46.64	1	50.5	0	92.4	80	120	42.59	9.09	20	
Chromium	0.5536	0.006	0.5	0	111	80	120	0.5376	2.93	20	
Copper	0.5384	0.006	0.5	0	108	80	120	0.5155	4.35	20	
Iron	0.5766	0.02	0.5	0	115	80	120	0.5447	5.68	20	
Lead	0.5705	0.005	0.5	0	114	80	120	0.5575	2.29	20	
Magnesium	47.51	1	50.5	0	94.1	80	120	43.67	8.41	20	
Manganese	0.5499	0.002	0.5	0.0001535	110	80	120	0.5319	3.33	20	
Potassium	50.64	1	55	0	92.1	80	120	46.83	7.82	20	
Selenium	0.5465	0.05	0.5	0	109	80	120	0.5321	2.68	20	
Silver	0.5675	0.005	0.5	0	113	80	120	0.5509	2.96	20	
Sodium	54.47	1	50.5	0	108	80	120	50.71	7.15	20	
Uranium	4.998	0.1	5	0	100	80	120	4.912	1.73	20	
Zinc	0.5668	0.005	0.5	0	113	80	120	0.534	5.96	20	

Sample ID	LCS-6822	Batch ID: 6822	Test Code: SW6010A	Units: mg/L	Analysis Date	11/9/2004 10:03:53 AM	Prep Date	11/8/2004			
Client ID:			Run ID: ICP_041109B		SeqNo:	318775					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5183	0.02	0.5	0	104	80	120	0			
Barium	0.5186	0.02	0.5	0	104	80	120	0			
Cadmium	0.5188	0.002	0.5	0.0008085	104	80	120	0			
Chromium	0.5249	0.006	0.5	0	105	80	120	0			
Lead	0.5338	0.005	0.5	0	107	80	120	0			
Selenium	0.4685	0.05	0.5	0	93.7	80	120	0			
Silver	0.5608	0.005	0.5	0	112	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit

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B - Analyte detected in the associated Method Blank

9

CLIENT: San Juan Refining
Work Order: 0411071
Project: River Sampling November 2004

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID	LCSD-6822	Batch ID: 6822	Test Code: SW6010A	Units: mg/L	Analysis Date	11/9/2004 10:06:11 AM	Prep Date	11/8/2004			
Client ID:			Run ID: ICP_041109B		SeqNo:	318776					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.529	0.02	0.5	0	106	80	120	0.5183	2.05	20	
Barium	0.5009	0.02	0.5	0	100	80	120	0.5186	3.49	20	
Cadmium	0.5018	0.002	0.5	0.0008085	100	80	120	0.5188	3.34	20	
Chromium	0.5041	0.006	0.5	0	101	80	120	0.5249	4.06	20	
Lead	0.5143	0.005	0.5	0	103	80	120	0.5338	3.73	20	
Selenium	0.4493	0.05	0.5	0	89.9	80	120	0.4685	4.18	20	
Silver	0.5432	0.005	0.5	0	109	80	120	0.5608	3.19	20	

Sample ID	LCS-6807	Batch ID: 6807	Test Code: E160.1	Units: mg/L	Analysis Date	11/8/2004	Prep Date	11/5/2004			
Client ID:			Run ID: WC_041108A		SeqNo:	318326					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1033	50	1000	0	103	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

11/4/2004

Work Order Number 0411071

Received by AMG

Checklist completed by

Signature

Date

Matrix

Carrier name UPS

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒ Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☒	No ☐	N/A ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒
Container/Temp Blank temperature?	1°	4° C ± 2 Acceptable If given sufficient time to cool.	

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.3976
www.hallenvironmental.com

Project Name: River Sampling
November 2024

Address: #50 CE 4990
Bloomfield, NM
87413

Phone #: 505-632-4161
Fax #: 505-632-3911

Date	Time	Matrix	Sample I.D. No.	Number/Volume	H ₂ Cl ₂	HNO ₃	HEAL No.
10/04/2002		H ₂ O	River-N of MW 46	3-VOA	X		0411071
				1-500		X	3
				1-125		X (F test)	3
				1-125		H ₂ SO ₄	3
				1-1 liter			3
				1-1 liter			3

Date: 11/03/04	Time: 3:50pm	Relinquished By: (Signature) <i>Cindy Hurtado</i>	Remarks: <i>Donagles-11/04/20</i>
Date:	Time:	Relinquished By: (Signature)	Remarks: <i>11/01/03</i>

Remarks:

Remarks:

Relinquished By: (Signature)

Date: _____ Time: _____

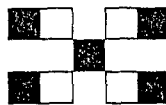
1613

ANALYSIS REQUEST

[illegible]

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com



87EX + MTBE + TMB's (8021)	87EX + MTBE + TPH (Gasoline On	TPH Method 8015B MOD (Gas/Die	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Cations (Na, K, Ca, Mg)	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄)	8081 Pesticides / PCB's (8082)	8260 (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)
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[illegible]



COVER LETTER

November 16, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: MW #48 - Water

Order No.: 0411032

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 sample on 11/2/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



4901 Hawkins NE ■ Suite D ■ Albuquerque, NM 87109
505.345.3975 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
 Lab Order: 0411032
 Project: MW #48 - Water
 Lab ID: 0411032-01

Client Sample ID: MW #48
 Collection Date: 11/1/2004 10:00:00 AM
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.54	0.10		mg/L	1	11/2/2004 7:20:06 PM
Chloride	120	1.0		mg/L	10	11/3/2004 5:09:05 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/2/2004 7:20:06 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/2/2004 7:20:06 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/2/2004 7:20:06 PM
Sulfate	250	5.0		mg/L	10	11/3/2004 5:09:05 PM
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	1.5	1.0		mg/L	1	11/4/2004 11:17:56 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 11:17:56 PM
Surr: DNOP	125	58-140		%REC	1	11/4/2004 11:17:56 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	51	10		mg/L	200	11/4/2004 11:02:23 AM
Surr: BFB	110	74-118		%REC	200	11/4/2004 11:02:23 AM
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Benzene	890	100		µg/L	100	11/3/2004
Toluene	ND	100		µg/L	100	11/3/2004
Ethylbenzene	3700	100		µg/L	100	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	100	11/3/2004
1,2,4-Trimethylbenzene	7300	100		µg/L	100	11/3/2004
1,3,5-Trimethylbenzene	2000	100		µg/L	100	11/3/2004
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	11/3/2004
1,2-Dibromoethane (EDB)	ND	100		µg/L	100	11/3/2004
Naphthalene	1300	200		µg/L	100	11/3/2004
1-Methylnaphthalene	ND	400		µg/L	100	11/3/2004
2-Methylnaphthalene	560	400		µg/L	100	11/3/2004
Acetone	ND	1000		µg/L	100	11/3/2004
Bromobenzene	ND	100		µg/L	100	11/3/2004
Bromochloromethane	ND	100		µg/L	100	11/3/2004
Bromodichloromethane	ND	100		µg/L	100	11/3/2004
Bromoform	ND	100		µg/L	100	11/3/2004
Bromomethane	ND	200		µg/L	100	11/3/2004
2-Butanone	ND	1000		µg/L	100	11/3/2004
Carbon disulfide	ND	1000		µg/L	100	11/3/2004
Carbon Tetrachloride	ND	100		µg/L	100	11/3/2004
Chlorobenzene	ND	100		µg/L	100	11/3/2004
Chloroethane	ND	200		µg/L	100	11/3/2004
Chloroform	ND	100		µg/L	100	11/3/2004
Chloromethane	ND	100		µg/L	100	11/3/2004
2-Chlorotoluene	ND	100		µg/L	100	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
 Lab Order: 0411032
 Project: MW #48 - Water
 Lab ID: 0411032-01

Client Sample ID: MW #48
 Collection Date: 11/1/2004 10:00:00 AM
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
4-Chlorotoluene	ND	100		µg/L	100	11/3/2004
cis-1,2-DCE	ND	100		µg/L	100	11/3/2004
cis-1,3-Dichloropropene	ND	100		µg/L	100	11/3/2004
1,2-Dibromo-3-chloropropane	ND	200		µg/L	100	11/3/2004
Dibromochloromethane	ND	100		µg/L	100	11/3/2004
Dibromomethane	ND	200		µg/L	100	11/3/2004
1,2-Dichlorobenzene	ND	100		µg/L	100	11/3/2004
1,3-Dichlorobenzene	ND	100		µg/L	100	11/3/2004
1,4-Dichlorobenzene	ND	100		µg/L	100	11/3/2004
Dichlorodifluoromethane	ND	100		µg/L	100	11/3/2004
1,1-Dichloroethane	ND	100		µg/L	100	11/3/2004
1,1-Dichloroethene	ND	100		µg/L	100	11/3/2004
1,2-Dichloropropane	ND	100		µg/L	100	11/3/2004
1,3-Dichloropropane	ND	100		µg/L	100	11/3/2004
2,2-Dichloropropane	ND	100		µg/L	100	11/3/2004
1,1-Dichloropropene	ND	100		µg/L	100	11/3/2004
Hexachlorobutadiene	ND	100		µg/L	100	11/3/2004
2-Hexanone	ND	1000		µg/L	100	11/3/2004
Isopropylbenzene	270	100		µg/L	100	11/3/2004
4-Isopropyltoluene	ND	100		µg/L	100	11/3/2004
4-Methyl-2-pentanone	ND	1000		µg/L	100	11/3/2004
Methylene Chloride	ND	300		µg/L	100	11/3/2004
n-Butylbenzene	ND	100		µg/L	100	11/3/2004
n-Propylbenzene	700	100		µg/L	100	11/3/2004
sec-Butylbenzene	ND	100		µg/L	100	11/3/2004
Styrene	ND	100		µg/L	100	11/3/2004
tert-Butylbenzene	ND	100		µg/L	100	11/3/2004
1,1,1,2-Tetrachloroethane	ND	100		µg/L	100	11/3/2004
1,1,2,2-Tetrachloroethane	ND	100		µg/L	100	11/3/2004
Tetrachloroethene (PCE)	ND	100		µg/L	100	11/3/2004
trans-1,2-DCE	ND	100		µg/L	100	11/3/2004
trans-1,3-Dichloropropene	ND	100		µg/L	100	11/3/2004
1,2,3-Trichlorobenzene	ND	100		µg/L	100	11/3/2004
1,2,4-Trichlorobenzene	ND	100		µg/L	100	11/3/2004
1,1,1-Trichloroethane	ND	100		µg/L	100	11/3/2004
1,1,2-Trichloroethane	ND	100		µg/L	100	11/3/2004
Trichloroethene (TCE)	ND	100		µg/L	100	11/3/2004
Trichlorofluoromethane	ND	100		µg/L	100	11/3/2004
1,2,3-Trichloropropane	ND	200		µg/L	100	11/3/2004
Vinyl chloride	ND	100		µg/L	100	11/3/2004
Xylenes, Total	24000	250		µg/L	250	11/4/2004
Surr: 1,2-Dichloroethane-d4	98.8	70.6-124		%REC	100	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
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 R - RPD outside accepted recovery limits
 E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
 Lab Order: 0411032
 Project: MW #48 - Water
 Lab ID: 0411032-01

Client Sample ID: MW #48
 Collection Date: 11/1/2004 10:00:00 AM
 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Surr: 4-Bromofluorobenzene	103	76.4-130		%REC	100	11/3/2004
Surr: Dibromofluoromethane	92.3	67.2-131		%REC	100	11/3/2004
Surr: Toluene-d8	108	82.1-123		%REC	100	11/3/2004
EPA METHOD 8310: PAHS						Analyst: BL
Naphthalene	560	25		µg/L	10	11/15/2004 4:01:02 PM
1-Methylnaphthalene	160	2.5		µg/L	1	11/12/2004 2:52:53 PM
2-Methylnaphthalene	250	25		µg/L	10	11/15/2004 4:01:02 PM
Acenaphthylene	ND	2.5		µg/L	1	11/12/2004 2:52:53 PM
Acenaphthene	ND	2.5		µg/L	1	11/12/2004 2:52:53 PM
Fluorene	1.0	0.80		µg/L	1	11/12/2004 2:52:53 PM
Phenanthrene	5.9	0.60		µg/L	1	11/12/2004 2:52:53 PM
Anthracene	ND	0.60		µg/L	1	11/12/2004 2:52:53 PM
Fluoranthene	ND	0.30		µg/L	1	11/12/2004 2:52:53 PM
Pyrene	ND	0.30		µg/L	1	11/12/2004 2:52:53 PM
Benz(a)anthracene	ND	0.020		µg/L	1	11/12/2004 2:52:53 PM
Chrysene	ND	0.20		µg/L	1	11/12/2004 2:52:53 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	11/12/2004 2:52:53 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	11/12/2004 2:52:53 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	11/12/2004 2:52:53 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	11/12/2004 2:52:53 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	11/12/2004 2:52:53 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/12/2004 2:52:53 PM
Surr: Benzo(e)pyrene	95.8	54-102		%REC	1	11/12/2004 2:52:53 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MAP
Specific Conductance	2700	0.010		µmhos/cm	1	11/4/2004
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	11/3/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/11/2004 10:07:01 AM
Barium	0.21	0.0020		mg/L	1	11/10/2004 3:52:19 PM
Cadmium	ND	0.0020		mg/L	1	11/10/2004 3:52:19 PM
Chromium	ND	0.0060		mg/L	1	11/10/2004 3:52:19 PM
Copper	ND	0.0060		mg/L	1	11/10/2004 3:52:19 PM
Iron	0.16	0.020		mg/L	1	11/10/2004 3:52:19 PM
Lead	0.014	0.0050		mg/L	1	11/10/2004 3:52:19 PM
Manganese	0.55	0.0020		mg/L	1	11/10/2004 3:52:19 PM
Selenium	ND	0.050		mg/L	1	11/10/2004 3:52:19 PM
Silver	ND	0.0050		mg/L	1	11/10/2004 3:52:19 PM
Uranium	ND	0.10		mg/L	1	11/10/2004 3:52:19 PM
Zinc	0.026	0.0050		mg/L	1	11/10/2004 3:52:19 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
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 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411032
Project: MW #48 - Water
Lab ID: 0411032-01

Client Sample ID: MW #48
Collection Date: 11/1/2004 10:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/5/2004 9:24:41 AM
Barium	0.32	0.020		mg/L	1	11/5/2004 9:24:41 AM
Cadmium	ND	0.0020		mg/L	1	11/5/2004 9:24:41 AM
Calcium	130	1.0		mg/L	1	11/5/2004 9:24:41 AM
Chromium	0.0092	0.0060		mg/L	1	11/5/2004 9:24:41 AM
Iron	19	0.50		mg/L	10	11/5/2004 10:45:03 AM
Lead	0.023	0.0050		mg/L	1	11/5/2004 9:24:41 AM
Magnesium	22	1.0		mg/L	1	11/5/2004 9:24:41 AM
Manganese	2.4	0.0020		mg/L	1	11/5/2004 9:24:41 AM
Potassium	6.9	1.0		mg/L	1	11/5/2004 9:24:41 AM
Selenium	ND	0.050		mg/L	1	11/5/2004 9:24:41 AM
Silver	ND	0.0050		mg/L	1	11/5/2004 9:24:41 AM
Sodium	400	10		mg/L	10	11/5/2004 10:45:03 AM
Uranium	ND	0.10		mg/L	1	11/5/2004 9:24:41 AM
Zinc	0.056	0.050		mg/L	1	11/5/2004 9:24:41 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	7.88	0.010		pH units	1	11/15/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1500	50		mg/L	1	11/4/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

QC SUMMARY REPORT
 Method Blank

Sample ID MBLK Batch ID: R13648 Test Code: E300 Units: mg/L Analysis Date 11/2/2004 5:05:40 PM Prep Date
 Client ID: Run ID: LC_041102A SeqNo: 317113

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID MBLK Batch ID: R13660 Test Code: E300 Units: mg/L Analysis Date 11/3/2004 3:11:32 PM Prep Date
 Client ID: Run ID: LC_041103A SeqNo: 317351

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID MB-6798 Batch ID: 6798 Test Code: SW8015 Units: mg/L Analysis Date 11/4/2004 9:49:28 PM Prep Date 11/4/2004
 Client ID: Run ID: FID(17A) 2_041102A SeqNo: 317894

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1									
Motor Oil Range Organics (MRO)	ND	5									
Surr: DNOP	1.173	0	1	0	117	58	140	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

Sample ID	Reagent Blank 5m	Batch ID: R13678	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 9:00:28 AM	Prep Date					
Client ID:			Run ID: PIDFID_041104A		SeqNo:	317803						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		ND	0.05									
Surr: BFB		20.09	0	20	0	100	74	118	0			

Sample ID	MB-6812	Batch ID: 6812	Test Code: SW8310	Units: µg/L	Analysis Date	11/12/2004 12:28:53 P	Prep Date	11/8/2004				
Client ID:			Run ID: HUGO_041112A		SeqNo:	320127						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Naphthalene	ND	2.5										
1-Methylnaphthalene	ND	2.5										
2-Methylnaphthalene	ND	2.5										
Acenaphthylene	ND	2.5										
Acenaphthene	ND	2.5										
Fluorene	ND	0.8										
Phenanthrene	ND	0.6										
Anthracene	ND	0.6										
Fluoranthene	ND	0.3										
Pyrene	ND	0.3										
Benz(a)anthracene	ND	0.02										
Chrysene	ND	0.2										
Benzo(b)fluoranthene	ND	0.05										
Benzo(k)fluoranthene	ND	0.02										
Benzo(a)pyrene	ND	0.02										
Dibenz(a,h)anthracene	0.03	0.04										J
Benzo(g,h,i)perylene	ND	0.03										
Indeno(1,2,3-cd)pyrene	ND	0.08										
Surr: Benzo(e)pyrene	9.47	0		10	0	94.7	54	102	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

QC SUMMARY REPORT
 Method Blank

Sample ID MB-6788 Batch ID: 6788 Test Code: SW7470 Units: mg/L Analysis Date 11/3/2004 Prep Date 11/3/2004
 Client ID: MI-LA254_041103A SeqNo: 317316
 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
 Mercury ND 0.0002

Sample ID MB Batch ID: R13737 Test Code: SW6010A Units: mg/L Analysis Date 11/10/2004 2:28:19 PM Prep Date
 Client ID: ICP_041110B SeqNo: 319298
 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
 Arsenic ND 0.02
 Barium ND 0.002
 Cadmium ND 0.002
 Chromium ND 0.006
 Copper ND 0.006
 Iron ND 0.02
 Lead ND 0.005
 Manganese ND 0.002
 Selenium ND 0.05
 Silver ND 0.005
 Uranium ND 0.1
 Zinc ND 0.005

Sample ID MB Batch ID: R13737 Test Code: SW6010A Units: mg/L Analysis Date 11/11/2004 9:56:32 AM Prep Date
 Client ID: ICP_041110B SeqNo: 319467
 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
 Arsenic ND 2.5

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
Work Order: 0411032
Project: MW #48 - Water

QC SUMMARY REPORT
 Method Blank

Sample ID	MB-6796	Batch ID:	6796	Test Code:	SW6010A	Units:	mg/L	Analysis Date	11/5/2004 10:42:40 AM	Prep Date	11/4/2004	
Client ID:		Run ID:	ICP_041105A					SeqNo:	318411			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	0.02									
Barium		ND	0.02									
Cadmium		ND	0.002									
Calcium		ND	1									
Chromium		ND	0.006									
Iron		ND	0.05									
Lead		ND	0.005									
Magnesium		ND	1									
Manganese		ND	0.002									
Potassium		ND	1									
Selenium		ND	0.05									
Silver		ND	0.005									
Sodium		ND	1									
Uranium		ND	0.1									
Zinc		ND	0.05									

Sample ID MB-6786	Batch ID: 6786	Test Code: E160.1	Units: mg/L	Analysis Date 11/4/2004	Prep Date 11/3/2004						
Client ID:	Run ID: WC_041104B			SeqNo: 317665							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

QC SUMMARY REPORT

Method Blank

Sample ID	5mL rb	Batch ID: R13663	Test Code: SW8260B	Units: µg/L	Analysis Date	11/3/2004	Prep Date				
Client ID:		Run ID:	NEPTUNE_041103A	SeqNo:	317437						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	ND	2									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

dis-1,3-Dichloropropene	ND	1
1,2-Dibromo-3-chloropropane	ND	2
Dibromochloromethane	ND	1
Dibromomethane	ND	2
1,2-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
Dichlorodifluoromethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,2-Dichloropropane	ND	1
1,3-Dichloropropane	ND	1
2,2-Dichloropropane	ND	1
1,1-Dichloropropene	ND	1
Hexachlorobutadiene	ND	1
2-Hexanone	ND	10
Isopropylbenzene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-pentanone	ND	10
Methylene Chloride	ND	3
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
1,1,1,2-Tetrachloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Tetrachloroethene (PCE)	ND	1
trans-1,2-DCE	ND	1
trans-1,3-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,4-Trichlorobenzene	ND	1
1,1,1-Trichloroethane	ND	1

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
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 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0411032-01C DUP	Batch ID: R13676	Test Code: E120.1	Units: µmhos/cm	Analysis Date	11/4/2004	Prep Date					
Client ID:	MW #48		Run ID:	WC_041104C	SeqNo:	317692						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance		2660	0.01	0	0	0	0	0	2720	2.23	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13660	Test Code: E300	Units: mg/L	Analysis Date	11/3/2004 3:28:21 PM	Prep Date				
Client ID:		Run ID: LC_041103A			SeqNo: 317352						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4533	0.1	0.5	0	90.7	90	110	0			
Chloride	4.733	0.1	5	0	94.7	90	110	0			
Nitrogen, Nitrite (As N)	0.9034	0.1	1	0	90.3	90	110	0			
Nitrogen, Nitrate (As N)	2.416	0.1	2.5	0	96.6	90	110	0			
Phosphorus, Orthophosphate (As P)	4.755	0.5	5	0	95.1	90	110	0			
Sulfate	9.77	0.5	10	0	97.7	90	110	0			

Sample ID	LCS-6798	Batch ID: 6798	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 10:18:50 PM	Prep Date	11/4/2004			
Client ID:		Run ID:	FID(17A) 2_041102A		SeqNo:	317895					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.105	1	5	0	102	81.2	149	0			

Sample ID	LCSD-6798	Batch ID: 6798	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 10:48:25 PM	Prep Date	11/4/2004			
Client ID:		Run ID: FID(17A) 2_041102A			SeqNo: 317896						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.85	1	5	0	97.0	81.2	149	5.105	5.11	23	

Sample ID	GRO std 2.5ug	Batch ID: R13678	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 6:41:39 PM	Prep Date				
Client ID:		Run ID: PIDFID_041104A			SeqNo: 317842						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5026	0.05	0.5	0	101	80.3	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

Sample ID	GRO std 2.5ug	Batch ID: R13678	Test Code: SW8015	Units: mg/L	Analysis Date	11/5/2004 2:10:38 AM	Prep Date
Client ID:		Run ID:	PIDFID_041104A		SeqNo:	317843	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Gasoline Range Organics (GRO)		0.526	0.05	0.5	0	105	80.3	116	0.5026	4.55	8.39
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Sample ID	100ng lcs	Batch ID: R13653	Test Code: SW8260B	Units: µg/L	Analysis Date	11/3/2004	Prep Date
Client ID:		Run ID:	NEPTUNE_041103A		SeqNo:	317438	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Benzene		19.91	1	20	0	99.6	75.3	128	0		
Toluene		20.13	1	20	0	101	77.8	122	0		
Chlorobenzene		20.32	1	20	0	102	76.2	130	0		
1,1-Dichloroethene		17.87	1	20	0	89.4	70.2	119	0		
Trichloroethene (TCE)		19.27	1	20	0	96.4	76.9	130	0		

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining

Work Order: 0411032

Project: MW #48 - Water

Sample ID	LCS-6812	Batch ID: 6812	Test Code: SW8310	Units: µg/L	Analysis Date	11/12/2004 1:16:54 PM	Prep Date	11/8/2004			
Client ID:			Run ID:	HUGO_041112A	SeqNo:	320128					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	26.51	2.5	40	0	66.3	20.939	111.211	0			
1-Methylnaphthalene	29.13	2.5	40.1	0	72.6	22.016	110.385	0			
2-Methylnaphthalene	28.77	2.5	40	0	71.9	21.098	111.261	0			
Acenaphthylene	28.66	2.5	40.1	0	71.5	23.852	116.857	0			
Acenaphthene	30.19	2.5	40	0	75.5	27.524	111.73	0			
Fluorene	2.96	0.8	4.01	0	73.8	31.046	113.32	0			
Phenanthrene	1.71	0.6	2.01	0	85.1	42.279	115.749	0			
Anthracene	1.65	0.6	2.01	0	82.1	43.767	118.693	0			
Fluoranthene	3.4	0.3	4.01	0	84.8	55.334	117.461	0			
Pyrene	3.55	0.3	4.01	0	88.5	57.722	120.832	0			
Benz(a)anthracene	0.35	0.02	0.401	0	87.3	70.18	113.452	0			
Chrysene	1.73	0.2	2.01	0	86.1	43.942	141.404	0			
Benzo(b)fluoranthene	0.34	0.05	0.38	0	89.5	71.192	103.368	0			
Benzo(k)fluoranthene	0.23	0.02	0.25	0	92.0	75.336	107.209	0			
Benzo(a)pyrene	0.23	0.02	0.251	0	91.6	74.556	100.742	0			
Dibenz(a,h)anthracene	0.47	0.04	0.501	0.03	87.8	80.693	106.931	0			
Benzo(g,h,i)perylene	0.45	0.03	0.5	0	90.0	55.168	135.014	0			
Indeno(1,2,3-cd)pyrene	0.847	0.08	1.002	0	84.5	79.328	104.794	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank
3

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining

Work Order: 0411032

Project: MW #48 - Water

Sample ID	LCSD-6812	Batch ID: 6812	Test Code: SW8310	Units: µg/L	Analysis Date	11/12/2004 2:04:54 PM	Prep Date	11/8/2004			
Client ID:			Run ID:	HUGO_041112A	SeqNo:	320129					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	28.7	2.5	40	0	71.8	20.939	111.211	26.51	7.93	32.1	
1-Methylnaphthalene	30.87	2.5	40.1	0	77.0	22.016	110.385	29.13	5.80	32.7	
2-Methylnaphthalene	31.61	2.5	40	0	79.0	21.098	111.261	28.77	9.41	34	
Acenaphthylene	32.12	2.5	40.1	0	80.1	23.862	116.957	28.66	11.4	38.8	
Acenaphthene	33.5	2.5	40	0	83.8	27.524	111.73	30.19	10.4	38.6	
Fluorene	3.25	0.8	4.01	0	81.0	31.046	113.32	2.96	9.34	39.3	
Phenanthrene	1.94	0.6	2.01	0	96.5	42.279	115.749	1.71	12.6	25	
Anthracene	1.83	0.6	2.01	0	91.0	43.767	118.693	1.65	10.3	23.9	
Fluoranthene	3.82	0.3	4.01	0	95.3	55.334	117.461	3.4	11.6	15.7	
Pyrene	4.02	0.3	4.01	0	100	57.722	120.832	3.55	12.4	15.3	
Benz(a)anthracene	0.39	0.02	0.401	0	97.3	70.18	113.452	0.35	10.8	119	
Chrysene	1.94	0.2	2.01	0	96.5	43.942	141.404	1.73	11.4	16.6	
Benzo(b)fluoranthene	0.37	0.05	0.38	0	97.4	71.192	103.368	0.34	8.45	21.7	
Benzo(k)fluoranthene	0.24	0.02	0.25	0	96.0	75.336	107.209	0.23	4.26	19.4	
Benzo(a)pyrene	0.25	0.02	0.251	0	99.6	74.556	100.742	0.23	8.33	16.7	
Dibenz(a,h)anthracene	0.5	0.04	0.501	0.03	93.8	80.693	106.931	0.47	6.19	17.3	
Benzo(g,h,i)perylene	0.49	0.03	0.5	0	98.0	55.168	135.014	0.45	8.51	118	
Indeno(1,2,3-cd)pyrene	0.876	0.08	1.002	0	87.4	79.328	104.794	0.847	3.37	17.7	

Sample ID	LCS-6788	Batch ID: 6788	Test Code: SW7470	Units: mg/L	Analysis Date	11/3/2004	Prep Date	11/3/2004			
Client ID:			Run ID: MI-LA254_041103A		SeqNo:	317317					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005238	0.0002	0.005	0	105	75.2	134	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining

Work Order: 0411032

Project: MW #48 - Water

Sample ID	LCSD-6788	Batch ID: 6788	Test Code: SW7470	Units: mg/L	Analysis Date	11/3/2004	Prep Date	11/3/2004				
Client ID:		Run ID: MI-LA254_041103A			SeqNo:	317330						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.005238	0.0002	0.005	0	105	75.2	134	0.005238	0	0	0

Sample ID	LCS	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/10/2004 2:31:01 PM	Prep Date				
Client ID:		Run ID:	ICP_041110B		SeqNo:	319299					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4881	0.02	0.5	0	97.6	80	120	0			
Barium	0.4859	0.002	0.5	0	97.2	80	120	0			
Cadmium	0.4988	0.002	0.5	0	99.8	80	120	0			
Chromium	0.4886	0.006	0.5	0	97.7	80	120	0			
Copper	0.482	0.006	0.5	0	96.4	80	120	0			
Iron	0.5185	0.02	0.5	0	104	80	120	0			
Lead	0.4989	0.005	0.5	0	99.4	80	120	0			
Manganese	0.4972	0.002	0.5	0	99.4	80	120	0			
Selenium	0.4652	0.05	0.5	0	93.0	80	120	0			
Silver	0.5064	0.005	0.5	0	101	80	120	0			
Uranium	4.804	0.1	5	0	98.1	80	120	0			
Zinc	0.4785	0.005	0.5	0	95.7	80	120	0			

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	5

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

Sample ID	LCSD	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/10/2004 2:33:34 PM	Prep Date				
Client ID:		Run ID:	ICP_041110B		SeqNo:	319300					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5001	0.02	0.5	0	100	80	120	0.4881	2.42	20	
Barium	0.4954	0.002	0.5	0	99.1	80	120	0.4859	1.95	20	
Cadmium	0.5109	0.002	0.5	0	102	80	120	0.4988	2.39	20	
Chromium	0.5026	0.006	0.5	0	101	80	120	0.4886	2.83	20	
Copper	0.4911	0.006	0.5	0	98.2	80	120	0.482	1.87	20	
Iron	0.5246	0.02	0.5	0	105	80	120	0.5185	1.16	20	
Lead	0.5083	0.005	0.5	0	102	80	120	0.4969	2.28	20	
Manganese	0.5008	0.002	0.5	0	100	80	120	0.4972	0.715	20	
Selenium	0.4814	0.05	0.5	0	96.3	80	120	0.4652	3.43	20	
Silver	0.5037	0.005	0.5	0	101	80	120	0.5064	0.531	20	
Uranium	4.912	0.1	5	0	98.2	80	120	4.904	0.171	20	
Zinc	0.4904	0.005	0.5	0	98.1	80	120	0.4785	2.45	20	

Sample ID	LCS	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/11/2004 9:58:37 AM	Prep Date				
Client ID:		Run ID: ICP_041110B			SeqNo: 319468						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4805	0.02	0.5	0	96.1	80	120	0			

Sample ID	LCSD	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/11/2004 12:00:43 A	Prep Date				
Client ID:		Run ID: ICP_041110B			SeqNo: 319469						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5024	0.02	0.5	0	100	80	120	0.4805	4.44	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining

Work Order: 0411032

Project: MW #48 - Water

Sample ID LCS-6796 Batch ID: 6796 Test Code: SW6010A Units: mg/L Analysis Date 11/5/2004 9:11:41 AM Prep Date 11/4/2004

Client ID: Run ID: ICP_041105A SeqNo: 317908

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4951	0.02	0.5	0	99.0	80	120	0			
Barium	0.4857	0.02	0.5	0	97.1	80	120	0			
Cadmium	0.4953	0.002	0.5	0.0006448	98.9	80	120	0			
Calcium	47.73	1	50	0	95.5	80	120	0			
Chromium	0.4915	0.006	0.5	0	98.3	80	120	0			
Iron	0.4884	0.05	0.5	0	97.7	80	120	0			
Lead	0.4985	0.005	0.5	0	99.3	80	120	0			
Magnesium	48.35	1	50	0	96.7	80	120	0			
Manganese	0.4811	0.002	0.5	0	96.2	80	120	0			
Potassium	51.1	1	50	0	102	80	120	0			
Selenium	0.4682	0.05	0.5	0	93.6	80	120	0			
Silver	0.5536	0.005	0.5	0.007271	109	80	120	0			
Sodium	54.62	1	50	0	109	80	120	0			
Uranium	4.649	0.1	5	0	93.0	80	120	0			
Zinc	0.4739	0.05	0.5	0	94.8	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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R - RPD outside accepted recovery limits

J - Analyte detected below quantitation limits

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - Water

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-6796	Batch ID: 6796	Test Code: SW5010A	Units: mg/L	Analysis Date	11/5/2004 9:14:14 AM	Prep Date	11/4/2004			
Client ID:			Run ID: ICP_041105A		SeqNo:	317909					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5078	0.02	0.5	0	102	80	120	0.4951	2.55	20	
Barium	0.4894	0.02	0.5	0	97.9	80	120	0.4857	0.761	20	
Cadmium	0.4967	0.002	0.5	0.0006448	99.2	80	120	0.4953	0.294	20	
Calcium	48.21	1	50	0	96.4	80	120	47.73	0.996	20	
Chromium	0.4937	0.006	0.5	0	98.7	80	120	0.4915	0.442	20	
Iron	0.4794	0.05	0.5	0	95.9	80	120	0.4884	1.87	20	
Lead	0.4987	0.005	0.5	0	99.7	80	120	0.4965	0.431	20	
Magnesium	48.56	1	50	0	97.1	80	120	48.35	0.432	20	
Manganese	0.4832	0.002	0.5	0	96.6	80	120	0.4811	0.437	20	
Potassium	51.37	1	50	0	103	80	120	51.1	0.527	20	
Selenium	0.4727	0.05	0.5	0	94.5	80	120	0.4682	0.954	20	
Silver	0.5457	0.005	0.5	0.007271	108	80	120	0.5536	1.44	20	
Sodium	54.83	1	50	0	110	80	120	54.62	0.377	20	
Uranium	4.683	0.1	5	0	93.7	80	120	4.649	0.731	20	
Zinc	0.479	0.05	0.5	0	95.8	80	120	0.4739	1.07	20	

Sample ID	LCS-6786	Batch ID: 6786	Test Code: E160.1	Units: mg/L	Analysis Date	11/4/2004	Prep Date	11/3/2004			
Client ID:			Run ID: WC_041104B		SeqNo:	317666					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1024	50	1000	0	102	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

11/2/2004

Work Order Number 0411032

Received by AT

Checklist completed by

[Signature]

Date

11/2/04

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☒	N/A ☐	
Chain of custody present?	Yes ☒	No ☐		
Chain of custody signed when relinquished and received?	Yes ☒	No ☐		
Chain of custody agrees with sample labels?	Yes ☒	No ☐		
Samples in proper container/bottle?	Yes ☒	No ☐		
Sample containers intact?	Yes ☒	No ☐		
Sufficient sample volume for indicated test?	Yes ☒	No ☐		
All samples received within holding time?	Yes ☒	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒	

Container/Temp Blank temperature?

1°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

COVER LETTER

November 17, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: MW #48 - Water

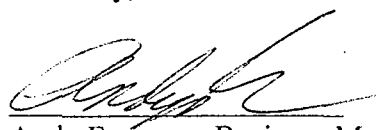
Order No.: 0411032

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 sample on 11/2/2004 for the analyses presented in the following report.

This report is an addendum to the report dated November 16, 2004. Additional metals have been added to this report. Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411032
Project: MW #48 - Water
Lab ID: 0411032-01

Client Sample ID: MW #48
Collection Date: 11/1/2004 10:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.54	0.10		mg/L	1	11/2/2004 7:20:06 PM
Chloride	120	1.0		mg/L	10	11/3/2004 5:09:05 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/2/2004 7:20:06 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/2/2004 7:20:06 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/2/2004 7:20:06 PM
Sulfate	250	5.0		mg/L	10	11/3/2004 5:09:05 PM
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	1.5	1.0		mg/L	1	11/4/2004 11:17:56 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 11:17:56 PM
Surr: DNOP	125	58-140		%REC	1	11/4/2004 11:17:56 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	51	10		mg/L	200	11/4/2004 11:02:23 AM
Surr: BFB	110	74-118		%REC	200	11/4/2004 11:02:23 AM
EPA METHOD 8260B: VOLATILES						
						Analyst: KTM
Benzene	890	100		µg/L	100	11/3/2004
Toluene	ND	100		µg/L	100	11/3/2004
Ethylbenzene	3700	100		µg/L	100	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	100	11/3/2004
1,2,4-Trimethylbenzene	7300	100		µg/L	100	11/3/2004
1,3,5-Trimethylbenzene	2000	100		µg/L	100	11/3/2004
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	11/3/2004
1,2-Dibromoethane (EDB)	ND	100		µg/L	100	11/3/2004
Naphthalene	1300	200		µg/L	100	11/3/2004
1-Methylnaphthalene	ND	400		µg/L	100	11/3/2004
2-Methylnaphthalene	560	400		µg/L	100	11/3/2004
Acetone	ND	1000		µg/L	100	11/3/2004
Bromobenzene	ND	100		µg/L	100	11/3/2004
Bromochloromethane	ND	100		µg/L	100	11/3/2004
Bromodichloromethane	ND	100		µg/L	100	11/3/2004
Bromoform	ND	100		µg/L	100	11/3/2004
Bromomethane	ND	200		µg/L	100	11/3/2004
2-Butanone	ND	1000		µg/L	100	11/3/2004
Carbon disulfide	ND	1000		µg/L	100	11/3/2004
Carbon Tetrachloride	ND	100		µg/L	100	11/3/2004
Chlorobenzene	ND	100		µg/L	100	11/3/2004
Chloroethane	ND	200		µg/L	100	11/3/2004
Chloroform	ND	100		µg/L	100	11/3/2004
Chloromethane	ND	100		µg/L	100	11/3/2004
2-Chlorotoluene	ND	100		µg/L	100	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411032
Project: MW #48 - Water
Lab ID: 0411032-01

Client Sample ID: MW #48
Collection Date: 11/1/2004 10:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
4-Chlorotoluene	ND	100		µg/L	100	11/3/2004
cis-1,2-DCE	ND	100		µg/L	100	11/3/2004
cis-1,3-Dichloropropene	ND	100		µg/L	100	11/3/2004
1,2-Dibromo-3-chloropropane	ND	200		µg/L	100	11/3/2004
Dibromochloromethane	ND	100		µg/L	100	11/3/2004
Dibromomethane	ND	200		µg/L	100	11/3/2004
1,2-Dichlorobenzene	ND	100		µg/L	100	11/3/2004
1,3-Dichlorobenzene	ND	100		µg/L	100	11/3/2004
1,4-Dichlorobenzene	ND	100		µg/L	100	11/3/2004
Dichlorodifluoromethane	ND	100		µg/L	100	11/3/2004
1,1-Dichloroethane	ND	100		µg/L	100	11/3/2004
1,1-Dichloroethene	ND	100		µg/L	100	11/3/2004
1,2-Dichloropropane	ND	100		µg/L	100	11/3/2004
1,3-Dichloropropane	ND	100		µg/L	100	11/3/2004
2,2-Dichloropropane	ND	100		µg/L	100	11/3/2004
1,1-Dichloropropene	ND	100		µg/L	100	11/3/2004
Hexachlorobutadiene	ND	100		µg/L	100	11/3/2004
2-Hexanone	ND	1000		µg/L	100	11/3/2004
Isopropylbenzene	270	100		µg/L	100	11/3/2004
4-Isopropyltoluene	ND	100		µg/L	100	11/3/2004
4-Methyl-2-pentanone	ND	1000		µg/L	100	11/3/2004
Methylene Chloride	ND	300		µg/L	100	11/3/2004
n-Butylbenzene	ND	100		µg/L	100	11/3/2004
n-Propylbenzene	700	100		µg/L	100	11/3/2004
sec-Butylbenzene	ND	100		µg/L	100	11/3/2004
Styrene	ND	100		µg/L	100	11/3/2004
tert-Butylbenzene	ND	100		µg/L	100	11/3/2004
1,1,1,2-Tetrachloroethane	ND	100		µg/L	100	11/3/2004
1,1,2,2-Tetrachloroethane	ND	100		µg/L	100	11/3/2004
Tetrachloroethene (PCE)	ND	100		µg/L	100	11/3/2004
trans-1,2-DCE	ND	100		µg/L	100	11/3/2004
trans-1,3-Dichloropropene	ND	100		µg/L	100	11/3/2004
1,2,3-Trichlorobenzene	ND	100		µg/L	100	11/3/2004
1,2,4-Trichlorobenzene	ND	100		µg/L	100	11/3/2004
1,1,1-Trichloroethane	ND	100		µg/L	100	11/3/2004
1,1,2-Trichloroethane	ND	100		µg/L	100	11/3/2004
Trichloroethene (TCE)	ND	100		µg/L	100	11/3/2004
Trichlorofluoromethane	ND	100		µg/L	100	11/3/2004
1,2,3-Trichloropropane	ND	200		µg/L	100	11/3/2004
Vinyl chloride	ND	100		µg/L	100	11/3/2004
Xylenes, Total	24000	250		µg/L	250	11/4/2004
Surr: 1,2-Dichloroethane-d4	98.8	70.6-124		%REC	100	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411032
Project: MW #48 - Water
Lab ID: 0411032-01

Client Sample ID: MW #48
Collection Date: 11/1/2004 10:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Surr: 4-Bromofluorobenzene	103	76.4-130		%REC	100	11/3/2004
Surr: Dibromofluoromethane	92.3	67.2-131		%REC	100	11/3/2004
Surr: Toluene-d8	108	82.1-123		%REC	100	11/3/2004

EPA METHOD 8310: PAHS

Analyst: BL

Naphthalene	560	25		µg/L	10	11/15/2004 4:01:02 PM
1-Methylnaphthalene	160	2.5		µg/L	1	11/12/2004 2:52:53 PM
2-Methylnaphthalene	250	25		µg/L	10	11/15/2004 4:01:02 PM
Acenaphthylene	ND	2.5		µg/L	1	11/12/2004 2:52:53 PM
Acenaphthene	ND	2.5		µg/L	1	11/12/2004 2:52:53 PM
Fluorene	1.0	0.80		µg/L	1	11/12/2004 2:52:53 PM
Phenanthrene	5.9	0.60		µg/L	1	11/12/2004 2:52:53 PM
Anthracene	ND	0.60		µg/L	1	11/12/2004 2:52:53 PM
Fluoranthene	ND	0.30		µg/L	1	11/12/2004 2:52:53 PM
Pyrene	ND	0.30		µg/L	1	11/12/2004 2:52:53 PM
Benz(a)anthracene	ND	0.020		µg/L	1	11/12/2004 2:52:53 PM
Chrysene	ND	0.20		µg/L	1	11/12/2004 2:52:53 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	11/12/2004 2:52:53 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	11/12/2004 2:52:53 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	11/12/2004 2:52:53 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	11/12/2004 2:52:53 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	11/12/2004 2:52:53 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/12/2004 2:52:53 PM
Surr: Benzo(e)pyrene	95.8	54-102		%REC	1	11/12/2004 2:52:53 PM

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: MAP

Specific Conductance	2700	0.010		µmhos/cm	1	11/4/2004
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EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury	ND	0.00020		mg/L	1	11/3/2004
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EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020		mg/L	1	11/11/2004 10:07:01 AM
Barium	0.21	0.0020		mg/L	1	11/10/2004 3:52:19 PM
Cadmium	ND	0.0020		mg/L	1	11/10/2004 3:52:19 PM
Calcium	110	1.0		mg/L	1	11/10/2004 3:52:19 PM
Chromium	ND	0.0060		mg/L	1	11/10/2004 3:52:19 PM
Copper	ND	0.0060		mg/L	1	11/10/2004 3:52:19 PM
Iron	0.16	0.020		mg/L	1	11/10/2004 3:52:19 PM
Lead	0.014	0.0050		mg/L	1	11/10/2004 3:52:19 PM
Magnesium	23	1.0		mg/L	1	11/10/2004 3:52:19 PM
Manganese	0.55	0.0020		mg/L	1	11/10/2004 3:52:19 PM
Potassium	6.9	1.0		mg/L	1	11/10/2004 3:52:19 PM
Selenium	ND	0.050		mg/L	1	11/10/2004 3:52:19 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411032
Project: MW #48 - Water
Lab ID: 0411032-01

Client Sample ID: MW #48
Collection Date: 11/1/2004 10:00:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Silver	ND	0.0050		mg/L	1	11/10/2004 3:52:19 PM
Sodium	420	10		mg/L	10	11/16/2004 3:04:30 PM
Uranium	ND	0.10		mg/L	1	11/10/2004 3:52:19 PM
Zinc	0.026	0.0050		mg/L	1	11/10/2004 3:52:19 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/5/2004 9:24:41 AM
Barium	0.32	0.020		mg/L	1	11/5/2004 9:24:41 AM
Cadmium	ND	0.0020		mg/L	1	11/5/2004 9:24:41 AM
Calcium	130	1.0		mg/L	1	11/5/2004 9:24:41 AM
Chromium	0.0092	0.0060		mg/L	1	11/5/2004 9:24:41 AM
Copper	ND	0.0060		mg/L	1	11/16/2004 3:20:38 PM
Iron	19	0.50		mg/L	10	11/5/2004 10:45:03 AM
Lead	0.023	0.0050		mg/L	1	11/5/2004 9:24:41 AM
Magnesium	22	1.0		mg/L	1	11/5/2004 9:24:41 AM
Manganese	2.4	0.0020		mg/L	1	11/5/2004 9:24:41 AM
Potassium	6.9	1.0		mg/L	1	11/5/2004 9:24:41 AM
Selenium	ND	0.050		mg/L	1	11/5/2004 9:24:41 AM
Silver	ND	0.0050		mg/L	1	11/5/2004 9:24:41 AM
Sodium	400	10		mg/L	10	11/5/2004 10:45:03 AM
Uranium	ND	0.10		mg/L	1	11/5/2004 9:24:41 AM
Zinc	0.056	0.050		mg/L	1	11/5/2004 9:24:41 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	7.88	0.010		pH units	1	11/15/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1500	50		mg/L	1	11/4/2004

Qualifiers: ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

COVER LETTER

November 05, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: MW#48 - Soil

Order No.: 0410290

Dear Cindy Hurtado:

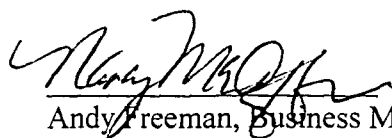
Hall Environmental Analysis Laboratory received 3 samples on 10/29/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining
Lab Order: 0410290
Project: MW#48 - Soil
Lab ID: 0410290-01

Client Sample ID: MW#48-5'-6.5'
Collection Date: 10/28/2004 2:30:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	140	10		mg/Kg	1	11/3/2004 2:33:18 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/3/2004 2:33:18 PM
Surr: DNOP	105	60-124		%REC	1	11/3/2004 2:33:18 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1500	250		mg/Kg	50	11/3/2004 3:40:52 PM
Surr: BFB	112	74-118		%REC	50	11/3/2004 3:40:52 PM
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	1.0		mg/Kg	20	11/3/2004
Toluene	ND	1.0		mg/Kg	20	11/3/2004
Ethylbenzene	6.9	1.0		mg/Kg	20	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	1.0		mg/Kg	20	11/3/2004
1,2,4-Trimethylbenzene	85	1.0		mg/Kg	20	11/3/2004
1,3,5-Trimethylbenzene	30	1.0		mg/Kg	20	11/3/2004
1,2-Dichloroethane (EDC)	ND	1.0		mg/Kg	20	11/3/2004
1,2-Dibromoethane (EDB)	ND	1.0		mg/Kg	20	11/3/2004
Naphthalene	14	2.0		mg/Kg	20	11/3/2004
1-Methylnaphthalene	10	4.0		mg/Kg	20	11/3/2004
2-Methylnaphthalene	18	4.0		mg/Kg	20	11/3/2004
Acetone	ND	40		mg/Kg	20	11/3/2004
Bromobenzene	ND	1.0		mg/Kg	20	11/3/2004
Bromochloromethane	ND	1.0		mg/Kg	20	11/3/2004
Bromodichloromethane	ND	1.0		mg/Kg	20	11/3/2004
Bromoform	ND	1.0		mg/Kg	20	11/3/2004
Bromomethane	ND	2.0		mg/Kg	20	11/3/2004
2-Butanone	ND	20		mg/Kg	20	11/3/2004
Carbon disulfide	ND	10		mg/Kg	20	11/3/2004
Carbon tetrachloride	ND	2.0		mg/Kg	20	11/3/2004
Chlorobenzene	ND	1.0		mg/Kg	20	11/3/2004
Chloroethane	ND	2.0		mg/Kg	20	11/3/2004
Chloroform	ND	1.0		mg/Kg	20	11/3/2004
Chloromethane	ND	1.0		mg/Kg	20	11/3/2004
2-Chlorotoluene	ND	1.0		mg/Kg	20	11/3/2004
4-Chlorotoluene	ND	1.0		mg/Kg	20	11/3/2004
cis-1,2-DCE	ND	1.0		mg/Kg	20	11/3/2004
cis-1,3-Dichloropropene	ND	1.0		mg/Kg	20	11/3/2004
1,2-Dibromo-3-chloropropane	ND	2.0		mg/Kg	20	11/3/2004
Dibromochloromethane	ND	1.0		mg/Kg	20	11/3/2004
Dibromomethane	ND	2.0		mg/Kg	20	11/3/2004
1,2-Dichlorobenzene	ND	1.0		mg/Kg	20	11/3/2004
1,3-Dichlorobenzene	ND	1.0		mg/Kg	20	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining
Lab Order: 0410290
Project: MW#48 - Soil
Lab ID: 0410290-01

Client Sample ID: MW#48-5'-6.5'
Collection Date: 10/28/2004 2:30:00 PM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	1.0		mg/Kg	20	11/3/2004
Dichlorodifluoromethane	ND	1.0		mg/Kg	20	11/3/2004
1,1-Dichloroethane	ND	1.0		mg/Kg	20	11/3/2004
1,1-Dichloroethene	ND	1.0		mg/Kg	20	11/3/2004
1,2-Dichloropropane	ND	1.0		mg/Kg	20	11/3/2004
1,3-Dichloropropane	ND	1.0		mg/Kg	20	11/3/2004
2,2-Dichloropropane	ND	1.0		mg/Kg	20	11/3/2004
1,1-Dichloropropene	ND	1.0		mg/Kg	20	11/3/2004
Hexachlorobutadiene	ND	1.0		mg/Kg	20	11/3/2004
2-Hexanone	ND	10		mg/Kg	20	11/3/2004
Isopropylbenzene	1.1	1.0		mg/Kg	20	11/3/2004
4-Isopropyltoluene	1.4	1.0		mg/Kg	20	11/3/2004
4-Methyl-2-pentanone	ND	10		mg/Kg	20	11/3/2004
Methylene chloride	ND	3.0		mg/Kg	20	11/3/2004
n-Butylbenzene	32	1.0		mg/Kg	20	11/3/2004
n-Propylbenzene	5.9	1.0		mg/Kg	20	11/3/2004
sec-Butylbenzene	2.0	1.0		mg/Kg	20	11/3/2004
Styrene	ND	1.0		mg/Kg	20	11/3/2004
tert-Butylbenzene	ND	1.0		mg/Kg	20	11/3/2004
1,1,1,2-Tetrachloroethane	ND	1.0		mg/Kg	20	11/3/2004
1,1,2,2-Tetrachloroethane	ND	1.0		mg/Kg	20	11/3/2004
Tetrachloroethene (PCE)	ND	1.0		mg/Kg	20	11/3/2004
trans-1,2-DCE	ND	1.0		mg/Kg	20	11/3/2004
trans-1,3-Dichloropropene	ND	1.0		mg/Kg	20	11/3/2004
1,2,3-Trichlorobenzene	ND	1.0		mg/Kg	20	11/3/2004
1,2,4-Trichlorobenzene	ND	1.0		mg/Kg	20	11/3/2004
1,1,1-Trichloroethane	ND	1.0		mg/Kg	20	11/3/2004
1,1,2-Trichloroethane	ND	1.0		mg/Kg	20	11/3/2004
Trichloroethene (TCE)	ND	1.0		mg/Kg	20	11/3/2004
Trichlorofluoromethane	ND	1.0		mg/Kg	20	11/3/2004
1,2,3-Trichloropropane	ND	2.0		mg/Kg	20	11/3/2004
Vinyl chloride	ND	1.0		mg/Kg	20	11/3/2004
Xylenes, Total	110	1.0		mg/Kg	20	11/3/2004
Surr: 1,2-Dichloroethane-d4	100	68.4-123		%REC	20	11/3/2004
Surr: 4-Bromofluorobenzene	100	70-119		%REC	20	11/3/2004
Surr: Dibromofluoromethane	99.1	76.8-123		%REC	20	11/3/2004
Surr: Toluene-d8	98.2	75.9-118		%REC	20	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining
Lab Order: 0410290
Project: MW#48 - Soil
Lab ID: 0410290-02

Client Sample ID: MW#48-10-11.5'
Collection Date: 10/28/2004 2:30:00 PM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/3/2004 3:02:55 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/3/2004 3:02:55 PM
Surr: DNOP	107	60-124		%REC	1	11/3/2004 3:02:55 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	55	10		mg/Kg	2	11/3/2004 4:10:41 PM
Surr: BFB	112	74-118		%REC	2	11/3/2004 4:10:41 PM
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.050		mg/Kg	1	11/3/2004
Toluene	ND	0.050		mg/Kg	1	11/3/2004
Ethylbenzene	0.70	0.050		mg/Kg	1	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/3/2004
1,2,4-Trimethylbenzene	2.6	0.050		mg/Kg	1	11/3/2004
1,3,5-Trimethylbenzene	0.75	0.050		mg/Kg	1	11/3/2004
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/3/2004
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/3/2004
Naphthalene	0.24	0.10		mg/Kg	1	11/3/2004
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/3/2004
2-Methylnaphthalene	0.27	0.20		mg/Kg	1	11/3/2004
Acetone	ND	2.0		mg/Kg	1	11/3/2004
Bromobenzene	ND	0.050		mg/Kg	1	11/3/2004
Bromochloromethane	ND	0.050		mg/Kg	1	11/3/2004
Bromodichloromethane	ND	0.050		mg/Kg	1	11/3/2004
Bromoform	ND	0.050		mg/Kg	1	11/3/2004
Bromomethane	ND	0.10		mg/Kg	1	11/3/2004
2-Butanone	ND	1.0		mg/Kg	1	11/3/2004
Carbon disulfide	ND	0.50		mg/Kg	1	11/3/2004
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/3/2004
Chlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
Chloroethane	ND	0.10		mg/Kg	1	11/3/2004
Chloroform	ND	0.050		mg/Kg	1	11/3/2004
Chloromethane	ND	0.050		mg/Kg	1	11/3/2004
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/3/2004
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/3/2004
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/3/2004
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/3/2004
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/3/2004
Dibromochloromethane	ND	0.050		mg/Kg	1	11/3/2004
Dibromomethane	ND	0.10		mg/Kg	1	11/3/2004
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining

Client Sample ID: MW#48-10-11.5'

Lab Order: 0410290

Collection Date: 10/28/2004 2:30:00 PM

Project: MW#48 - Soil

Lab ID: 0410290-02

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/3/2004
1,1-Dichloroethane	ND	0.050		mg/Kg	1	11/3/2004
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/3/2004
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/3/2004
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/3/2004
2,2-Dichloropropane	ND	0.050		mg/Kg	1	11/3/2004
1,1-Dichloropropene	ND	0.050		mg/Kg	1	11/3/2004
Hexachlorobutadiene	ND	0.050		mg/Kg	1	11/3/2004
2-Hexanone	ND	0.50		mg/Kg	1	11/3/2004
Isopropylbenzene	0.089	0.050		mg/Kg	1	11/3/2004
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/3/2004
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/3/2004
Methylene chloride	ND	0.15		mg/Kg	1	11/3/2004
n-Butylbenzene	0.74	0.050		mg/Kg	1	11/3/2004
n-Propylbenzene	0.41	0.050		mg/Kg	1	11/3/2004
sec-Butylbenzene	0.079	0.050		mg/Kg	1	11/3/2004
Styrene	ND	0.050		mg/Kg	1	11/3/2004
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/3/2004
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/3/2004
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/3/2004
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/3/2004
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/3/2004
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/3/2004
1,2,3-Trichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/3/2004
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/3/2004
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/3/2004
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/3/2004
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/3/2004
Vinyl chloride	ND	0.050		mg/Kg	1	11/3/2004
Xylenes, Total	4.5	0.050		mg/Kg	1	11/3/2004
Surr: 1,2-Dichloroethane-d4	96.1	68.4-123		%REC	1	11/3/2004
Surr: 4-Bromofluorobenzene	105	70-119		%REC	1	11/3/2004
Surr: Dibromofluoromethane	101	76.8-123		%REC	1	11/3/2004
Surr: Toluene-d8	98.0	75.9-118		%REC	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining
Lab Order: 0410290
Project: MW#48 - Soil
Lab ID: 0410290-03

Client Sample ID: MW#48-Total Depth
Collection Date: 10/28/2004 2:30:00 PM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/3/2004 3:32:32 PM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/3/2004 3:32:32 PM
Surr: DNOP	106	60-124		%REC	1	11/3/2004 3:32:32 PM
EPA METHOD 8015B: GASOLINE RANGE						
Gasoline Range Organics (GRO)	20	5.0		mg/Kg	1	11/3/2004 4:40:27 PM
Surr: BFB	114	74-118		%REC	1	11/3/2004 4:40:27 PM
EPA METHOD 8260B: VOLATILES						
Benzene	ND	0.050		mg/Kg	1	11/3/2004
Toluene	ND	0.050		mg/Kg	1	11/3/2004
Ethylbenzene	0.12	0.050		mg/Kg	1	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/3/2004
1,2,4-Trimethylbenzene	1.1	0.050		mg/Kg	1	11/3/2004
1,3,5-Trimethylbenzene	0.30	0.050		mg/Kg	1	11/3/2004
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/3/2004
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/3/2004
Naphthalene	0.16	0.10		mg/Kg	1	11/3/2004
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/3/2004
2-Methylnaphthalene	0.20	0.20		mg/Kg	1	11/3/2004
Acetone	ND	2.0		mg/Kg	1	11/3/2004
Bromobenzene	ND	0.050		mg/Kg	1	11/3/2004
Bromochloromethane	ND	0.050		mg/Kg	1	11/3/2004
Bromodichloromethane	ND	0.050		mg/Kg	1	11/3/2004
Bromoform	ND	0.050		mg/Kg	1	11/3/2004
Bromomethane	ND	0.10		mg/Kg	1	11/3/2004
2-Butanone	ND	1.0		mg/Kg	1	11/3/2004
Carbon disulfide	ND	0.50		mg/Kg	1	11/3/2004
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/3/2004
Chlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
Chloroethane	ND	0.10		mg/Kg	1	11/3/2004
Chloroform	ND	0.050		mg/Kg	1	11/3/2004
Chloromethane	ND	0.050		mg/Kg	1	11/3/2004
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/3/2004
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/3/2004
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/3/2004
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/3/2004
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/3/2004
Dibromochloromethane	ND	0.050		mg/Kg	1	11/3/2004
Dibromomethane	ND	0.10		mg/Kg	1	11/3/2004
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining
Lab Order: 0410290
Project: MW#48 - Soil
Lab ID: 0410290-03

Client Sample ID: MW#48-Total Depth
Collection Date: 10/28/2004 2:30:00 PM
Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/3/2004
1,1-Dichloroethane	ND	0.050		mg/Kg	1	11/3/2004
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/3/2004
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/3/2004
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/3/2004
2,2-Dichloropropane	ND	0.050		mg/Kg	1	11/3/2004
1,1-Dichloropropene	ND	0.050		mg/Kg	1	11/3/2004
Hexachlorobutadiene	ND	0.050		mg/Kg	1	11/3/2004
2-Hexanone	ND	0.50		mg/Kg	1	11/3/2004
Isopropylbenzene	ND	0.050		mg/Kg	1	11/3/2004
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/3/2004
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/3/2004
Methylene chloride	ND	0.15		mg/Kg	1	11/3/2004
n-Butylbenzene	0.43	0.050		mg/Kg	1	11/3/2004
n-Propylbenzene	0.12	0.050		mg/Kg	1	11/3/2004
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/3/2004
Styrene	ND	0.050		mg/Kg	1	11/3/2004
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/3/2004
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/3/2004
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/3/2004
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/3/2004
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/3/2004
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/3/2004
1,2,3-Trichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/3/2004
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/3/2004
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/3/2004
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/3/2004
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/3/2004
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/3/2004
Vinyl chloride	ND	0.050		mg/Kg	1	11/3/2004
Xylenes, Total	0.78	0.050		mg/Kg	1	11/3/2004
Surr: 1,2-Dichloroethane-d4	97.7	68.4-123		%REC	1	11/3/2004
Surr: 4-Bromofluorobenzene	102	70-119		%REC	1	11/3/2004
Surr: Dibromofluoromethane	101	76.8-123		%REC	1	11/3/2004
Surr: Toluene-d8	98.7	75.9-118		%REC	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining

Work Order: 0410290

Project: MW#48 - Soil

QC SUMMARY REPORT

Method Blank

Sample ID	MB-6782	Batch ID: 6782	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 11:34:52 AM	Prep Date	11/2/2004			
Client ID:		Run ID:	FID(17A) 2_041102A		SeqNo:	317279					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	6.631	0	10	0	66.3	60	124	0			

Sample ID	MB-6768	Batch ID: 6768	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 2:41:12 PM	Prep Date	11/1/2004			
Client ID:		Run ID:	PIDFID_041103A		SeqNo:	317530					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics (GRO)	ND	5									
Surr: BFB	1040	0	1000	0	104	74	118	0			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

/

CLIENT: San Juan Refining

Work Order: 0410290

Project: MW#48 - Soil

QC SUMMARY REPORT

Method Blank

Sample ID	MB-6768	Batch ID: 6768	Test Code: SW8260B	Units: mg/Kg	Analysis Date	11/3/2004	Prep Date	11/1/2004			
Client ID:			Run ID: THOR_041102A		SeqNo:	317252					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.05									
Toluene	ND	0.05									
Ethylbenzene	ND	0.05									
Methyl tert-butyl ether (MTBE)	ND	0.05									
1,2,4-Trimethylbenzene	ND	0.05									
1,3,5-Trimethylbenzene	ND	0.05									
1,2-Dichloroethane (EDC)	ND	0.05									
1,2-Dibromoethane (EDB)	ND	0.05									
Naphthalene	ND	0.1									
1-Methylnaphthalene	ND	0.2									
2-Methylnaphthalene	ND	0.2									
Acetone	ND	2									
Bromobenzene	ND	0.05									
Bromochloromethane	ND	0.05									
Bromodichloromethane	ND	0.05									
Bromoform	ND	0.05									
Bromomethane	0.0309	0.1									
2-Butanone	ND	1									
Carbon disulfide	ND	0.5									
Carbon tetrachloride	ND	0.1									
Chlorobenzene	ND	0.05									
Chloroethane	ND	0.1									
Chloroform	ND	0.05									
Chloromethane	ND	0.05									
2-Chlorotoluene	ND	0.05									
4-Chlorotoluene	ND	0.05									
cis-1,2-DCE	ND	0.05									
cis-1,3-Dichloropropene	ND	0.05									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining

Work Order: 0410290

Project: MW#48 - Soil

1,2-Dibromo-3-chloropropane	ND	0.1
Dibromochloromethane	ND	0.05
Dibromomethane	ND	0.1
1,2-Dichlorobenzene	ND	0.05
1,3-Dichlorobenzene	ND	0.05
1,4-Dichlorobenzene	ND	0.05
Dichlorodifluoromethane	ND	0.05
1,1-Dichloroethane	ND	0.05
1,1-Dichloroethene	ND	0.05
1,2-Dichloropropane	ND	0.05
1,3-Dichloropropane	ND	0.05
2,2-Dichloropropane	ND	0.05
1,1-Dichloropropene	ND	0.05
Hexachlorobutadiene	ND	0.05
2-Hexanone	ND	0.5
Isopropylbenzene	ND	0.05
4-Isopropyltoluene	ND	0.05
4-Methyl-2-pentanone	ND	0.5
Methylene chloride	ND	0.15
n-Butylbenzene	ND	0.05
n-Propylbenzene	ND	0.05
sec-Butylbenzene	ND	0.05
Styrene	ND	0.05
tert-Butylbenzene	ND	0.05
1,1,1,2-Tetrachloroethane	ND	0.05
1,1,2,2-Tetrachloroethane	ND	0.05
Tetrachloroethene (PCE)	ND	0.05
trans-1,2-DCE	ND	0.05
trans-1,3-Dichloropropene	ND	0.05
1,2,3-Trichlorobenzene	ND	0.05
1,2,4-Trichlorobenzene	ND	0.05
1,1,1-Trichloroethane	ND	0.05
1,1,2-Trichloroethane	ND	0.05

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Work Order: 0410290

Project: MW#48 - Soil

Method Blank

Chemical	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)
Trichloroethene (TCE)	ND	0.05						
Trichlorofluoromethane	ND	0.05						
1,2,3-Trichloropropane	ND	0.1						
Vinyl chloride	ND	0.05						
Xylenes, Total	ND	0.05						
Surr: 1,2-Dichloroethane-d4	0.4405	0	0.5	0	88.1	68.4	123	0
Surr: 4-Bromofluorobenzene	0.4993	0	0.5	0	99.9	70	119	0
Surr: Dibromofluoromethane	0.5739	0	0.5	0	115	76.8	123	0
Surr: Toluene-d8	0.4458	0	0.5	0	89.2	75.9	118	0

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	4

Hall Environmental Analysis Laboratory

Date: 05-Nov-04

CLIENT: San Juan Refining

Work Order: 0410290

Project: MW#48 - Soil

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-6782	Batch ID: 6782	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 1:04:24 PM	Prep Date	11/2/2004			
Client ID:			Run ID: FID(17A) 2_041102A		SeqNo: 317287						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	44.02	10	50	0	88.0	67.4	117	0			
Sample ID	LCSD-6782	Batch ID: 6782	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 1:34:01 PM	Prep Date	11/2/2004			
Client ID:			Run ID: FID(17A) 2_041102A		SeqNo: 317288						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	43.06	10	50	0	86.1	67.4	117	44.02	2.20	17.4	
Sample ID	LCS-6768	Batch ID: 6768	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 3:10:58 PM	Prep Date	11/1/2004			
Client ID:			Run ID: PIDFID_041103A		SeqNo: 317532						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	28.15	5	25	0	113	73.8	120	0			
Sample ID	Ics-6768	Batch ID: 6768	Test Code: SW8260B	Units: mg/Kg	Analysis Date	11/3/2004	Prep Date	11/1/2004			
Client ID:			Run ID: THOR_041102A		SeqNo: 317253						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.013	0.05	1	0	101	75.3	121	0			
Toluene	0.9318	0.05	1	0	93.2	65.5	123	0			
Chlorobenzene	1.023	0.05	1	0	102	78.3	124	0			
1,1-Dichloroethene	1.117	0.05	1	0	112	72.5	125	0			
Trichloroethene (TCE)	0.8402	0.05	1	0	84.0	70.8	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
 Work Order: 0410290
 Project: MW#48 - Soil

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	Icsd-6768	Batch ID: 6768	Test Code: SW8260B	Units: mg/Kg	Analysis Date	11/3/2004	Prep Date	11/1/2004			
Client ID:			Run ID: THOR_041102A		SeqNo:	317254					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.009	0.05	1	0	101	65.6	124	1.013	0.366	20	
Toluene	0.931	0.05	1	0	93.1	78.1	117	0.9318	0.0859	20	
Chlorobenzene	0.998	0.05	1	0	99.8	80.7	119	1.023	2.51	20	
1,1-Dichloroethene	1.05	0.05	1	0	105	72.5	125	1.117	6.22	20	
Trichloroethene (TCE)	0.8786	0.05	1	0	87.9	74	125	0.8402	4.47	20	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

10/29/2004

Work Order Number 0410290

Received by AT

Checklist completed by



Signature

Date

10/29/04

Matrix

Carrier name UPS

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☒	No ☐	N/A ☐	
Chain of custody present?	Yes ☒	No ☐		
Chain of custody signed when relinquished and received?	Yes ☒	No ☐		
Chain of custody agrees with sample labels?	Yes ☒	No ☐		
Samples in proper container/bottle?	Yes ☒	No ☐		
Sample containers intact?	Yes ☒	No ☐		
Sufficient sample volume for indicated test?	Yes ☒	No ☐		
All samples received within holding time?	Yes ☒	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes ☐	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒	

Container/Temp Blank temperature?

3°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

NELAC ☐ USACE ☐

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

4901 Hawkins NE, Suite D

Albuquerque, New Mexico 87109

Tel. 505.345.3975 Fax 505.345.4107

www.hallenvironmental.com

CHAIN-OF-CUSTODY RECORD										Accreditation Applied. NELAC ☐ USACE ☐			
Client: San Juan Refinery										Other:			
Address: #50 CR 4990 Bloomfield, NM 87413										Project Name: MW #48-Soil			
Phone #: 505-632-4161 Fax #: 505-632-3911										Project #:			
Sample: Cindy Hurtado										Project Manager:			
Sample Temperature: 30										Sample Temperature:			
Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative H ₂ Cl ₂ HNO ₃			HEAL No.					
10-28-04	230p	Soil	MW#48-5'-6 1/2'	1-40g				0410296-1					
1	1	1	MW#48 10'-11 1/2'	1-40g				-2					
			MW#48 -Total Depth 1-40g					-3					
Date: 10-28-04	Time: 330p	Relinquished By: (Signature) Cindy Hurtado			Relinquished By: (Signature) [Signature]			Remarks: 10/28/04					
Date: 10-28-04	Time: 330p	Relinquished By: (Signature)			Relinquished By: (Signature)			Remarks: 10/28/04					

COVER LETTER

November 16, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: MW #49-Water

Order No.: 0411033

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 2 samples on 11/2/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.48	0.10		mg/L	1	11/2/2004 7:36:54 PM
Chloride	130	1.0		mg/L	10	11/3/2004 5:25:53 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/2/2004 7:36:54 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/2/2004 7:36:54 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/2/2004 7:36:54 PM
Sulfate	280	5.0		mg/L	10	11/3/2004 5:25:53 PM
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/4/2004 11:48:19 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 11:48:19 PM
Surr: DNOP	87.0	58-140		%REC	1	11/4/2004 11:48:19 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1.8	0.50		mg/L	10	11/4/2004 11:32:01 AM
Surr: BFB	110	74-118		%REC	10	11/4/2004 11:32:01 AM
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Benzene	ND	10		µg/L	10	11/3/2004
Toluene	ND	10		µg/L	10	11/3/2004
Ethylbenzene	15	10		µg/L	10	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	11/3/2004
1,2,4-Trimethylbenzene	370	10		µg/L	10	11/3/2004
1,3,5-Trimethylbenzene	72	10		µg/L	10	11/3/2004
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	11/3/2004
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	11/3/2004
Naphthalene	39	20		µg/L	10	11/3/2004
1-Methylnaphthalene	ND	40		µg/L	10	11/3/2004
2-Methylnaphthalene	ND	40		µg/L	10	11/3/2004
Acetone	ND	100		µg/L	10	11/3/2004
Bromobenzene	ND	10		µg/L	10	11/3/2004
Bromochloromethane	ND	10		µg/L	10	11/3/2004
Bromodichloromethane	ND	10		µg/L	10	11/3/2004
Bromoform	ND	10		µg/L	10	11/3/2004
Bromomethane	ND	20		µg/L	10	11/3/2004
2-Butanone	ND	100		µg/L	10	11/3/2004
Carbon disulfide	ND	100		µg/L	10	11/3/2004
Carbon Tetrachloride	ND	10		µg/L	10	11/3/2004
Chlorobenzene	ND	10		µg/L	10	11/3/2004
Chloroethane	ND	20		µg/L	10	11/3/2004
Chloroform	ND	10		µg/L	10	11/3/2004
Chloromethane	ND	10		µg/L	10	11/3/2004
2-Chlorotoluene	ND	10		µg/L	10	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
4-Chlorotoluene	ND	10		µg/L	10	11/3/2004
cis-1,2-DCE	ND	10		µg/L	10	11/3/2004
cis-1,3-Dichloropropene	ND	10		µg/L	10	11/3/2004
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	11/3/2004
Dibromochloromethane	ND	10		µg/L	10	11/3/2004
Dibromomethane	ND	20		µg/L	10	11/3/2004
1,2-Dichlorobenzene	ND	10		µg/L	10	11/3/2004
1,3-Dichlorobenzene	ND	10		µg/L	10	11/3/2004
1,4-Dichlorobenzene	ND	10		µg/L	10	11/3/2004
Dichlorodifluoromethane	ND	10		µg/L	10	11/3/2004
1,1-Dichloroethane	ND	10		µg/L	10	11/3/2004
1,1-Dichloroethene	ND	10		µg/L	10	11/3/2004
1,2-Dichloropropane	ND	10		µg/L	10	11/3/2004
1,3-Dichloropropane	ND	10		µg/L	10	11/3/2004
2,2-Dichloropropane	ND	10		µg/L	10	11/3/2004
1,1-Dichloropropene	ND	10		µg/L	10	11/3/2004
Hexachlorobutadiene	ND	10		µg/L	10	11/3/2004
2-Hexanone	ND	100		µg/L	10	11/3/2004
Isopropylbenzene	31	10		µg/L	10	11/3/2004
4-Isopropyltoluene	47	10		µg/L	10	11/3/2004
4-Methyl-2-pentanone	ND	100		µg/L	10	11/3/2004
Methylene Chloride	ND	30		µg/L	10	11/3/2004
n-Butylbenzene	ND	10		µg/L	10	11/3/2004
n-Propylbenzene	65	10		µg/L	10	11/3/2004
sec-Butylbenzene	13	10		µg/L	10	11/3/2004
Styrene	ND	10		µg/L	10	11/3/2004
tert-Butylbenzene	ND	10		µg/L	10	11/3/2004
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	11/3/2004
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	11/3/2004
Tetrachloroethene (PCE)	ND	10		µg/L	10	11/3/2004
trans-1,2-DCE	ND	10		µg/L	10	11/3/2004
trans-1,3-Dichloropropene	ND	10		µg/L	10	11/3/2004
1,2,3-Trichlorobenzene	ND	10		µg/L	10	11/3/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	10	11/3/2004
1,1,1-Trichloroethane	ND	10		µg/L	10	11/3/2004
1,1,2-Trichloroethane	ND	10		µg/L	10	11/3/2004
Trichloroethene (TCE)	ND	10		µg/L	10	11/3/2004
Trichlorofluoromethane	ND	10		µg/L	10	11/3/2004
1,2,3-Trichloropropane	ND	20		µg/L	10	11/3/2004
Vinyl chloride	ND	10		µg/L	10	11/3/2004
Xylenes, Total	320	10		µg/L	10	11/3/2004
Surr: 1,2-Dichloroethane-d4	100	70.6-124		%REC	10	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Surr: 4-Bromofluorobenzene	97.8	76.4-130		%REC	10	11/3/2004
Surr: Dibromofluoromethane	90.7	67.2-131		%REC	10	11/3/2004
Surr: Toluene-d8	110	82.1-123		%REC	10	11/3/2004

EPA METHOD 8310: PAHS

Analyst: BL

Naphthalene	6.7	2.5		µg/L	1	11/12/2004 3:40:53 PM
1-Methylnaphthalene	10	2.5		µg/L	1	11/12/2004 3:40:53 PM
2-Methylnaphthalene	6.0	2.5		µg/L	1	11/12/2004 3:40:53 PM
Acenaphthylene	ND	2.5		µg/L	1	11/12/2004 3:40:53 PM
Acenaphthene	ND	2.5		µg/L	1	11/12/2004 3:40:53 PM
Fluorene	ND	0.80		µg/L	1	11/12/2004 3:40:53 PM
Phenanthrene	ND	0.60		µg/L	1	11/12/2004 3:40:53 PM
Anthracene	ND	0.60		µg/L	1	11/12/2004 3:40:53 PM
Fluoranthene	ND	0.30		µg/L	1	11/12/2004 3:40:53 PM
Pyrene	ND	0.30		µg/L	1	11/12/2004 3:40:53 PM
Benz(a)anthracene	ND	0.020		µg/L	1	11/12/2004 3:40:53 PM
Chrysene	ND	0.20		µg/L	1	11/12/2004 3:40:53 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	11/12/2004 3:40:53 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	11/12/2004 3:40:53 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	11/12/2004 3:40:53 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	11/12/2004 3:40:53 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	11/12/2004 3:40:53 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/12/2004 3:40:53 PM
Surr: Benzo(e)pyrene	89.0	54-102		%REC	1	11/12/2004 3:40:53 PM

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: MAP

Specific Conductance	1900	0.010		µmhos/cm	1	11/4/2004
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EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury	0.00034	0.00020		mg/L	1	11/8/2004
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EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020		mg/L	1	11/11/2004 10:09:05 AM
Barium	0.30	0.0020		mg/L	1	11/10/2004 3:55:50 PM
Cadmium	ND	0.0020		mg/L	1	11/10/2004 3:55:50 PM
Chromium	ND	0.0060		mg/L	1	11/10/2004 3:55:50 PM
Copper	ND	0.0060		mg/L	1	11/10/2004 3:55:50 PM
Iron	0.18	0.020		mg/L	1	11/10/2004 3:55:50 PM
Lead	ND	0.0050		mg/L	1	11/10/2004 3:55:50 PM
Manganese	2.1	0.0020		mg/L	1	11/10/2004 3:55:50 PM
Selenium	ND	0.050		mg/L	1	11/10/2004 3:55:50 PM
Silver	ND	0.0050		mg/L	1	11/10/2004 3:55:50 PM
Uranium	ND	0.10		mg/L	1	11/10/2004 3:55:50 PM
Zinc	0.0089	0.0050		mg/L	1	11/10/2004 3:55:50 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/5/2004 9:28:03 AM
Barium	0.48	0.020		mg/L	1	11/5/2004 9:28:03 AM
Cadmium	ND	0.0020		mg/L	1	11/5/2004 9:28:03 AM
Calcium	160	1.0		mg/L	1	11/5/2004 9:28:03 AM
Chromium	ND	0.0060		mg/L	1	11/5/2004 9:28:03 AM
Iron	19	0.50		mg/L	10	11/5/2004 10:47:18 AM
Lead	0.014	0.0050		mg/L	1	11/5/2004 9:28:03 AM
Magnesium	31	1.0		mg/L	1	11/5/2004 9:28:03 AM
Manganese	4.4	0.0020		mg/L	1	11/5/2004 9:28:03 AM
Potassium	7.9	1.0		mg/L	1	11/5/2004 9:28:03 AM
Selenium	ND	0.050		mg/L	1	11/5/2004 9:28:03 AM
Silver	ND	0.0050		mg/L	1	11/5/2004 9:28:03 AM
Sodium	330	10		mg/L	10	11/5/2004 10:47:18 AM
Uranium	ND	0.10		mg/L	1	11/5/2004 9:28:03 AM
Zinc	0.061	0.050		mg/L	1	11/5/2004 9:28:03 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	7.73	0.010		pH units	1	11/15/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1400	50		mg/L	1	11/4/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-02

Client Sample ID: Trip Blank

Collection Date:

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/4/2004 12:01:43 PM
Surr: BFB	97.0	74-118		%REC	1	11/4/2004 12:01:43 PM
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Benzene	ND	1.0		µg/L	1	11/3/2004
Toluene	ND	1.0		µg/L	1	11/3/2004
Ethylbenzene	ND	1.0		µg/L	1	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/3/2004
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2004
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2004
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/3/2004
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/3/2004
Naphthalene	ND	2.0		µg/L	1	11/3/2004
1-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2004
2-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2004
Acetone	ND	10		µg/L	1	11/3/2004
Bromobenzene	ND	1.0		µg/L	1	11/3/2004
Bromochloromethane	ND	1.0		µg/L	1	11/3/2004
Bromodichloromethane	ND	1.0		µg/L	1	11/3/2004
Bromoform	ND	1.0		µg/L	1	11/3/2004
Bromomethane	ND	2.0		µg/L	1	11/3/2004
2-Butanone	ND	10		µg/L	1	11/3/2004
Carbon disulfide	ND	10		µg/L	1	11/3/2004
Carbon Tetrachloride	ND	1.0		µg/L	1	11/3/2004
Chlorobenzene	ND	1.0		µg/L	1	11/3/2004
Chloroethane	ND	2.0		µg/L	1	11/3/2004
Chloroform	ND	1.0		µg/L	1	11/3/2004
Chloromethane	ND	1.0		µg/L	1	11/3/2004
2-Chlorotoluene	ND	1.0		µg/L	1	11/3/2004
4-Chlorotoluene	ND	1.0		µg/L	1	11/3/2004
cis-1,2-DCE	ND	1.0		µg/L	1	11/3/2004
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2004
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/3/2004
Dibromochloromethane	ND	1.0		µg/L	1	11/3/2004
Dibromomethane	ND	2.0		µg/L	1	11/3/2004
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2004
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/3/2004
1,1-Dichloroethane	ND	1.0		µg/L	1	11/3/2004
1,1-Dichloroethene	ND	1.0		µg/L	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-02

Client Sample ID: Trip Blank

Collection Date:

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dichloropropane	ND	1.0		µg/L	1	11/3/2004
1,3-Dichloropropane	ND	1.0		µg/L	1	11/3/2004
2,2-Dichloropropane	ND	1.0		µg/L	1	11/3/2004
1,1-Dichloropropene	ND	1.0		µg/L	1	11/3/2004
Hexachlorobutadiene	ND	1.0		µg/L	1	11/3/2004
2-Hexanone	ND	10		µg/L	1	11/3/2004
Isopropylbenzene	ND	1.0		µg/L	1	11/3/2004
4-Isopropyltoluene	ND	1.0		µg/L	1	11/3/2004
4-Methyl-2-pentanone	ND	10		µg/L	1	11/3/2004
Methylene Chloride	ND	3.0		µg/L	1	11/3/2004
n-Butylbenzene	ND	1.0		µg/L	1	11/3/2004
n-Propylbenzene	ND	1.0		µg/L	1	11/3/2004
sec-Butylbenzene	ND	1.0		µg/L	1	11/3/2004
Styrene	ND	1.0		µg/L	1	11/3/2004
tert-Butylbenzene	ND	1.0		µg/L	1	11/3/2004
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/3/2004
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/3/2004
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/3/2004
trans-1,2-DCE	ND	1.0		µg/L	1	11/3/2004
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2004
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/3/2004
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/3/2004
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/3/2004
Trichlorofluoromethane	ND	1.0		µg/L	1	11/3/2004
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/3/2004
Vinyl chloride	ND	1.0		µg/L	1	11/3/2004
Xylenes, Total	ND	1.0		µg/L	1	11/3/2004
Surr: 1,2-Dichloroethane-d4	100	70.6-124		%REC	1	11/3/2004
Surr: 4-Bromofluorobenzene	98.6	76.4-130		%REC	1	11/3/2004
Surr: Dibromofluoromethane	93.1	67.2-131		%REC	1	11/3/2004
Surr: Toluene-d8	109	82.1-123		%REC	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining

Work Order: 0411033

Project: MW #49-Water

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R13648	Test Code: E300	Units: mg/L	Analysis Date	11/2/2004 5:05:40 PM	Prep Date				
Client ID:		Run ID:	LC_041102A		SeqNo:	317113					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID	MBLK	Batch ID: R13660	Test Code: E300	Units: mg/L	Analysis Date	11/3/2004 3:11:32 PM	Prep Date				
Client ID:			Run ID: LC_041103A		SeqNo:	317351					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID	MB-6798	Batch ID: 6798	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 9:49:28 PM	Prep Date	11/4/2004			
Client ID:		Run ID:	FID(17A) 2_041102A		SeqNo:	317894					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1									
Motor Oil Range Organics (MRO)	ND	5									
Surr: DNOP	1.173	0	1	0	117	58	140	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
Work Order: 0411033
Project: MW #49-Water

QC SUMMARY REPORT
Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R13678	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 9:00:28 AM	Prep Date					
Client ID:			Run ID: PIDFID_041104A		SeqNo: 317803							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		ND	0.05									
Surr: BFB		20.09	0	20	0	100	74	118	0			

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	2

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411033
 Project: MW #49-Water

Sample ID	5mL rb	Batch ID: R13663	Test Code: SW8260B	Units: µg/L	Analysis Date	11/3/2004	Prep Date				
Client ID:			Run ID:	NEPTUNE_041103A	SeqNo:	317437					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	ND	2									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									
cis-1,3-Dichloropropene	ND	1									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0411033
Project: MW #49-Water

QC SUMMARY REPORT
 Method Blank

1,2-Dibromo-3-chloropropane	ND	2
Dibromochloromethane	ND	1
Dibromomethane	ND	2
1,2-Dichlorobenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,4-Dichlorobenzene	ND	1
Dichlorodifluoromethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,2-Dichloropropane	ND	1
1,3-Dichloropropane	ND	1
2,2-Dichloropropane	ND	1
1,1-Dichloropropene	ND	1
Hexachlorobutadiene	ND	1
2-Hexanone	ND	10
Isopropylbenzene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-pentanone	ND	10
Methylene Chloride	ND	3
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
1,1,1,2-Tetrachloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
Tetrachloroethene (PCE)	ND	1
trans-1,2-DCE	ND	1
trans-1,3-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,4-Trichlorobenzene	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2-Trichloroethane	ND	1

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits¹
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0411033
Project: MW #49-Water

QC SUMMARY REPORT
 Method Blank

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	2.5									
1-Methylnaphthalene	ND	2.5									
2-Methylnaphthalene	ND	2.5									
Acenaphthylene	ND	2.5									
Acenaphthene	ND	2.5									
Fluorene	ND	0.8									
Phenanthrene	ND	0.6									
Anthracene	ND	0.6									
Fluoranthene	ND	0.3									
Pyrene	ND	0.3									
Benz(a)anthracene	ND	0.02									
Chrysene	ND	0.2									
Benzo(b)fluoranthene	ND	0.05									
Benzo(k)fluoranthene	ND	0.02									
Benzo(a)pyrene	ND	0.02									
Dibenz(a,h)anthracene	0.03	0.04									J
Benzo(g,h,i)perylene	ND	0.03									
Indeno(1,2,3-cd)pyrene	ND	0.08									
Surr: Benzo(e)pyrene	9.47	0	10	0	94.7	54	102	0			

Sample ID: MB-6812 **Batch ID:** 6812 **Test Code:** SW8310 **Units:** µg/L **Analysis Date:** 11/12/2004 12:28:53 P **Prep Date:** 11/8/2004
Client ID: HUGO_041112A **Run ID:** HUGO_041112A **SeqNo:** 320127

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
Work Order: 0411033
Project: MW #49-Water

QC SUMMARY REPORT
 Method Blank

Sample ID **MB-6819** Batch ID: **6819** Test Code: **SW7470** Units: mg/L Analysis Date **11/8/2004** Prep Date **11/8/2004**
 Client ID: Run ID: **MI-LA254_041108A** SeqNo: **318408**
 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
 Mercury 0.00005025 0.0002

Sample ID **MB** Batch ID: **R13737** Test Code: **SW6010A** Units: mg/L Analysis Date **11/10/2004 2:28:19 PM** Prep Date
 Client ID: Run ID: **ICP_041110B** SeqNo: **319298**
 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
 Arsenic ND 0.02
 Barium ND 0.002
 Cadmium ND 0.002
 Chromium ND 0.006
 Copper ND 0.006
 Iron ND 0.02
 Lead ND 0.005
 Manganese ND 0.002
 Selenium ND 0.05
 Silver ND 0.005
 Uranium ND 0.1
 Zinc ND 0.005

Sample ID **MB** Batch ID: **R13737** Test Code: **SW6010A** Units: mg/L Analysis Date **11/11/2004 9:56:32 AM** Prep Date
 Client ID: Run ID: **ICP_041110B** SeqNo: **319467**
 Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
 Arsenic ND 2.5

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
Work Order: 0411033
Project: MW #49-Water

Sample ID	MB-6796	Batch ID: 6796	Test Code: SW6010A	Units: mg/L	Analysis Date	11/5/2004 10:42:40 AM	Prep Date	11/4/2004			
Client ID:			Run ID:	ICP_041105A	SeqNo:	318411					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.02									
Cadmium	ND	0.002									
Calcium	ND	1									
Chromium	ND	0.006									
Iron	ND	0.05									
Lead	ND	0.005									
Magnesium	ND	1									
Manganese	ND	0.002									
Potassium	ND	1									
Selenium	ND	0.05									
Silver	ND	0.005									
Sodium	ND	1									
Uranium	ND	0.1									
Zinc	ND	0.05									

Sample ID	MB-6786	Batch ID: 6786	Test Code: E160.1	Units: mg/L	Analysis Date	11/4/2004	Prep Date	11/3/2004			
Client ID:			Run ID: WC_041104B		SeqNo:	317665					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 16-Nov-04

CLIENT: San Juan Refining

Work Order: 0411033

Project: MW #49-Water

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13660	Test Code: E300	Units: mg/L	Analysis Date	11/3/2004 3:28:21 PM	Prep Date				
Client ID:		Run ID: LC_041103A			SeqNo:	317352					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4533	0.1	0.5	0	90.7	90	110	0			
Chloride	4.733	0.1	5	0	94.7	90	110	0			
Nitrogen, Nitrite (As N)	0.9034	0.1	1	0	90.3	90	110	0			
Nitrogen, Nitrate (As N)	2.416	0.1	2.5	0	96.6	90	110	0			
Phosphorus, Orthophosphate (As P)	4.755	0.5	5	0	95.1	90	110	0			
Sulfate	9.77	0.5	10	0	97.7	90	110	0			

Sample ID	LCS-6798	Batch ID: 6798	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 10:18:50 PM	Prep Date	11/4/2004			
Client ID:		Run ID: FID(17A) 2_041102A			SeqNo:	317895					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.105	1	5	0	102	81.2	149	0			

Sample ID	LCSD-6798	Batch ID: 6798	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 10:48:25 PM	Prep Date	11/4/2004			
Client ID:		Run ID: FID(17A) 2_041102A			SeqNo:	317896					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.85	1	5	0	97.0	81.2	149	5.105	5.11	23	

Sample ID	GRO std 2.5ug	Batch ID: R13678	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 6:41:39 PM	Prep Date				
Client ID:		Run ID: PIDFID_041104A			SeqNo:	317842					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5026	0.05	0.5	0	101	80.3	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

/

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
Work Order: 0411033
Project: MW #49-Water

Sample ID	GRO std 2.5ug	Batch ID: R13678	Test Code: SW8015	Units: mg/L	Analysis Date	11/5/2004 2:10:38 AM	Prep Date					
Client ID:			Run ID: PIDFID_041104A		SeqNo:	317843						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.526	0.05	0.5	0	105	80.3	116	0.5026	4.55	8.39	

Sample ID	100ng lcs	Batch ID: R13663	Test Code: SW8260B	Units: µg/L	Analysis Date	11/3/2004	Prep Date				
Client ID:			Run ID: NEPTUNE_041103A		SeqNo:	317438					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.91	1	20	0	99.6	75.3	128	0			
Toluene	20.13	1	20	0	101	77.8	122	0			
Chlorobenzene	20.32	1	20	0	102	76.2	130	0			
1,1-Dichloroethene	17.87	1	20	0	89.4	70.2	119	0			
Trichloroethene (TCE)	19.27	1	20	0	96.4	76.9	130	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
 Work Order: 0411033
 Project: MW #49-Water

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-6812	Batch ID: 6812	Test Code: SW8310	Units: µg/L	Analysis Date	11/12/2004 1:16:54 PM	Prep Date	11/8/2004			
Client ID:		Run ID:	HUGO_041112A		SeqNo:	320128					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	26.51	2.5	40	0	66.3	20.939	111.211	0			
1-Methylnaphthalene	29.13	2.5	40.1	0	72.6	22.016	110.385	0			
2-Methylnaphthalene	28.77	2.5	40	0	71.9	21.098	111.261	0			
Acenaphthylene	28.66	2.5	40.1	0	71.5	23.852	116.857	0			
Acenaphthene	30.19	2.5	40	0	75.5	27.524	111.73	0			
Fluorene	2.96	0.8	4.01	0	73.8	31.046	113.32	0			
Phenanthrene	1.71	0.6	2.01	0	85.1	42.279	115.749	0			
Anthracene	1.65	0.6	2.01	0	82.1	43.767	118.693	0			
Fluoranthene	3.4	0.3	4.01	0	84.8	55.334	117.461	0			
Pyrene	3.55	0.3	4.01	0	88.5	57.722	120.832	0			
Benz(a)anthracene	0.35	0.02	0.401	0	87.3	70.18	113.452	0			
Chrysene	1.73	0.2	2.01	0	86.1	43.942	141.404	0			
Benzo(b)fluoranthene	0.34	0.05	0.38	0	89.5	71.192	103.368	0			
Benzo(k)fluoranthene	0.23	0.02	0.25	0	92.0	75.336	107.209	0			
Benzo(a)pyrene	0.23	0.02	0.251	0	91.6	74.556	100.742	0			
Dibenz(a,h)anthracene	0.47	0.04	0.501	0.03	87.8	80.693	106.931	0			
Benzo(g,h,i)perylene	0.45	0.03	0.5	0	90.0	55.168	135.014	0			
Indeno(1,2,3-cd)pyrene	0.847	0.08	1.002	0	84.5	79.328	104.794	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank
 3

CLIENT: San Juan Refining
 Work Order: 0411033
 Project: MW #49-Water

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-6812	Batch ID: 6812	Test Code: SW8310	Units: µg/L	Analysis Date	11/12/2004 2:04:54 PM	Prep Date	11/8/2004			
Client ID:		Run ID:	HUGO_041112A		SeqNo:	320129					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	28.7	2.5	40	0	71.8	20.939	111.211	26.51	7.93	32.1	
1-Methylnaphthalene	30.87	2.5	40.1	0	77.0	22.016	110.385	29.13	5.80	32.7	
2-Methylnaphthalene	31.61	2.5	40	0	79.0	21.098	111.261	28.77	9.41	34	
Acenaphthylene	32.12	2.5	40.1	0	80.1	23.852	116.857	28.66	11.4	38.8	
Acenaphthene	33.5	2.5	40	0	83.8	27.524	111.73	30.19	10.4	38.6	
Fluorene	3.25	0.8	4.01	0	81.0	31.046	113.32	2.96	9.34	39.3	
Phenanthrene	1.94	0.6	2.01	0	96.5	42.279	115.749	1.71	12.6	25	
Anthracene	1.83	0.6	2.01	0	91.0	43.767	118.693	1.65	10.3	23.9	
Fluoranthene	3.82	0.3	4.01	0	95.3	55.334	117.461	3.4	11.6	15.7	
Pyrene	4.02	0.3	4.01	0	100	57.722	120.832	3.55	12.4	15.3	
Benz(a)anthracene	0.39	0.02	0.401	0	97.3	70.18	113.452	0.35	10.8	119	
Chrysene	1.94	0.2	2.01	0	96.5	43.942	141.404	1.73	11.4	16.6	
Benzo(b)fluoranthene	0.37	0.05	0.38	0	97.4	71.192	103.368	0.34	8.45	21.7	
Benzo(k)fluoranthene	0.24	0.02	0.25	0	96.0	75.336	107.209	0.23	4.26	19.4	
Benzo(a)pyrene	0.25	0.02	0.251	0	99.6	74.556	100.742	0.23	8.33	16.7	
Dibenz(a,h)anthracene	0.5	0.04	0.501	0.03	93.8	80.693	106.931	0.47	6.19	17.3	
Benzo(g,h,i)perylene	0.49	0.03	0.5	0	98.0	55.168	135.014	0.45	8.51	118	
Indeno(1,2,3-cd)pyrene	0.876	0.08	1.002	0	87.4	79.328	104.794	0.847	3.37	17.7	

Sample ID	LCS-6819	Batch ID: 6819	Test Code: SW7470	Units: mg/L	Analysis Date	11/8/2004	Prep Date	11/8/2004			
Client ID:		Run ID:	MI-LA254_041108A		SeqNo:	318409					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00508	0.0002	0.005	0.00005025	101	75.2	134	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0411033
 Project: MW #49-Water

Sample ID	LCSD-6819	Batch ID: 6819	Test Code: SW7470	Units: mg/L	Analysis Date 11/8/2004		Prep Date 11/8/2004					
Client ID:			Run ID: MI-LA254_041108A		SeqNo: 318410							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.005232	0.0002	0.005	0.00005025	104	75.2	134	0.00508	2.96	0	

Sample ID	LCS	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/10/2004 2:31:01 PM	Prep Date				
Client ID:		Run ID:	ICP_041110B		SeqNo:	319299					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4881	0.02	0.5	0	97.6	80	120	0			
Barium	0.4859	0.002	0.5	0	97.2	80	120	0			
Cadmium	0.4988	0.002	0.5	0	99.8	80	120	0			
Chromium	0.4886	0.006	0.5	0	97.7	80	120	0			
Copper	0.482	0.006	0.5	0	96.4	80	120	0			
Iron	0.5185	0.02	0.5	0	104	80	120	0			
Lead	0.4969	0.005	0.5	0	99.4	80	120	0			
Manganese	0.4972	0.002	0.5	0	99.4	80	120	0			
Selenium	0.4652	0.05	0.5	0	93.0	80	120	0			
Silver	0.5064	0.005	0.5	0	101	80	120	0			
Uranium	4.904	0.1	5	0	98.1	80	120	0			
Zinc	0.4785	0.005	0.5	0	95.7	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0411033
 Project: MW #49-Water

Sample ID	LCSD	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/10/2004 2:33:34 PM	Prep Date				
Client ID:		Run ID: ICP_041110B			SeqNo: 319300						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5001	0.02	0.5	0	100	80	120	0.4881	2.42	20	
Barium	0.4954	0.002	0.5	0	99.1	80	120	0.4859	1.95	20	
Cadmium	0.5109	0.002	0.5	0	102	80	120	0.4988	2.39	20	
Chromium	0.5026	0.006	0.5	0	101	80	120	0.4886	2.83	20	
Copper	0.4911	0.006	0.5	0	98.2	80	120	0.482	1.87	20	
Iron	0.5246	0.02	0.5	0	105	80	120	0.5185	1.16	20	
Lead	0.5083	0.005	0.5	0	102	80	120	0.4969	2.28	20	
Manganese	0.5008	0.002	0.5	0	100	80	120	0.4972	0.715	20	
Selenium	0.4814	0.05	0.5	0	96.3	80	120	0.4652	3.43	20	
Silver	0.5037	0.005	0.5	0	101	80	120	0.5064	0.531	20	
Uranium	4.912	0.1	5	0	98.2	80	120	4.904	0.171	20	
Inc.	0.4904	0.005	0.5	0	98.1	80	120	0.4785	2.45	20	

Sample ID	LCS	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/11/2004 9:58:37 AM	Prep Date				
Client ID:		Run ID: ICP_041110B			SeqNo: 319468						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4805	0.02	0.5	0	96.1	80	120	0			

Sample ID	LCSD	Batch ID: R13737	Test Code: SW6010A	Units: mg/L	Analysis Date	11/11/2004 10:00:43 A	Prep Date				
Client ID:		Run ID: ICP_041110B			SeqNo: 319469						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5024	0.02	0.5	0	100	80	120	0.4805	4.44	20	

Qualifiers: ND - Not Detected at the Reporting Limit
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 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike - generic

San Juan Refining
0411033
MW #49-Water

Sample ID LCS-6796 Batch ID: 6796
Client ID: Test Code: SW6010A Units: mg/L
Run ID: ICP_041105A

Analysis Date 11/5/2004 9:11:41 AM Prep Date 11/4/2004
SeqNo: 317908

Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Arsenic 0.4951 0.02 0.5 0 99.0 80 120 0

Barium 0.4857 0.02 0.5 0 97.1 80 120 0

Cadmium 0.4953 0.002 0.5 0.0006448 98.9 80 120 0

Calcium 47.73 1 50 0 95.5 80 120 0

Chromium 0.4915 0.006 0.5 0 98.3 80 120 0

Chromium 0.4884 0.05 0.5 0 97.7 80 120 0

Iron 0.4965 0.005 0.5 0 99.3 80 120 0

Lead 48.35 1 50 0 96.7 80 120 0

Magnesium 0.4811 0.002 0.5 0 96.2 80 120 0

Manganese 51.1 1 50 0 102 80 120 0

Potassium 0.4682 0.05 0.5 0 93.6 80 120 0

Selenium 0.5536 0.005 0.5 0.007271 109 80 120 0

Silver 54.62 1 50 0 109 80 120 0

Sodium 4.649 0.1 5 0 93.0 80 120 0

Uranium 0.4739 0.05 0.5 0 94.8 80 120 0

Zinc

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0411033
 Project: MW #49-Water

Sample ID	LCSD-6796	Batch ID: 6796	Test Code: SW6010A	Units: mg/L	Analysis Date	11/5/2004 9:14:14 AM	Prep Date	11/4/2004			
Client ID:			Run ID: ICP_041105A		SeqNo:	317909					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5078	0.02	0.5	0	102	80	120	0.4951	2.55	20	
Barium	0.4894	0.02	0.5	0	97.9	80	120	0.4857	0.761	20	
Cadmium	0.4967	0.002	0.5	0.0006448	99.2	80	120	0.4953	0.294	20	
Calcium	48.21	1	50	0	96.4	80	120	47.73	0.996	20	
Chromium	0.4937	0.006	0.5	0	98.7	80	120	0.4915	0.442	20	
Iron	0.4794	0.05	0.5	0	95.9	80	120	0.4884	1.87	20	
Lead	0.4987	0.005	0.5	0	99.7	80	120	0.4965	0.431	20	
Magnesium	48.56	1	50	0	97.1	80	120	48.35	0.432	20	
Manganese	0.4832	0.002	0.5	0	96.6	80	120	0.4811	0.437	20	
Potassium	51.37	1	50	0	103	80	120	51.1	0.527	20	
Selenium	0.4727	0.05	0.5	0	94.5	80	120	0.4682	0.954	20	
Silver	0.5457	0.005	0.5	0.007271	108	80	120	0.5536	1.44	20	
Sodium	54.83	1	50	0	110	80	120	54.62	0.377	20	
Uranium	4.683	0.1	5	0	93.7	80	120	4.649	0.731	20	
Zinc	0.479	0.05	0.5	0	95.8	80	120	0.4739	1.07	20	

Sample ID	LCS-6786	Batch ID: 6786	Test Code: E160.1	Units: mg/L	Analysis Date	11/4/2004	Prep Date	11/3/2004			
Client ID:			Run ID: WC_041104B		SeqNo:	317666					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1024	50	1000	0	102	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

11/2/2004

Work Order Number 0411033

Received by AT

Checklist completed by

Signature

Date

11/2/04

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☒	N/A ☐	
Chain of custody present?	Yes ☒	No ☐		
Chain of custody signed when relinquished and received?	Yes ☒	No ☐		
Chain of custody agrees with sample labels?	Yes ☒	No ☐		
Samples in proper container/bottle?	Yes ☒	No ☐		
Sample containers intact?	Yes ☒	No ☐		
Sufficient sample volume for indicated test?	Yes ☒	No ☐		
All samples received within holding time?	Yes ☒	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒	
Container/Temp Blank temperature?	1°	4° C ± 2 Acceptable If given sufficient time to cool.		

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Other:

Project Name: MW #49- Water

Address: #50 Rd 4990

Bloomfield, NM
87413

Phone #: 5705-1632 - (616) 1

Fax #: 505-1032-3911

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					H ₂ Cl ₂	HNO ₃	HNO ₃	
1-01-04	1115A	H ₂ O	MW #49	3-vol	X			04/11033-1
				1-liter			Amber	
				1-250		X	Filtered	
				1-500		X		
				1-500				
				1-250			H ₂ SO ₄	-2
			Tri, But					

Date:	Time:
11-01-04	11:51A

Relinquished By: (Signature) *(wavy line)*

Remarks	11/2/09
---------	---------

Date: _____ Time: _____

Relinquished By: (Signature)

Remarks: *Asplenium*

Remarks:

~~CTF~~ MTAZ & TPH HLL & Per CH 8260

Due 11/05/04 (Friday)

Cur 1420

ANALYSIS LABOUR

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4107
www.hallenvironmental.com

ANALYSIS REQUEST

[illegible]

Remarks:

~~CTF~~ MTAZ & TPH HLL & Per CH 8260

Due 11/05/04 (Friday)

Cur 1420

COVER LETTER

November 17, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: MW #49-Water

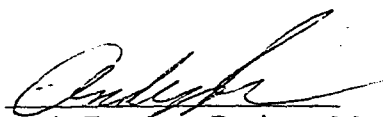
Order No.: 0411033

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 2 samples on 11/2/2004 for the analyses presented in the following report.

This report is an addendum to the report dated November 16, 2004. Additional metals have been added to this report. Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.48	0.10		mg/L	1	11/2/2004 7:36:54 PM
Chloride	130	1.0		mg/L	10	11/3/2004 5:25:53 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	11/2/2004 7:36:54 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	11/2/2004 7:36:54 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	11/2/2004 7:36:54 PM
Sulfate	280	5.0		mg/L	10	11/3/2004 5:25:53 PM
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/4/2004 11:48:19 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 11:48:19 PM
Surr: DNOP	87.0	58-140		%REC	1	11/4/2004 11:48:19 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1.8	0.50		mg/L	10	11/4/2004 11:32:01 AM
Surr: BFB	110	74-118		%REC	10	11/4/2004 11:32:01 AM
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Benzene	ND	10		µg/L	10	11/3/2004
Toluene	ND	10		µg/L	10	11/3/2004
Ethylbenzene	15	10		µg/L	10	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	11/3/2004
1,2,4-Trimethylbenzene	370	10		µg/L	10	11/3/2004
1,3,5-Trimethylbenzene	72	10		µg/L	10	11/3/2004
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	11/3/2004
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	11/3/2004
Naphthalene	39	20		µg/L	10	11/3/2004
1-Methylnaphthalene	ND	40		µg/L	10	11/3/2004
2-Methylnaphthalene	ND	40		µg/L	10	11/3/2004
Acetone	ND	100		µg/L	10	11/3/2004
Bromobenzene	ND	10		µg/L	10	11/3/2004
Bromochloromethane	ND	10		µg/L	10	11/3/2004
Bromodichloromethane	ND	10		µg/L	10	11/3/2004
Bromoform	ND	10		µg/L	10	11/3/2004
Bromomethane	ND	20		µg/L	10	11/3/2004
2-Butanone	ND	100		µg/L	10	11/3/2004
Carbon disulfide	ND	100		µg/L	10	11/3/2004
Carbon Tetrachloride	ND	10		µg/L	10	11/3/2004
Chlorobenzene	ND	10		µg/L	10	11/3/2004
Chloroethane	ND	20		µg/L	10	11/3/2004
Chloroform	ND	10		µg/L	10	11/3/2004
Chloromethane	ND	10		µg/L	10	11/3/2004
2-Chlorotoluene	ND	10		µg/L	10	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
4-Chlorotoluene	ND	10		µg/L	10	11/3/2004
cis-1,2-DCE	ND	10		µg/L	10	11/3/2004
cis-1,3-Dichloropropene	ND	10		µg/L	10	11/3/2004
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	11/3/2004
Dibromochloromethane	ND	10		µg/L	10	11/3/2004
Dibromomethane	ND	20		µg/L	10	11/3/2004
1,2-Dichlorobenzene	ND	10		µg/L	10	11/3/2004
1,3-Dichlorobenzene	ND	10		µg/L	10	11/3/2004
1,4-Dichlorobenzene	ND	10		µg/L	10	11/3/2004
Dichlorodifluoromethane	ND	10		µg/L	10	11/3/2004
1,1-Dichloroethane	ND	10		µg/L	10	11/3/2004
1,1-Dichloroethene	ND	10		µg/L	10	11/3/2004
1,2-Dichloropropane	ND	10		µg/L	10	11/3/2004
1,3-Dichloropropane	ND	10		µg/L	10	11/3/2004
2,2-Dichloropropane	ND	10		µg/L	10	11/3/2004
1,1-Dichloropropene	ND	10		µg/L	10	11/3/2004
Hexachlorobutadiene	ND	10		µg/L	10	11/3/2004
2-Hexanone	ND	100		µg/L	10	11/3/2004
Isopropylbenzene	31	10		µg/L	10	11/3/2004
4-Isopropyltoluene	47	10		µg/L	10	11/3/2004
4-Methyl-2-pentanone	ND	100		µg/L	10	11/3/2004
Methylene Chloride	ND	30		µg/L	10	11/3/2004
n-Butylbenzene	ND	10		µg/L	10	11/3/2004
n-Propylbenzene	65	10		µg/L	10	11/3/2004
sec-Butylbenzene	13	10		µg/L	10	11/3/2004
Styrene	ND	10		µg/L	10	11/3/2004
tert-Butylbenzene	ND	10		µg/L	10	11/3/2004
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	11/3/2004
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	11/3/2004
Tetrachloroethene (PCE)	ND	10		µg/L	10	11/3/2004
trans-1,2-DCE	ND	10		µg/L	10	11/3/2004
trans-1,3-Dichloropropene	ND	10		µg/L	10	11/3/2004
1,2,3-Trichlorobenzene	ND	10		µg/L	10	11/3/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	10	11/3/2004
1,1,1-Trichloroethane	ND	10		µg/L	10	11/3/2004
1,1,2-Trichloroethane	ND	10		µg/L	10	11/3/2004
Trichloroethene (TCE)	ND	10		µg/L	10	11/3/2004
Trichlorofluoromethane	ND	10		µg/L	10	11/3/2004
1,2,3-Trichloropropane	ND	20		µg/L	10	11/3/2004
Vinyl chloride	ND	10		µg/L	10	11/3/2004
Xylenes, Total	320	10		µg/L	10	11/3/2004
Surr: 1,2-Dichloroethane-d4	100	70.6-124		%REC	10	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

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S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Surr: 4-Bromofluorobenzene	97.8	76.4-130		%REC	10	11/3/2004
Surr: Dibromofluoromethane	90.7	67.2-131		%REC	10	11/3/2004
Surr: Toluene-d8	110	82.1-123		%REC	10	11/3/2004
EPA METHOD 8310: PAHS						Analyst: BL
Naphthalene	6.7	2.5		µg/L	1	11/12/2004 3:40:53 PM
1-Methylnaphthalene	10	2.5		µg/L	1	11/12/2004 3:40:53 PM
2-Methylnaphthalene	6.0	2.5		µg/L	1	11/12/2004 3:40:53 PM
Acenaphthylene	ND	2.5		µg/L	1	11/12/2004 3:40:53 PM
Acenaphthene	ND	2.5		µg/L	1	11/12/2004 3:40:53 PM
Fluorene	ND	0.80		µg/L	1	11/12/2004 3:40:53 PM
Phenanthrene	ND	0.60		µg/L	1	11/12/2004 3:40:53 PM
Anthracene	ND	0.60		µg/L	1	11/12/2004 3:40:53 PM
Fluoranthene	ND	0.30		µg/L	1	11/12/2004 3:40:53 PM
Pyrene	ND	0.30		µg/L	1	11/12/2004 3:40:53 PM
Benz(a)anthracene	ND	0.020		µg/L	1	11/12/2004 3:40:53 PM
Chrysene	ND	0.20		µg/L	1	11/12/2004 3:40:53 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	11/12/2004 3:40:53 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	11/12/2004 3:40:53 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	11/12/2004 3:40:53 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	11/12/2004 3:40:53 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	11/12/2004 3:40:53 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	11/12/2004 3:40:53 PM
Surr: Benzo(e)pyrene	89.0	54-102		%REC	1	11/12/2004 3:40:53 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MAP
Specific Conductance	1900	0.010		µmhos/cm	1	11/4/2004
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	0.00034	0.00020		mg/L	1	11/8/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/11/2004 10:09:05 AM
Barium	0.30	0.0020		mg/L	1	11/10/2004 3:55:50 PM
Cadmium	ND	0.0020		mg/L	1	11/10/2004 3:55:50 PM
Calcium	140	1.0		mg/L	1	11/10/2004 3:55:50 PM
Chromium	ND	0.0060		mg/L	1	11/10/2004 3:55:50 PM
Copper	ND	0.0060		mg/L	1	11/10/2004 3:55:50 PM
Iron	0.18	0.020		mg/L	1	11/10/2004 3:55:50 PM
Lead	ND	0.0050		mg/L	1	11/10/2004 3:55:50 PM
Magnesium	33	1.0		mg/L	1	11/10/2004 3:55:50 PM
Manganese	2.1	0.0020		mg/L	1	11/10/2004 3:55:50 PM
Potassium	7.4	1.0		mg/L	1	11/10/2004 3:55:50 PM
Selenium	ND	0.050		mg/L	1	11/10/2004 3:55:50 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-01

Client Sample ID: MW #49
Collection Date: 11/1/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Silver	ND	0.0050		mg/L	1	11/10/2004 3:55:50 PM
Sodium	340	10		mg/L	10	11/16/2004 3:23:50 PM
Uranium	ND	0.10		mg/L	1	11/10/2004 3:55:50 PM
Zinc	0.0089	0.0050		mg/L	1	11/10/2004 3:55:50 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/5/2004 9:28:03 AM
Barium	0.48	0.020		mg/L	1	11/5/2004 9:28:03 AM
Cadmium	ND	0.0020		mg/L	1	11/5/2004 9:28:03 AM
Calcium	160	1.0		mg/L	1	11/5/2004 9:28:03 AM
Chromium	ND	0.0060		mg/L	1	11/5/2004 9:28:03 AM
Copper	ND	0.0060		mg/L	1	11/16/2004 3:18:10 PM
Iron	19	0.50		mg/L	10	11/5/2004 10:47:18 AM
Lead	0.014	0.0050		mg/L	1	11/5/2004 9:28:03 AM
Magnesium	31	1.0		mg/L	1	11/5/2004 9:28:03 AM
Manganese	4.4	0.0020		mg/L	1	11/5/2004 9:28:03 AM
Potassium	7.9	1.0		mg/L	1	11/5/2004 9:28:03 AM
Selenium	ND	0.050		mg/L	1	11/5/2004 9:28:03 AM
Silver	ND	0.0050		mg/L	1	11/5/2004 9:28:03 AM
Sodium	330	10		mg/L	10	11/5/2004 10:47:18 AM
Uranium	ND	0.10		mg/L	1	11/5/2004 9:28:03 AM
Zinc	0.061	0.050		mg/L	1	11/5/2004 9:28:03 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	7.73	0.010		pH units	1	11/15/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1400	50		mg/L	1	11/4/2004

Qualifiers:
ND - Not Detected at the Reporting Limit
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B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-02

Client Sample ID: Trip Blank
Collection Date:

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/4/2004 12:01:43 PM
Surr: BFB	97.0	74-118		%REC	1	11/4/2004 12:01:43 PM
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Benzene	ND	1.0		µg/L	1	11/3/2004
Toluene	ND	1.0		µg/L	1	11/3/2004
Ethylbenzene	ND	1.0		µg/L	1	11/3/2004
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	11/3/2004
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2004
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/3/2004
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/3/2004
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/3/2004
Naphthalene	ND	2.0		µg/L	1	11/3/2004
1-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2004
2-Methylnaphthalene	ND	4.0		µg/L	1	11/3/2004
Acetone	ND	10		µg/L	1	11/3/2004
Bromobenzene	ND	1.0		µg/L	1	11/3/2004
Bromochloromethane	ND	1.0		µg/L	1	11/3/2004
Bromodichloromethane	ND	1.0		µg/L	1	11/3/2004
Bromoform	ND	1.0		µg/L	1	11/3/2004
Bromomethane	ND	2.0		µg/L	1	11/3/2004
2-Butanone	ND	10		µg/L	1	11/3/2004
Carbon disulfide	ND	10		µg/L	1	11/3/2004
Carbon Tetrachloride	ND	1.0		µg/L	1	11/3/2004
Chlorobenzene	ND	1.0		µg/L	1	11/3/2004
Chloroethane	ND	2.0		µg/L	1	11/3/2004
Chloroform	ND	1.0		µg/L	1	11/3/2004
Chloromethane	ND	1.0		µg/L	1	11/3/2004
2-Chlorotoluene	ND	1.0		µg/L	1	11/3/2004
4-Chlorotoluene	ND	1.0		µg/L	1	11/3/2004
cis-1,2-DCE	ND	1.0		µg/L	1	11/3/2004
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2004
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/3/2004
Dibromochloromethane	ND	1.0		µg/L	1	11/3/2004
Dibromomethane	ND	2.0		µg/L	1	11/3/2004
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/3/2004
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/3/2004
1,1-Dichloroethane	ND	1.0		µg/L	1	11/3/2004
1,1-Dichloroethene	ND	1.0		µg/L	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 17-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411033
Project: MW #49-Water
Lab ID: 0411033-02

Client Sample ID: Trip Blank
Collection Date:

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dichloropropane	ND	1.0		µg/L	1	11/3/2004
1,3-Dichloropropane	ND	1.0		µg/L	1	11/3/2004
2,2-Dichloropropane	ND	1.0		µg/L	1	11/3/2004
1,1-Dichloropropene	ND	1.0		µg/L	1	11/3/2004
Hexachlorobutadiene	ND	1.0		µg/L	1	11/3/2004
2-Hexanone	ND	10		µg/L	1	11/3/2004
Isopropylbenzene	ND	1.0		µg/L	1	11/3/2004
4-Isopropyltoluene	ND	1.0		µg/L	1	11/3/2004
4-Methyl-2-pentanone	ND	10		µg/L	1	11/3/2004
Methylene Chloride	ND	3.0		µg/L	1	11/3/2004
n-Butylbenzene	ND	1.0		µg/L	1	11/3/2004
n-Propylbenzene	ND	1.0		µg/L	1	11/3/2004
sec-Butylbenzene	ND	1.0		µg/L	1	11/3/2004
Styrene	ND	1.0		µg/L	1	11/3/2004
tert-Butylbenzene	ND	1.0		µg/L	1	11/3/2004
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/3/2004
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/3/2004
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/3/2004
trans-1,2-DCE	ND	1.0		µg/L	1	11/3/2004
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/3/2004
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/3/2004
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/3/2004
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/3/2004
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/3/2004
Trichlorofluoromethane	ND	1.0		µg/L	1	11/3/2004
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/3/2004
Vinyl chloride	ND	1.0		µg/L	1	11/3/2004
Xylenes, Total	ND	1.0		µg/L	1	11/3/2004
Surr: 1,2-Dichloroethane-d4	100	70.6-124		%REC	1	11/3/2004
Surr: 4-Bromofluorobenzene	98.6	76.4-130		%REC	1	11/3/2004
Surr: Dibromofluoromethane	93.1	67.2-131		%REC	1	11/3/2004
Surr: Toluene-d8	109	82.1-123		%REC	1	11/3/2004

Qualifiers: ND - Not Detected at the Reporting Limit
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

COVER LETTER

November 09, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: MW#49 - Soil

Order No.: 0411034

Dear Cindy Hurtado:

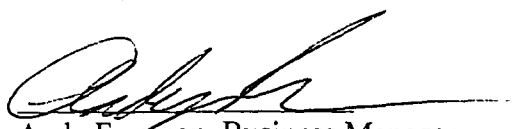
Hall Environmental Analysis Laboratory received 3 samples on 11/2/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,


Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411034
Project: MW#49 - Soil
Lab ID: 0411034-01

Client Sample ID: MW#49 5'-6.5'
Collection Date: 10/28/2004 5:00:00 PM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	39	10		mg/Kg	1	11/4/2004 12:27:05 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/4/2004 12:27:05 AM
Surr: DNOP	104	60-124		%REC	1	11/4/2004 12:27:05 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	550	25		mg/Kg	5	11/4/2004 2:43:29 PM
Surr: BFB	117	74-118		%REC	5	11/4/2004 2:43:29 PM
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.25		mg/Kg	5	11/5/2004
Toluene	ND	0.25		mg/Kg	5	11/5/2004
Ethylbenzene	0.35	0.25		mg/Kg	5	11/5/2004
Methyl tert-butyl ether (MTBE)	ND	0.25		mg/Kg	5	11/5/2004
1,2,4-Trimethylbenzene	42	1.0		mg/Kg	20	11/8/2004
1,3,5-Trimethylbenzene	1.1	0.25		mg/Kg	5	11/5/2004
1,2-Dichloroethane (EDC)	ND	0.25		mg/Kg	5	11/5/2004
1,2-Dibromoethane (EDB)	ND	0.25		mg/Kg	5	11/5/2004
Naphthalene	0.90	0.50		mg/Kg	5	11/5/2004
1-Methylnaphthalene	4.3	1.0		mg/Kg	5	11/5/2004
2-Methylnaphthalene	ND	1.0		mg/Kg	5	11/5/2004
Acetone	ND	10		mg/Kg	5	11/5/2004
Bromobenzene	ND	0.25		mg/Kg	5	11/5/2004
Bromochloromethane	ND	0.25		mg/Kg	5	11/5/2004
Bromodichloromethane	ND	0.25		mg/Kg	5	11/5/2004
Bromoform	ND	0.25		mg/Kg	5	11/5/2004
Bromomethane	ND	0.50		mg/Kg	5	11/5/2004
2-Butanone	ND	5.0		mg/Kg	5	11/5/2004
Carbon disulfide	ND	2.5		mg/Kg	5	11/5/2004
Carbon tetrachloride	ND	0.50		mg/Kg	5	11/5/2004
Chlorobenzene	ND	0.25		mg/Kg	5	11/5/2004
Chloroethane	ND	0.50		mg/Kg	5	11/5/2004
Chloroform	ND	0.25		mg/Kg	5	11/5/2004
Chloromethane	ND	0.25		mg/Kg	5	11/5/2004
2-Chlorotoluene	ND	0.25		mg/Kg	5	11/5/2004
4-Chlorotoluene	ND	0.25		mg/Kg	5	11/5/2004
cis-1,2-DCE	ND	0.25		mg/Kg	5	11/5/2004
cis-1,3-Dichloropropene	ND	0.25		mg/Kg	5	11/5/2004
1,2-Dibromo-3-chloropropane	ND	0.50		mg/Kg	5	11/5/2004
Dibromochloromethane	ND	0.25		mg/Kg	5	11/5/2004
Dibromomethane	ND	0.50		mg/Kg	5	11/5/2004
1,2-Dichlorobenzene	ND	0.25		mg/Kg	5	11/5/2004
1,3-Dichlorobenzene	ND	0.25		mg/Kg	5	11/5/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining

Client Sample ID: MW#49 5'-6.5'

Lab Order: 0411034

Collection Date: 10/28/2004 5:00:00 PM

Project: MW#49 - Soil

Lab ID: 0411034-01

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	0.25		mg/Kg	5	11/5/2004
Dichlorodifluoromethane	ND	0.25		mg/Kg	5	11/5/2004
1,1-Dichloroethane	ND	0.25		mg/Kg	5	11/5/2004
1,1-Dichloroethene	ND	0.25		mg/Kg	5	11/5/2004
1,2-Dichloropropane	ND	0.25		mg/Kg	5	11/5/2004
1,3-Dichloropropane	ND	0.25		mg/Kg	5	11/5/2004
2,2-Dichloropropane	ND	0.25		mg/Kg	5	11/5/2004
1,1-Dichloropropene	ND	0.25		mg/Kg	5	11/5/2004
Hexachlorobutadiene	ND	0.25		mg/Kg	5	11/5/2004
2-Hexanone	ND	2.5		mg/Kg	5	11/5/2004
Isopropylbenzene	1.0	0.25		mg/Kg	5	11/5/2004
4-Isopropyltoluene	4.0	0.25		mg/Kg	5	11/5/2004
4-Methyl-2-pentanone	ND	2.5		mg/Kg	5	11/5/2004
Methylene chloride	ND	0.75		mg/Kg	5	11/5/2004
n-Butylbenzene	4.0	0.25		mg/Kg	5	11/5/2004
n-Propylbenzene	5.0	0.25		mg/Kg	5	11/5/2004
sec-Butylbenzene	1.9	0.25		mg/Kg	5	11/5/2004
Styrene	ND	0.25		mg/Kg	5	11/5/2004
tert-Butylbenzene	ND	0.25		mg/Kg	5	11/5/2004
1,1,1,2-Tetrachloroethane	ND	0.25		mg/Kg	5	11/5/2004
1,1,2,2-Tetrachloroethane	ND	0.25		mg/Kg	5	11/5/2004
Tetrachloroethene (PCE)	ND	0.25		mg/Kg	5	11/5/2004
trans-1,2-DCE	ND	0.25		mg/Kg	5	11/5/2004
trans-1,3-Dichloropropene	ND	0.25		mg/Kg	5	11/5/2004
1,2,3-Trichlorobenzene	ND	0.25		mg/Kg	5	11/5/2004
1,2,4-Trichlorobenzene	ND	0.25		mg/Kg	5	11/5/2004
1,1,1-Trichloroethane	ND	0.25		mg/Kg	5	11/5/2004
1,1,2-Trichloroethane	ND	0.25		mg/Kg	5	11/5/2004
Trichloroethene (TCE)	ND	0.25		mg/Kg	5	11/5/2004
Trichlorofluoromethane	ND	0.25		mg/Kg	5	11/5/2004
1,2,3-Trichloropropane	ND	0.50		mg/Kg	5	11/5/2004
Vinyl chloride	ND	0.25		mg/Kg	5	11/5/2004
Xylenes, Total	2.4	0.25		mg/Kg	5	11/5/2004
Surr: 1,2-Dichloroethane-d4	103	68.4-123		%REC	5	11/5/2004
Surr: 4-Bromofluorobenzene	107	70-119		%REC	5	11/5/2004
Surr: Dibromofluoromethane	105	76.8-123		%REC	5	11/5/2004
Surr: Toluene-d8	90.1	75.9-118		%REC	5	11/5/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411034
Project: MW#49 - Soil
Lab ID: 0411034-02

Client Sample ID: MW#49 10'-11.5'
Collection Date: 10/28/2004 5:00:00 PM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/4/2004 12:57:27 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/4/2004 12:57:27 AM
Surr: DNOP	69.1	60-124		%REC	1	11/4/2004 12:57:27 AM
EPA METHOD 8015B: GASOLINE RANGE						
Gasoline Range Organics (GRO)	110	5.0		mg/Kg	1	11/4/2004 3:13:13 PM
Surr: BFB	126	74-118	S	%REC	1	11/4/2004 3:13:13 PM
EPA METHOD 8260B: VOLATILES						
Benzene	ND	0.050		mg/Kg	1	11/5/2004
Toluene	ND	0.050		mg/Kg	1	11/5/2004
Ethylbenzene	0.13	0.050		mg/Kg	1	11/5/2004
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/5/2004
1,2,4-Trimethylbenzene	9.1	0.50		mg/Kg	10	11/8/2004
1,3,5-Trimethylbenzene	1.1	0.050		mg/Kg	1	11/5/2004
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/5/2004
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/5/2004
Naphthalene	0.45	0.10		mg/Kg	1	11/5/2004
1-Methylnaphthalene	0.62	0.20		mg/Kg	1	11/5/2004
2-Methylnaphthalene	0.49	0.20		mg/Kg	1	11/5/2004
Acetone	ND	2.0		mg/Kg	1	11/5/2004
Bromobenzene	ND	0.050		mg/Kg	1	11/5/2004
Bromochloromethane	ND	0.050		mg/Kg	1	11/5/2004
Bromodichloromethane	ND	0.050		mg/Kg	1	11/5/2004
Bromoform	ND	0.050		mg/Kg	1	11/5/2004
Bromomethane	ND	0.10		mg/Kg	1	11/5/2004
2-Butanone	ND	1.0		mg/Kg	1	11/5/2004
Carbon disulfide	ND	0.50		mg/Kg	1	11/5/2004
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/5/2004
Chlorobenzene	ND	0.050		mg/Kg	1	11/5/2004
Chloroethane	ND	0.10		mg/Kg	1	11/5/2004
Chloroform	ND	0.050		mg/Kg	1	11/5/2004
Chloromethane	ND	0.050		mg/Kg	1	11/5/2004
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/5/2004
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/5/2004
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/5/2004
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/5/2004
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/5/2004
Dibromochloromethane	ND	0.050		mg/Kg	1	11/5/2004
Dibromomethane	ND	0.10		mg/Kg	1	11/5/2004
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/5/2004
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/5/2004

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411034
Project: MW#49 - Soil
Lab ID: 0411034-02

Client Sample ID: MW#49 10'-11.5'
Collection Date: 10/28/2004 5:00:00 PM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/5/2004
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/5/2004
1,1-Dichloroethane	ND	0.050		mg/Kg	1	11/5/2004
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/5/2004
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/5/2004
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/5/2004
2,2-Dichloropropane	ND	0.050		mg/Kg	1	11/5/2004
1,1-Dichloropropene	ND	0.050		mg/Kg	1	11/5/2004
Hexachlorobutadiene	ND	0.050		mg/Kg	1	11/5/2004
2-Hexanone	ND	0.50		mg/Kg	1	11/5/2004
Isopropylbenzene	0.24	0.050		mg/Kg	1	11/5/2004
4-Isopropyltoluene	1.2	0.050		mg/Kg	1	11/5/2004
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/5/2004
Methylene chloride	ND	0.15		mg/Kg	1	11/5/2004
n-Butylbenzene	2.0	0.050		mg/Kg	1	11/5/2004
n-Propylbenzene	1.2	0.050		mg/Kg	1	11/5/2004
sec-Butylbenzene	0.34	0.050		mg/Kg	1	11/5/2004
Styrene	ND	0.050		mg/Kg	1	11/5/2004
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/5/2004
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/5/2004
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/5/2004
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/5/2004
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/5/2004
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/5/2004
1,2,3-Trichlorobenzene	ND	0.050		mg/Kg	1	11/5/2004
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/5/2004
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/5/2004
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/5/2004
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/5/2004
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/5/2004
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/5/2004
Vinyl chloride	ND	0.050		mg/Kg	1	11/5/2004
Xylenes, Total	2.3	0.050		mg/Kg	1	11/5/2004
Surr: 1,2-Dichloroethane-d4	99.4	68.4-123		%REC	1	11/5/2004
Surr: 4-Bromofluorobenzene	112	70-119		%REC	1	11/5/2004
Surr: Dibromofluoromethane	105	76.8-123		%REC	1	11/5/2004
Surr: Toluene-d8	94.1	75.9-118		%REC	1	11/5/2004

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411034
Project: MW#49 - Soil
Lab ID: 0411034-03

Client Sample ID: MW#49 15'-16.5'
Collection Date: 10/28/2004 5:00:00 PM

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	10		mg/Kg	1	11/4/2004 1:27:48 AM
Motor Oil Range Organics (MRO)	ND	50		mg/Kg	1	11/4/2004 1:27:48 AM
Surr: DNOP	66.1	60-124		%REC	1	11/4/2004 1:27:48 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	5.0		mg/Kg	1	11/4/2004 3:42:58 PM
Surr: BFB	107	74-118		%REC	1	11/4/2004 3:42:58 PM
EPA METHOD 8260B: VOLATILES						Analyst: BDH
Benzene	ND	0.050		mg/Kg	1	11/8/2004
Toluene	ND	0.050		mg/Kg	1	11/8/2004
Ethylbenzene	ND	0.050		mg/Kg	1	11/8/2004
Methyl tert-butyl ether (MTBE)	ND	0.050		mg/Kg	1	11/8/2004
1,2,4-Trimethylbenzene	ND	0.050		mg/Kg	1	11/8/2004
1,3,5-Trimethylbenzene	ND	0.050		mg/Kg	1	11/8/2004
1,2-Dichloroethane (EDC)	ND	0.050		mg/Kg	1	11/8/2004
1,2-Dibromoethane (EDB)	ND	0.050		mg/Kg	1	11/8/2004
Naphthalene	ND	0.10		mg/Kg	1	11/8/2004
1-Methylnaphthalene	ND	0.20		mg/Kg	1	11/8/2004
2-Methylnaphthalene	ND	0.20		mg/Kg	1	11/8/2004
Acetone	ND	2.0		mg/Kg	1	11/8/2004
Bromobenzene	ND	0.050		mg/Kg	1	11/8/2004
Bromochloromethane	ND	0.050		mg/Kg	1	11/8/2004
Bromodichloromethane	ND	0.050		mg/Kg	1	11/8/2004
Bromoform	ND	0.050		mg/Kg	1	11/8/2004
Bromomethane	ND	0.10		mg/Kg	1	11/8/2004
2-Butanone	ND	1.0		mg/Kg	1	11/8/2004
Carbon disulfide	ND	0.50		mg/Kg	1	11/8/2004
Carbon tetrachloride	ND	0.10		mg/Kg	1	11/8/2004
Chlorobenzene	ND	0.050		mg/Kg	1	11/8/2004
Chloroethane	ND	0.10		mg/Kg	1	11/8/2004
Chloroform	ND	0.050		mg/Kg	1	11/8/2004
Chloromethane	ND	0.050		mg/Kg	1	11/8/2004
2-Chlorotoluene	ND	0.050		mg/Kg	1	11/8/2004
4-Chlorotoluene	ND	0.050		mg/Kg	1	11/8/2004
cis-1,2-DCE	ND	0.050		mg/Kg	1	11/8/2004
cis-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/8/2004
1,2-Dibromo-3-chloropropane	ND	0.10		mg/Kg	1	11/8/2004
Dibromochloromethane	ND	0.050		mg/Kg	1	11/8/2004
Dibromomethane	ND	0.10		mg/Kg	1	11/8/2004
1,2-Dichlorobenzene	ND	0.050		mg/Kg	1	11/8/2004
1,3-Dichlorobenzene	ND	0.050		mg/Kg	1	11/8/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining

Client Sample ID: MW#49 15'-16.5'

Lab Order: 0411034

Collection Date: 10/28/2004 5:00:00 PM

Project: MW#49 - Soil

Lab ID: 0411034-03

Matrix: SOIL

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,4-Dichlorobenzene	ND	0.050		mg/Kg	1	11/8/2004
Dichlorodifluoromethane	ND	0.050		mg/Kg	1	11/8/2004
1,1-Dichloroethane	ND	0.050		mg/Kg	1	11/8/2004
1,1-Dichloroethene	ND	0.050		mg/Kg	1	11/8/2004
1,2-Dichloropropane	ND	0.050		mg/Kg	1	11/8/2004
1,3-Dichloropropane	ND	0.050		mg/Kg	1	11/8/2004
2,2-Dichloropropane	ND	0.050		mg/Kg	1	11/8/2004
1,1-Dichloropropene	ND	0.050		mg/Kg	1	11/8/2004
Hexachlorobutadiene	ND	0.050		mg/Kg	1	11/8/2004
2-Hexanone	ND	0.50		mg/Kg	1	11/8/2004
Isopropylbenzene	ND	0.050		mg/Kg	1	11/8/2004
4-Isopropyltoluene	ND	0.050		mg/Kg	1	11/8/2004
4-Methyl-2-pentanone	ND	0.50		mg/Kg	1	11/8/2004
Methylene chloride	ND	0.15		mg/Kg	1	11/8/2004
n-Butylbenzene	ND	0.050		mg/Kg	1	11/8/2004
n-Propylbenzene	ND	0.050		mg/Kg	1	11/8/2004
sec-Butylbenzene	ND	0.050		mg/Kg	1	11/8/2004
Styrene	ND	0.050		mg/Kg	1	11/8/2004
tert-Butylbenzene	ND	0.050		mg/Kg	1	11/8/2004
1,1,1,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/8/2004
1,1,2,2-Tetrachloroethane	ND	0.050		mg/Kg	1	11/8/2004
Tetrachloroethene (PCE)	ND	0.050		mg/Kg	1	11/8/2004
trans-1,2-DCE	ND	0.050		mg/Kg	1	11/8/2004
trans-1,3-Dichloropropene	ND	0.050		mg/Kg	1	11/8/2004
1,2,3-Trichlorobenzene	ND	0.050		mg/Kg	1	11/8/2004
1,2,4-Trichlorobenzene	ND	0.050		mg/Kg	1	11/8/2004
1,1,1-Trichloroethane	ND	0.050		mg/Kg	1	11/8/2004
1,1,2-Trichloroethane	ND	0.050		mg/Kg	1	11/8/2004
Trichloroethene (TCE)	ND	0.050		mg/Kg	1	11/8/2004
Trichlorofluoromethane	ND	0.050		mg/Kg	1	11/8/2004
1,2,3-Trichloropropane	ND	0.10		mg/Kg	1	11/8/2004
Vinyl chloride	ND	0.050		mg/Kg	1	11/8/2004
Xylenes, Total	ND	0.050		mg/Kg	1	11/8/2004
Surr: 1,2-Dichloroethane-d4	93.6	68.4-123		%REC	1	11/8/2004
Surr: 4-Bromofluorobenzene	101	70-119		%REC	1	11/8/2004
Surr: Dibromofluoromethane	98.5	76.8-123		%REC	1	11/8/2004
Surr: Toluene-d8	95.2	75.9-118		%REC	1	11/8/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining
 Work Order: 0411034
 Project: MW#49 - Soil

QC SUMMARY REPORT
 Method Blank

Sample ID	MB-6792	Batch ID: 6792	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 8:29:24 PM	Prep Date	11/3/2004			
Client ID:			Run ID: FID(17A) 2_041102A		SeqNo: 317337						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10									
Motor Oil Range Organics (MRO)	ND	50									
Surr: DNOP	10	0	10	0	100	60	124	0			

Sample ID	MB-6783	Batch ID: 6783	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/4/2004 12:37:04 AM	Prep Date	11/3/2004			
Client ID:			Run ID: PIDFID_041103A		SeqNo: 317555						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5									
Surr: BFB	1036	0	1000	0	104	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining

Work Order: 0411034

Project: MW#49 - Soil

Sample ID	mb-6783	Batch ID: 6783	Test Code: SW8260B	Units: mg/Kg	Analysis Date 11/5/2004	Prep Date 11/3/2004					
Client ID:			Run ID: THOR_041104B		SeqNo: 318236						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.05									
Toluene	ND	0.05									
Ethylbenzene	ND	0.05									
Methyl tert-butyl ether (MTBE)	ND	0.05									
1,2,4-Trimethylbenzene	ND	0.05									
1,3,5-Trimethylbenzene	ND	0.05									
1,2-Dichloroethane (EDC)	ND	0.05									
1,2-Dibromoethane (EDB)	ND	0.05									
Naphthalene	ND	0.1									
1-Methylnaphthalene	ND	0.2									
2-Methylnaphthalene	ND	0.2									
Acetone	ND	2									
Bromobenzene	ND	0.05									
Bromochloromethane	ND	0.05									
Bromodichloromethane	ND	0.05									
Bromoform	ND	0.05									
Bromomethane	ND	0.1									
2-Butanone	ND	1									
Carbon disulfide	ND	0.5									
Carbon tetrachloride	ND	0.1									
Chlorobenzene	ND	0.05									
Chloroethane	ND	0.1									
Chloroform	ND	0.05									
Chloromethane	ND	0.05									
2-Chlorotoluene	ND	0.05									
4-Chlorotoluene	ND	0.05									
cis-1,2-DCE	ND	0.05									
cis-1,3-Dichloropropene	ND	0.05									

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0411034
 Project: MW#49 - Soil

1,2-Dibromo-3-chloropropane	ND	0.1
Dibromochloromethane	ND	0.05
Dibromomethane	ND	0.1
1,2-Dichlorobenzene	ND	0.05
1,3-Dichlorobenzene	ND	0.05
1,4-Dichlorobenzene	ND	0.05
Dichlorodifluoromethane	ND	0.05
1,1-Dichloroethane	ND	0.05
1,1-Dichloroethene	ND	0.05
1,2-Dichloropropane	ND	0.05
1,3-Dichloropropane	ND	0.05
2,2-Dichloropropane	ND	0.05
1,1-Dichloropropene	ND	0.05
Hexachlorobutadiene	ND	0.05
2-Hexanone	ND	0.5
Isopropylbenzene	ND	0.05
4-Isopropyltoluene	ND	0.05
4-Methyl-2-pentanone	ND	0.5
Methylene chloride	0.0113	0.15
n-Butylbenzene	ND	0.05
n-Propylbenzene	ND	0.05
sec-Butylbenzene	ND	0.05
Styrene	ND	0.05
tert-Butylbenzene	ND	0.05
1,1,1,2-Tetrachloroethane	ND	0.05
1,1,2,2-Tetrachloroethane	ND	0.05
Tetrachloroethene (PCE)	ND	0.05
trans-1,2-DCE	ND	0.05
trans-1,3-Dichloropropene	ND	0.05
1,2,3-Trichlorobenzene	ND	0.05
1,2,4-Trichlorobenzene	ND	0.05
1,1,1-Trichloroethane	ND	0.05
1,1,2-Trichloroethane	ND	0.05

J

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Method Blank

CLIENT: San Juan Refining

Work Order: 0411034

Project: MW#49 - Soil

[illegible]

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining
 Work Order: 0411034
 Project: MW#49 - Soil

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0411034-03a ms	Batch ID: 6783	Test Code: SW8260B	Units: mg/Kg	Analysis Date	11/5/2004	Prep Date	11/3/2004			
Client ID:	MW#49 15'-16.5'		Run ID: THOR_041104B		SeqNo:	318238					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.969	0.05	1	0	96.9	75	125	0			
Toluene	0.8921	0.05	1	0	89.2	72.9	125	0			
Chlorobenzene	0.9591	0.05	1	0	95.9	78.3	125	0			
1,1-Dichloroethene	0.9673	0.05	1	0	96.7	72.5	125	0			
Trichloroethene (TCE)	0.8801	0.05	1	0	88.0	72.5	125	0			
Surr: 1,2-Dichloroethane-d4	0.4847	0	0.5	0	96.9	68.4	123	0			
Surr: 4-Bromofluorobenzene	0.5083	0	0.5	0	102	70	119	0			
Surr: Dibromofluoromethane	0.507	0	0.5	0	101	76.8	123	0			
Surr: Toluene-d8	0.4716	0	0.5	0	94.3	75.9	118	0			

Sample ID	0411034-03a msd	Batch ID: 6783	Test Code: SW8260B	Units: mg/Kg	Analysis Date	11/5/2004	Prep Date	11/3/2004			
Client ID:	MW#49 15'-16.5'		Run ID:	THOR_041104B	SeqNo:	318239					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.9918	0.05	1	0	99.2	75	125	0.969	2.33	20	
Toluene	0.8822	0.05	1	0	88.2	72.9	125	0.8921	1.12	20	
Chlorobenzene	0.9519	0.05	1	0	95.2	78.3	125	0.9591	0.754	20	
1,1-Dichloroethene	0.9877	0.05	1	0	98.8	72.5	125	0.9673	2.09	20	
Trichloroethene (TCE)	0.9167	0.05	1	0	91.7	72.5	125	0.8801	4.07	20	
Surr: 1,2-Dichloroethane-d4	0.4911	0	0.5	0	98.2	68.4	123	0.4847	1.31	0	
Surr: 4-Bromofluorobenzene	0.4944	0	0.5	0	98.9	70	119	0.5083	2.77	0	
Surr: Dibromofluoromethane	0.5121	0	0.5	0	102	76.8	123	0.507	1.00	0	
Surr: Toluene-d8	0.4716	0	0.5	0	94.3	75.9	118	0.4716	0	0	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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Hall Environmental Analysis Laboratory

Date: 09-Nov-04

CLIENT: San Juan Refining

Work Order: 0411034

Project: MW#49 - Soil

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-6792	Batch ID: 6792	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 10:28:29 PM	Prep Date	11/3/2004			
Client ID:		Run ID:	FID(17A) 2_041102A		SeqNo:	317342					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	47.37	10	50	0	94.7	67.4	117	0			
Sample ID	LCSD-6792	Batch ID: 6792	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/3/2004 10:57:49 PM	Prep Date	11/3/2004			
Client ID:		Run ID:	FID(17A) 2_041102A		SeqNo:	317343					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48.28	10	50	0	96.6	67.4	117	47.37	1.90	17.4	
Sample ID	LCS-6783	Batch ID: 6783	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/4/2004 1:06:45 AM	Prep Date	11/3/2004			
Client ID:		Run ID:	PIDFID_041103A		SeqNo:	317556					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	27.35	5	25	0	109	73.8	120	0			
Sample ID	GRO std 2.5ug	Batch ID: 6783	Test Code: SW8015	Units: mg/Kg	Analysis Date	11/5/2004 2:10:38 AM	Prep Date				
Client ID:		Run ID:	PIDFID_041104A		SeqNo:	317860					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	26.3	5	25	0	105	73.8	120	0			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining
 Work Order: 0411034
 Project: MW#49 - Soil

Sample ID	Batch ID	Test Code	Units	mg/Kg	Analysis Date	Prep Date
Ics-6783	6783	SW8260B			11/5/2004	11/3/2004
Client ID	Run ID	PQL	SPK value	SPK Ref Val	SeqNo:	
			THOR_041104B		318237	
Analyte	Result	%REC	LowLimit	HighLimit	RPD Ref Val	RPDLimit
Benzene	1.001	100	75.3	121	0	
Toluene	0.9563	95.6	65.5	123	0	
Chlorobenzene	1.031	103	78.3	124	0	
1,1-Dichloroethene	1.017	102	72.5	125	0	
Trichloroethene (TCE)	0.9027	90.3	70.8	118	0	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

11/2/2004

Work Order Number 0411034

Received by AT

Checklist completed by

Signature

Date

Matrix

Carrier name Greyhound

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒ Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☒	No ☐	N/A ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☒	Yes ☐	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒

Container/Temp Blank temperature?

1°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.34
www.hallenvironmental.com

Client: SAN Juan Refining

Project Name:

NAME. MW#49-501/

Address: #50 Rd 499D

Bloomfield NM

07413

Phone #: 505-1037-4161

Fax #: 505-632-3911

QA/QC Package:

Std Level 4

Other:

ANALYSIS REQUEST

[illegible]

Remarks:

Date:	Time:	Relinquished By: (Signature)
-------	-------	------------------------------

Time:

Relinquished By: (Signature)

Received By: (Signature)

50104

Date:

Time:

Relinquished By: (Signature)

Received By: (Signature)



COVER LETTER

November 08, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: River Terrace-Temp Piezometers

Order No.: 0410291

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 8 samples on 10/29/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT: San Juan Refining Client Sample ID: TP#1
 Lab Order: 0410291 Collection Date: 10/28/2004 11:10:00 AM
 Project: River Terrace-Temp Piezometers
 Lab ID: 0410291-01 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	6.1	1.0		mg/L	1	11/4/2004 3:51:46 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 3:51:46 PM
Surr: DNOP	80.6	58-140		%REC	1	11/4/2004 3:51:46 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	140	25		mg/L	500	11/2/2004 1:16:18 PM
Surr: BFB	105	74-118		%REC	500	11/2/2004 1:16:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	11/1/2004 9:04:33 PM
Benzene	1200	50		µg/L	100	11/1/2004 9:04:33 PM
Toluene	340	50		µg/L	100	11/1/2004 9:04:33 PM
Ethylbenzene	5200	250		µg/L	500	11/2/2004 1:16:18 PM
Xylenes, Total	39000	250		µg/L	500	11/2/2004 1:16:18 PM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	300	11/2/2004 1:16:18 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT:	San Juan Refining	Client Sample ID:	TP#2
Lab Order:	0410291	Collection Date:	10/28/2004 11:30:00 AM
Project:	River Terrace-Temp Piezometers		
Lab ID:	0410291-02	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	1.3	1.0		mg/L	1	11/4/2004 4:22:09 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 4:22:09 PM
Surr: DNOP	83.7	58-140		%REC	1	11/4/2004 4:22:09 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	92	5.0		mg/L	100	11/1/2004 9:34:28 PM
Surr: BFB	109	74-118		%REC	100	11/1/2004 9:34:28 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	11/1/2004 9:34:28 PM
Benzene	3100	50		µg/L	100	11/1/2004 9:34:28 PM
Toluene	8200	50		µg/L	100	11/1/2004 9:34:28 PM
Ethylbenzene	4200	50		µg/L	100	11/1/2004 9:34:28 PM
Xylenes, Total	27000	250		µg/L	100	11/2/2004 1:43:01 PM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	100	11/1/2004 9:34:28 PM

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT: San Juan Refining Client Sample ID: TP#3
 Lab Order: 0410291 Collection Date: 10/28/2004 11:45:00 AM
 Project: River Terrace-Temp Piezometers
 Lab ID: 0410291-03 Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/4/2004 4:52:18 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 4:52:18 PM
Surr: DNOP	85.4	58-140		%REC	1	11/4/2004 4:52:18 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1.8	0.050		mg/L	1	11/1/2004 10:04:18 PM
Surr: BFB	116	74-118		%REC	1	11/1/2004 10:04:18 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/1/2004 10:04:18 PM
Benzene	3.5	0.50		µg/L	1	11/1/2004 10:04:18 PM
Toluene	23	0.50		µg/L	1	11/1/2004 10:04:18 PM
Ethylbenzene	51	5.0		µg/L	10	11/2/2004 2:15:46 PM
Xylenes, Total	310	5.0		µg/L	10	11/2/2004 2:15:46 PM
Surr: 4-Bromofluorobenzene	104	74-118		%REC	10	11/2/2004 2:15:46 PM

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank E - Value above quantitation range
 * - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT:	San Juan Refining	Client Sample ID:	TP#4
Lab Order:	0410291	Collection Date:	10/28/2004 12:00:00 PM
Project:	River Terrace-Temp Piezometers		
Lab ID:	0410291-04	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	1.3	1.0		mg/L	1	11/4/2004 5:21:33 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 5:21:33 PM
Surr: DNOP	127	58-140		%REC	1	11/4/2004 5:21:33 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	22	1.0		mg/L	20	11/2/2004 2:45:31 PM
Surr: BFB	110	74-118		%REC	20	11/2/2004 2:45:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	11/2/2004 2:45:31 PM
Benzene	ND	10		µg/L	20	11/2/2004 2:45:31 PM
Toluene	ND	10		µg/L	20	11/2/2004 2:45:31 PM
Ethylbenzene	810	10		µg/L	20	11/2/2004 2:45:31 PM
Xylenes, Total	1600	10		µg/L	20	11/2/2004 2:45:31 PM
Surr: 4-Bromofluorobenzene	106	74-118		%REC	20	11/2/2004 2:45:31 PM

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 B - Analyte detected in the associated Method Blank
 * - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT:	San Juan Refining	Client Sample ID:	TP#5
Lab Order:	0410291	Collection Date:	10/28/2004 12:20:00 PM
Project:	River Terrace-Temp Piezometers		
Lab ID:	0410291-05	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/l	1	11/4/2004 5:51:37 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 5:51:37 PM
Surr: DNOP	73.4	58-140		%REC	1	11/4/2004 5:51:37 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	67	5.0		mg/L	100	11/1/2004 11:03:57 PM
Surr: BFB	114	74-118		%REC	100	11/1/2004 11:03:57 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	11/1/2004 11:03:57 PM
Benzene	280	100		µg/L	200	11/2/2004 4:14:43 PM
Toluene	ND	100		µg/L	200	11/2/2004 4:14:43 PM
Ethylbenzene	2200	100		µg/L	200	11/2/2004 4:14:43 PM
Xylenes, Total	21000	100		µg/L	200	11/2/2004 4:14:43 PM
Surr: 4-Bromofluorobenzene	106	74-118		%REC	200	11/2/2004 4:14:43 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT:	San Juan Refining	Client Sample ID:	TP#6
Lab Order:	0410291	Collection Date:	10/28/2004 12:35:00 PM
Project:	River Terrace-Temp Piezometers		
Lab ID:	0410291-06	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/4/2004 7:50:53 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 7:50:53 PM
Surr: DNOP	84.0	58-140		%REC	1	11/4/2004 7:50:53 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	13	1.0		mg/L	20	11/2/2004 4:44:24 PM
Surr: BFB	111	74-118		%REC	20	11/2/2004 4:44:24 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	11/2/2004 4:44:24 PM
Benzene	98	10		µg/L	20	11/2/2004 4:44:24 PM
Toluene	ND	10		µg/L	20	11/2/2004 4:44:24 PM
Ethylbenzene	1100	10		µg/L	20	11/2/2004 4:44:24 PM
Xylenes, Total	3900	10		µg/L	20	11/2/2004 4:44:24 PM
Surr: 4-Bromofluorobenzene	107	74-118		%REC	20	11/2/2004 4:44:24 PM

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT:	San Juan Refining	Client Sample ID:	TP#7
Lab Order:	0410291	Collection Date:	10/28/2004 1:05:00 PM
Project:	River Terrace-Temp Piezometers		
Lab ID:	0410291-07	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/4/2004 8:20:12 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 8:20:12 PM
Surr: DNOP	128	58-140		%REC	1	11/4/2004 8:20:12 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	1.7	0.050		mg/L	1	11/2/2004 12:03:53 AM
Surr: BFB	105	74-118		%REC	1	11/2/2004 12:03:53 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/2/2004 12:03:53 AM
Benzene	5.5	0.50		µg/L	1	11/2/2004 12:03:53 AM
Toluene	ND	0.50		µg/L	1	11/2/2004 12:03:53 AM
Ethylbenzene	15	0.50		µg/L	1	11/2/2004 12:03:53 AM
Xylenes, Total	220	2.5		µg/L	5	11/2/2004 5:14:28 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	11/2/2004 12:03:53 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT:	San Juan Refining	Client Sample ID: TP#8
Lab Order:	0410291	Collection Date: 10/28/2004 12:55:00 PM
Project:	River Terrace-Temp Piezometers	
Lab ID:	0410291-08	Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	4.4	1.0		mg/L	1	11/4/2004 8:50:15 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/4/2004 8:50:15 PM
Surr: DNOP	94.1	58-140		%REC	1	11/4/2004 8:50:15 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	89	10		mg/L	200	11/2/2004 12:34:09 AM
Surr: BFB	113	74-118		%REC	200	11/2/2004 12:34:09 AM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	500		µg/L	200	11/2/2004 12:34:09 AM
Benzene	870	100		µg/L	200	11/2/2004 12:34:09 AM
Toluene	340	100		µg/L	200	11/2/2004 12:34:09 AM
Ethylbenzene	3100	100		µg/L	200	11/2/2004 12:34:09 AM
Xylenes, Total	33000	100		µg/L	200	11/2/2004 12:34:09 AM
Surr: 4-Bromofluorobenzene	104	74-118		%REC	200	11/2/2004 12:34:09 AM

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	E - Value above quantitation range
	* - Value exceeds Maximum Contaminant Level	

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT: San Juan Refining
 Work Order: 0410291
 Project: River Terrace-Temp Piezometers

QC SUMMARY REPORT
 Method Blank

Sample ID	MB-6772	Batch ID	6772	Test Code	SW8015	Units	mg/L	Analysis Date	11/4/2004 2:23:05 PM	Prep Date	11/2/2004
Client ID:		Run ID:		FID(17A)2_041102A				SeqNo:	317724		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)		ND		1							
Motor Oil Range Organics (MRO)		ND		5							
Surr: DNOP		1.223		0	1	0	122	58	140	0	

Sample ID	Reagent Blank 5m	Batch ID	R13632	Test Code	SW8015	Units	mg/L	Analysis Date	11/1/2004 7:59:13 AM	Prep Date	
Client ID:		Run ID:		PIDFID_041101A				SeqNo:	316672		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)		ND		0.05							
Surr: BFB		21.69		0	20	0	108	74	118	0	

Sample ID	Reagent Blank 5m	Batch ID	R13645	Test Code	SW8015	Units	mg/L	Analysis Date	11/2/2004 9:17:05 AM	Prep Date	
Client ID:		Run ID:		PIDFID_041102A				SeqNo:	316982		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)		ND		0.05							
Surr: BFB		20.81		0	20	0	104	74	118	0	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits

D - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0410291
Project: River Terrace-Temp Piezometers

QC SUMMARY REPORT
 Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R13632	Test Code: SW8021	Units: µg/L	Analysis Date	11/1/2004 7:59:13 AM	Prep Date				
Client ID:			Run ID: PIDFID_041101A		SeqNo:	316671					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	21.15	0	20	0	106	74	118	0			

Sample ID	Reagent Blank 5m	Batch ID: R13645	Test Code: SW8021	Units: µg/L	Analysis Date	11/2/2004 9:17:05 AM	Prep Date				
Client ID:			Run ID: PIDFID_041102A		SeqNo:	316981					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									
Surr: 4-Bromofluorobenzene	20.55	0	20	0	103	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 08-Nov-04

CLIENT: San Juan Refining
 Work Order: 0410291
 Project: River Terrace-Temp Piezometers

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID	LCS-6772	Batch ID: 6772	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 2:52:24 PM	Prep Date	11/2/2004				
Client ID:			Run ID: FID(17A) 2_041102A		SeqNo: 317725							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.634	1	5	0	113	81.2	149	0			
Sample ID	LCSD-6772	Batch ID: 6772	Test Code: SW8015	Units: mg/L	Analysis Date	11/4/2004 3:21:42 PM	Prep Date	11/2/2004				
Client ID:			Run ID: FID(17A) 2_041102A		SeqNo: 317726							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		4.958	1	5	0	99.2	81.2	149	5.634	12.8	23	
Sample ID	GRO std 2.5ug	Batch ID: R13632	Test Code: SW8015	Units: mg/L	Analysis Date	11/2/2004 2:03:18 AM	Prep Date					
Client ID:			Run ID: PIDFID_041101A		SeqNo: 316780							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.5166	0.05	0.5	0	103	80.3	116	0			
Sample ID	GRO std 2.5ug	Batch ID: R13645	Test Code: SW8015	Units: mg/L	Analysis Date	11/2/2004 7:13:49 PM	Prep Date					
Client ID:			Run ID: PIDFID_041102A		SeqNo: 316986							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.489	0.05	0.5	0	97.8	80.3	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0410291
Project: River Terrace-Temp Piezometers

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID	BTEX std 100ng	Batch ID: R13632	Test Code: SW8021	Units: µg/L	Analysis Date	11/1/2004 8:58:56 AM	Prep Date				
Client ID:		Run ID: PIDFID_041101A			SeqNo:	316761					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	40.16	2.5	40	0	100	54.9	142	0			
Benzene	20.01	0.5	20	0	100	81.3	121	0			
Toluene	20.57	0.5	20	0	103	84.9	118	0			
Ethylbenzene	20.82	0.5	20	0	104	53.8	149	0			
Xylenes, Total	62.36	0.5	60	0	104	83.1	122	0			

Sample ID	BTEX std 100ng	Batch ID: R13632	Test Code: SW8021	Units: µg/L	Analysis Date	11/1/2004 7:05:39 PM	Prep Date				
Client ID:		Run ID: PIDFID_041101A			SeqNo:	316762					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	41.49	2.5	40	0	104	54.9	142	40.16	3.27	28	
Benzene	18.45	0.5	20	0	92.2	81.3	121	20.01	8.11	27	
Toluene	18.72	0.5	20	0	93.6	84.9	118	20.57	9.41	19	
Ethylbenzene	18.54	0.5	20	0	92.7	53.8	149	20.82	11.6	15	
Xylenes, Total	56.7	0.5	60	0	94.5	83.1	122	62.36	9.51	13	

Sample ID	BTEX std 100ng	Batch ID: R13645	Test Code: SW8021	Units: µg/L	Analysis Date	11/2/2004 8:13:14 PM	Prep Date				
Client ID:		Run ID:	PIDFID_041102A		SeqNo:	317033					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	43.38	2.5	40	0	108	54.9	142	0			
Benzene	19.92	0.5	20	0	99.6	81.3	121	0			
Toluene	19.73	0.5	20	0	98.7	84.9	118	0			
Ethylbenzene	20.23	0.5	20	0	101	53.8	149	0			
Xylenes, Total	60.84	0.5	60	0	101	83.1	122	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

10/29/2004

Work Order Number 0410291

Received by AT

Checklist completed by



10/29/04

Signature

Date

Matrix

Carrier name UPS

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒ Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☒	N/A ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒

Container/Temp Blank temperature?

3°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____



Mr. Wayne Price
New Mexico Oil Conservation Division
1220 South St. Frances Dr.
Santa Fe, New Mexico 87505

Certified Mail: 7099 3220 0010 2242 5129

October 8, 2004

Re: **RIVER SAMPLES**

Dear Mr. Price,

Giant Refining Company – Bloomfield Refinery conducted river sampling events per the "Monitoring and Contingency Plan". Enclosed in this packet are the hardcopies of the analysis of samples taken from August 14, September 7, and September 30, 2004 as well as a map of those sampling locations.

Please note that in the first event, a sampling location was identified as "Draw MW #47". This should have been labeled as "North of MW #46" and will be identified as such in future events.

River samples were pulled again on October 7, 2004 and the analysis will be forwarded on to you when it is completed.

Please contact me if you have any questions.

Sincerely,


Cindy Hurtado

Cc: Hope Monzeglio – NMED
Denny Foust - OCD
Randy Schmaltz – Giant Refining



San Juan River Sampling Points

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

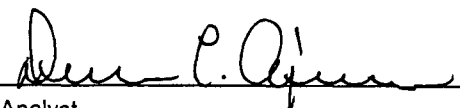
Client:	Giant	Project #:	96012-028
Sample ID:	009	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	08-16-04
Chain of Custody No:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	08-19-04
Preservative:	Cool	Date Analyzed:	08-19-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

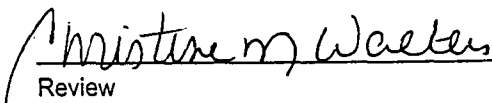
Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.3	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846. USEPA, December 1996.

Comments: **Outfall Area Draw MW #47.**


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Giant	Project #:	96012-028
Sample ID:	009	Date Reported:	08-19-04
Chain of Custody:	12756	Date Sampled:	08-16-04
Laboratory Number:	30065	Date Received:	08-16-04
Sample Matrix:	Water	Date Analyzed:	08-19-04
Preservative:	Cool	Analysis Requested:	BTEX-MTBE
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Methyl-t-butly Ether	ND	1	0.2
Benzene	6.3	1	0.2
Toluene	85.4	1	0.2
Ethylbenzene	29.0	1	0.2
p,m-Xylene	95.8	1	0.2
o-Xylene	14.9	1	0.1

Total BTEX 231

ND - Parameter not detected at the stated detection limit.

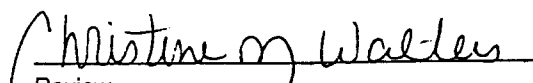
Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	4-bromochlorobenzene	98 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: Outfall Area Draw MW #47.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

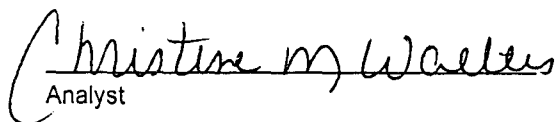
CATION / ANION ANALYSIS

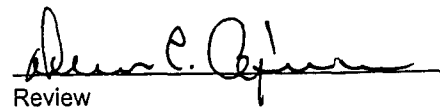
Client:	Giant	Project #:	96012-028
Sample ID:	009	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	08-16-04
Chain of Custody:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-17-04
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	7.48	s.u.	
Conductivity @ 25° C	402	umhos/cm	
Total Dissolved Solids @ 180C	228	mg/L	
Total Dissolved Solids (Calc)	248	mg/L	
SAR	1.1	ratio	
Total Alkalinity as CaCO3	87.2	mg/L	
Total Hardness as CaCO3	132	mg/L	
Bicarbonate as HCO3	87.2	mg/L	1.43 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.2	mg/L	0.00 meq/L
Nitrite Nitrogen	0.004	mg/L	0.00 meq/L
Chloride	23.2	mg/L	0.65 meq/L
Fluoride	0.18	mg/L	0.01 meq/L
Phosphate	0.4	mg/L	0.01 meq/L
Sulfate	91.0	mg/L	1.89 meq/L
Iron	0.010	mg/L	0.00 meq/L
Calcium	41.6	mg/L	2.08 meq/L
Magnesium	6.93	mg/L	0.57 meq/L
Potassium	1.65	mg/L	0.04 meq/L
Sodium	30.2	mg/L	1.31 meq/L
Cations			4.00 meq/L
Anions			4.00 meq/L
Cation/Anion Difference			0.03%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Outfall Area Draw of MW #47.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Giant	Project #:	96012-028
Sample ID:	009	Date Reported:	08-18-04
Laboratory Number:	30065	Date Sampled:	08-14-04
Chain of Custody:	12756	Date Received:	08-14-04
Sample Matrix:	Water	Date Analyzed:	08-18-04
Preservative:	Cool	Date Digested:	08-17-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	TCLP Regulatory Level (mg/L)
Arsenic	0.001	0.001	5.0
Barium	0.027	0.001	100
Cadmium	ND	0.001	1.0
Chromium	ND	0.001	5.0
Lead	ND	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

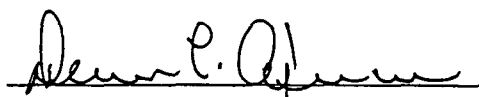
ND - Parameter not detected at the stated detection limit.

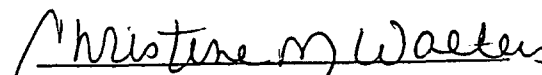
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Outfall Area Draw MW #47.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-19-TPH QA/QC	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-19-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5476E-002	0.20%	0 - 15%

Blank Conc. (mg/L)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

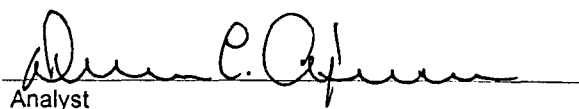
Duplicate Conc. (mg/L)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

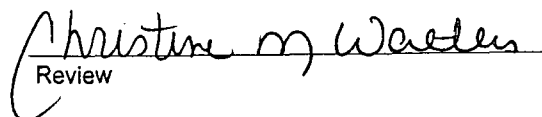
Spike Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	0.3	250	250	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	08-19-BTEX QA/QC	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-19-04
Condition:	N/A	Analysis:	BTEX-MTBE

Calibration and Detection Limits (ug/L)	I-Cal RF:	C-Cal RF:	%Diff.	Blank Conc	Detect Limit
		Accept. Range 0 - 15%			
Methyl-t-butyl Ether	7.7846E-001	7.7924E-001	0.10%	ND	0.2
Benzene	2.8990E-001	2.9048E-001	0.20%	ND	0.2
Toluene	2.546CE-002	2.5465E-002	0.02%	ND	0.2
Ethylbenzene	3.8451E-002	3.8528E-002	0.20%	ND	0.2
p,m-Xylene	3.298E-002	3.2995E-002	0.02%	ND	0.2
o-Xylene	3.3333E-002	3.3433E-002	0.30%	ND	0.1

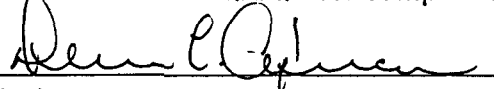
Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Methyl-t-butyl Ether	ND	ND	0.0%	0 - 30%
Benzene	6.3	6.4	1.6%	0 - 30%
Toluene	85.4	86.8	1.6%	0 - 30%
Ethylbenzene	29.0	28.7	1.0%	0 - 30%
p,m-Xylene	95.8	95.9	0.1%	0 - 30%
o-Xylene	14.9	14.7	1.3%	0 - 30%

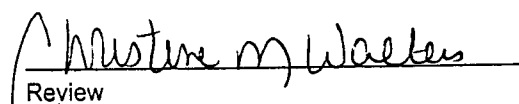
Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Methyl-t-butyl Ether	ND	50.0	50.0	100.0%	80 - 120
Benzene	6.3	50.0	56.2	99.8%	39 - 150
Toluene	85.4	50.0	135	99.4%	46 - 148
Ethylbenzene	29.0	50.0	78.9	99.9%	32 - 160
p,m-Xylene	95.8	100	195	99.8%	46 - 148
o-Xylene	14.9	50.0	64.8	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-18-TM QA/QC	Date Reported:	08-18-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-18-04
Condition:	N/A	Date Digested:	08-17-04

Blank & Duplicate Conc. (mg/L)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Barium	ND	ND	0.001	0.027	0.027	0.0%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

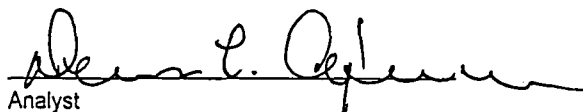
Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.001	0.500	99.8%	80% - 120%
Barium	0.500	0.027	0.527	100.0%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	ND	0.500	100.0%	80% - 120%
Lead	0.500	ND	0.499	99.8%	80% - 120%
Mercury	0.050	ND	0.050	100.0%	80% - 120%
Selenium	0.500	ND	0.499	99.8%	80% - 120%
Silver	0.500	ND	0.500	100.0%	80% - 120%

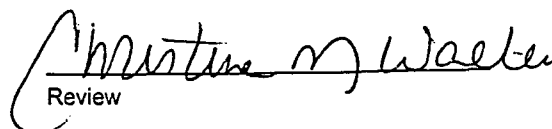
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-843, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

CHAIN OF CUSTODY RECORD

12756

Pg 1 of 2

Client / Project Name			Project Location		ANALYSIS / PARAMETERS							
Giant			outfall area									
Sampler: Morgan K. 11.02			Client No. 96612-028									
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	General Chemistry	TPH	DOIS	BTEX/MTBE	DOCI	WQCC/MSD	Remarks
001	8-14-04	09:15	30057	Soil	1	X						Topsoil Spill
002	11	08:20	30058	Soil	1	X						Middle of Spill
003	11	09:45	30059	Soil	1	X						Lower middle of Spill
004	11	05:50	30060	Soil	1	X						Above soil containment
005	11	09:55	30061	Soil	1	X						Below soil containment
006	11	04:20	30062	Soil	1	X	X	X	X	X		SOFMW #47
007	11	14:40	30063	Soil	1	X	X	X	X	X		N. of MW #45
008	11	12:50	30064	Soil	1	X	X	X	X	X		Draw MW #47
009	11	11:20	30065	H ₂ O	2	X	X	X	X	X		Draw MW #45
010	11	10:40	30066	H ₂ O	2	X	X	X	X	X		
Relinquished by: (Signature) <i>Morgan K. 11.02</i>			Date Time		Received by: (Signature) <i>Maureen M. Walten</i>		Date Time					
Relinquished by: (Signature)			8/14/04		Received by: (Signature)		8/14/04					
Relinquished by: (Signature)					Received by: (Signature)							

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt

Received Intact	Y	N	N/A
Cool - Ice/Blue Ice			

~~12757~~
Pg 262

san juan reproduction 578-129

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

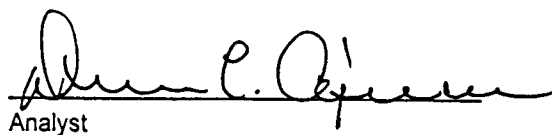
Client:	Giant	Project #:	96012-028
Sample ID:	011	Date Reported:	08-19-04
Laboratory Number:	30067	Date Sampled:	08-16-04
Chain of Custody No:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	08-19-04
Preservative:	Cool	Date Analyzed:	08-19-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

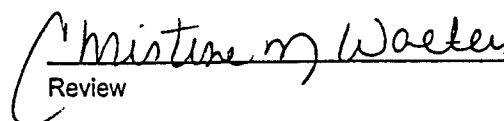
Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Outfall Area Up Stream of Plant.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Giant	Project #:	96012-028
Sample ID:	011	Date Reported:	08-19-04
Chain of Custody:	12756	Date Sampled:	08-16-04
Laboratory Number:	30067	Date Received:	08-16-04
Sample Matrix:	Water	Date Analyzed:	08-19-04
Preservative:	Cool	Analysis Requested:	BTEX-MTBE
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Methyl-t-butly Ether	ND	1	0.2
Benzene	ND	1	0.2
Toluene	ND	1	0.2
Ethylbenzene	ND	1	0.2
p,m-Xylene	ND	1	0.2
o-Xylene	ND	1	0.1

Total BTEX ND

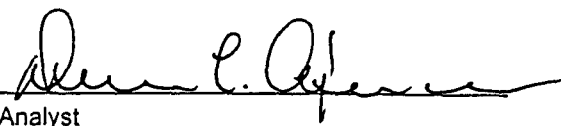
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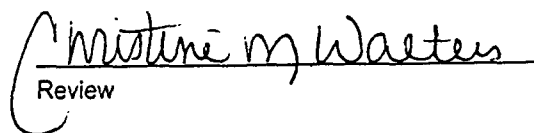
Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	4-bromochlorobenzene	98 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: Outfall Area Up Stream of Plant.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

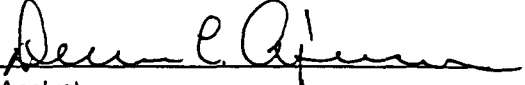
CATION / ANION ANALYSIS

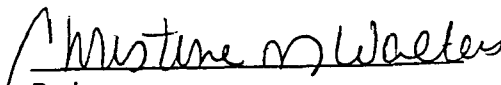
Client:	Giant	Project #:	96012-028
Sample ID:	011	Date Reported:	08-19-04
Laboratory Number:	30067	Date Sampled:	08-16-04
Chain of Custody:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-17-04
Condition:	Cool & Intact		

Parameter	Analytical Result	Units	Units
pH	7.87	s.u.	
Conductivity @ 25° C	391	umhos/cm	
Total Dissolved Solids @ 180C	242	mg/L	
Total Dissolved Solids (Calc)	255	mg/L	
SAR	1.4	ratio	
Total Alkalinity as CaCO3	86.0	mg/L	
Total Hardness as CaCO3	123	mg/L	
Bicarbonate as HCO3	86.0	mg/L	1.41 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.2	mg/L	0.00 meq/L
Nitrite Nitrogen	0.007	mg/L	0.00 meq/L
Chloride	23.2	mg/L	0.65 meq/L
Fluoride	0.45	mg/L	0.02 meq/L
Phosphate	0.2	mg/L	0.01 meq/L
Sulfate	95.5	mg/L	1.99 meq/L
Iron	0.001	mg/L	0.00 meq/L
Calcium	39.2	mg/L	1.96 meq/L
Magnesium	6.15	mg/L	0.51 meq/L
Potassium	1.25	mg/L	0.03 meq/L
Sodium	36.6	mg/L	1.59 meq/L
Cations			4.09 meq/L
Anions			4.09 meq/L
Cation/Anion Difference			0.01%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Outfall Area Up Stream of Plant.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Giant	Project #:	96012-028
Sample ID:	011	Date Reported:	08-18-04
Laboratory Number:	30067	Date Sampled:	08-14-04
Chain of Custody:	12756	Date Received:	08-14-04
Sample Matrix:	Water	Date Analyzed:	08-18-04
Preservative:	Cool	Date Digested:	08-17-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	TCLP Regulatory Level (mg/L)
Arsenic	ND	0.001	5.0
Barium	0.005	0.001	100
Cadmium	ND	0.001	1.0
Chromium	ND	0.001	5.0
Lead	ND	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

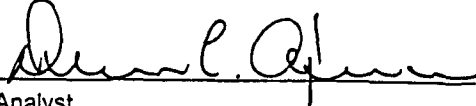
ND - Parameter not detected at the stated detection limit.

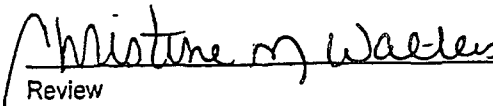
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Outfall Area Up Stream of Plant.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-19-TPH QA/QC	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-19-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5476E-002	0.20%	0 - 15%

Blank Conc. (mg/L)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

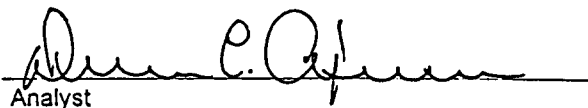
Duplicate Conc. (mg/L)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

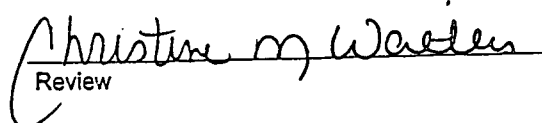
Spike Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	0.3	250	250	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	08-19-BTEX QA/QC	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-19-04
Condition:	N/A	Analysis:	BTEX-MTBE

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF	%Diff.	Blank Conc	Detect Limit
		Accept. Range 0 - 15%			
Methyl-t-butyl Ether	7.7846E-001	7.7924E-001	0.10%	ND	0.2
Benzene	2.8990E-001	2.9048E-001	0.20%	ND	0.2
Toluene	2.5460E-002	2.5465E-002	0.02%	ND	0.2
Ethylbenzene	3.8451E-002	3.8528E-002	0.20%	ND	0.2
p,m-Xylene	3.2988E-002	3.2995E-002	0.02%	ND	0.2
o-Xylene	3.3333E-002	3.3433E-002	0.30%	ND	0.1

Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Methyl-t-butyl Ether	ND	ND	0.0%	0 - 30%
Benzene	6.3	6.4	1.6%	0 - 30%
Toluene	85.4	86.8	1.6%	0 - 30%
Ethylbenzene	29.0	28.7	1.0%	0 - 30%
p,m-Xylene	95.8	95.9	0.1%	0 - 30%
o-Xylene	14.9	14.7	1.3%	0 - 30%

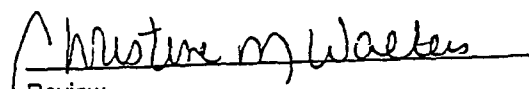
Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Methyl-t-butyl Ether	ND	50.0	50.0	100.0%	80 - 120
Benzene	6.3	50.0	56.2	99.8%	39 - 150
Toluene	85.4	50.0	135	99.4%	46 - 148
Ethylbenzene	29.0	50.0	78.9	99.9%	32 - 160
p,m-Xylene	95.8	100	195	99.8%	46 - 148
o-Xylene	14.9	50.0	64.8	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-18-TM QA/QC	Date Reported:	08-18-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-18-04
Condition:	N/A	Date Digested:	08-17-04

Blank & Duplicate Conc. (mg/L)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Barium	ND	ND	0.001	0.027	0.027	0.0%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

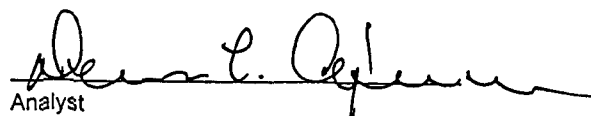
Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.001	0.500	99.8%	80% - 120%
Barium	0.500	0.027	0.527	100.0%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	ND	0.500	100.0%	80% - 120%
Lead	0.500	ND	0.499	99.8%	80% - 120%
Mercury	0.050	ND	0.050	100.0%	80% - 120%
Selenium	0.500	ND	0.499	99.8%	80% - 120%
Silver	0.500	ND	0.500	100.0%	80% - 120%

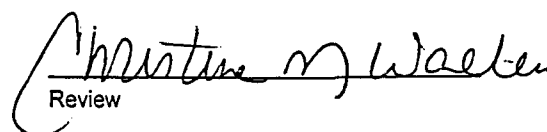
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-843, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

CHAIN OF CUSTODY RECORD

12756

Pg 1 of 2

Client / Project Name			Project Location		ANALYSIS / PARAMETERS						Remarks			
Giant			outfall area											
Sampler: Morgan K. 11.00			Client No. 96612-028											
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	General Chemistry	TPH	DOIS	BTEX/MTHA	DOCI	Heavy Metals			
001	8-14-04	08:15	30057	Soil	1	X						Topsoil Spill		
002	11	08:20	30058	Soil	1	X						Middle of Spill		
003	11	09:45	30059	Soil	1	X						Lower middle of Spill		
004	11	09:50	30060	Soil	1	X						Above soil contamination		
005	11	09:55	30061	Soil	1	X						Below soil contamination		
006	11	09:40	30062	Soil	1	X						Soil #47		
007	11	14:40	30063	Soil	1	X						N. of NW #45		
008	11	12:50	30064	Soil	1	X						N. of NW #45		
009	11	11:20	30065	H ₂ O	2	X						Draw NW #47		
010	11	10:40	30066	H ₂ O	2	X						Draw NW #45		
Relinquished by: (Signature) <i>Morgan K. 11.00</i>			Date	Time	Received by: (Signature)							Date	Time	
Relinquished by: (Signature)			8/14/04	15:30	<i>Morgan K. 11.00</i>							8/14/04	15:30	
Relinquished by: (Signature)			Received by: (Signature)											
Relinquished by: (Signature)			Received by: (Signature)											

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt

Y N N/A

Received Intact

Cool - Ice/Blue Ice

~~12757~~
Pg 20/2

San Juan reproduction 578-129

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

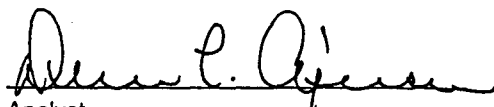
Client:	Giant	Project #:	96012-028
Sample ID:	010	Date Reported:	08-19-04
Laboratory Number:	30066	Date Sampled:	08-16-04
Chain of Custody No:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	08-19-04
Preservative:	Cool	Date Analyzed:	08-19-04
Condition:	Cool and Intact	Analysis Requested:	8015 TPH

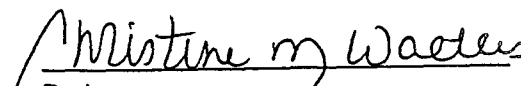
Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	0.2	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.2	0.2

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: Outfall Area Draw MW #45.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS

Client:	Giant	Project #:	96012-028
Sample ID:	010	Date Reported:	08-19-04
Chain of Custody:	12756	Date Sampled:	08-16-04
Laboratory Number:	30066	Date Received:	08-16-04
Sample Matrix:	Water	Date Analyzed:	08-19-04
Preservative:	Cool	Analysis Requested:	BTEX-MTBE
Condition:	Cool & Intact		

Parameter	Concentration (ug/L)	Dilution Factor	Det. Limit (ug/L)
Methyl-t-butyl Ether	ND	1	0.2
Benzene	9.7	1	0.2
Toluene	61.4	1	0.2
Ethylbenzene	22.0	1	0.2
p,m-Xylene	68.0	1	0.2
o-Xylene	13.3	1	0.1

Total BTEX 174

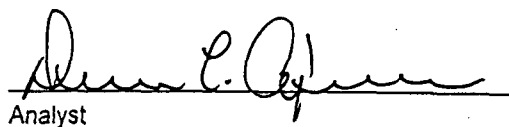
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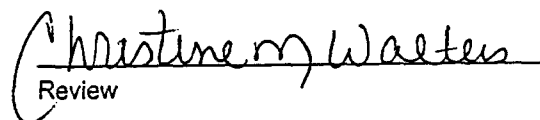
Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	4-bromochlorobenzene	98 %

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: Outfall Area Draw MW #45.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Giant
Sample ID: 010
Laboratory Number: 30066
Chain of Custody: 12756
Sample Matrix: Water
Preservative: Cool
Condition: Cool & Intact

Project #: 96012-028
Date Reported: 08-19-04
Date Sampled: 08-16-04
Date Received: 08-16-04
Date Extracted: N/A
Date Analyzed: 08-17-04

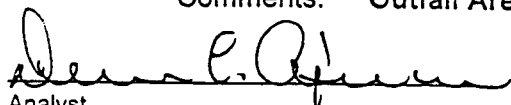
Parameter	Analytical Result	Units	Units
pH	7.75	s.u.	
Conductivity @ 25° C	398	umhos/cm	
Total Dissolved Solids @ 180C	244	mg/L	
Total Dissolved Solids (Calc)	254	mg/L	
SAR	1.4	ratio	
Total Alkalinity as CaCO3	89.2	mg/L	
Total Hardness as CaCO3	126	mg/L	
Bicarbonate as HCO3	89.2	mg/L	1.46 meq/L
Carbonate as CO3	<0.1	mg/L	0.00 meq/L
Hydroxide as OH	<0.1	mg/L	0.00 meq/L
Nitrate Nitrogen	0.2	mg/L	0.00 meq/L
Nitrite Nitrogen	0.003	mg/L	0.00 meq/L
Chloride	26.4	mg/L	0.74 meq/L
Fluoride	0.60	mg/L	0.03 meq/L
Phosphate	0.2	mg/L	0.01 meq/L
Sulfate	89.0	mg/L	1.85 meq/L
Iron	0.009	mg/L	0.00 meq/L
Calcium	39.5	mg/L	1.97 meq/L
Magnesium	6.54	mg/L	0.54 meq/L
Potassium	1.40	mg/L	0.04 meq/L
Sodium	35.8	mg/L	1.56 meq/L
Cations			4.10 meq/L
Anions			4.10 meq/L

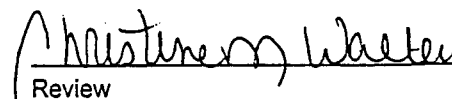
Cation/Anion Difference

0.04%

Reference: U.S.E.P.A., 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
Water And Waste Water", 18th ed., 1992.

Comments: Outfall Area Draw of MW #45.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS

Client:	Giant	Project #:	96012-028
Sample ID:	010	Date Reported:	08-18-04
Laboratory Number:	30066	Date Sampled:	08-14-04
Chain of Custody:	12756	Date Received:	08-14-04
Sample Matrix:	Water	Date Analyzed:	08-18-04
Preservative:	Cool	Date Digested:	08-17-04
Condition:	Cool & Intact	Analysis Needed:	RCRA Metals

Parameter	Concentration (mg/L)	Det. Limit (mg/L)	TCLP Regulatory Level (mg/L)
Arsenic	0.001	0.001	5.0
Barium	0.016	0.001	100
Cadmium	ND	0.001	1.0
Chromium	ND	0.001	5.0
Lead	ND	0.001	5.0
Mercury	ND	0.001	0.2
Selenium	ND	0.001	1.0
Silver	ND	0.001	5.0

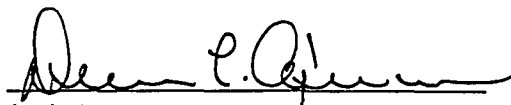
ND - Parameter not detected at the stated detection limit.

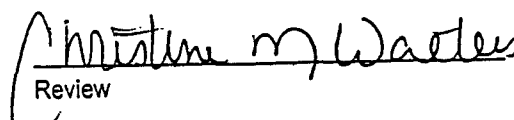
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission Spectroscopy, SW-846, USEPA, December 1996.

Note: Regulatory Limits based on 40 CFR part 261 subpart C
section 261.24, August 24, 1998.

Comments: Outfall Area Draw MW #45.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA Method 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons

Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-19-TPH QA/QC	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Methylene Chloride	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-19-04
Condition:	N/A	Analysis Requested:	TPH

	I-Cal Date	I-Cal RF	C-Cal RF	% Difference	Accept Range
Gasoline Range C5 - C10	02-19-04	1.8591E-002	1.8572E-002	0.10%	0 - 15%
Diesel Range C10 - C28	02-19-04	1.5507E-002	1.5476E-002	0.20%	0 - 15%

Blank Conc. (mg/L)	Concentration	Detection Limit
Gasoline Range C5 - C10	ND	0.2
Diesel Range C10 - C28	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

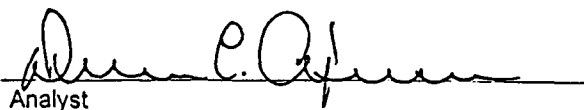
Duplicate Conc. (mg/L)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

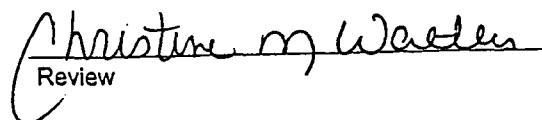
Spike Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	0.3	250	250	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

ND - Parameter not detected at the stated detection limit.

References: Method 8015B, Nonhalogenated Volatile Organics, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8021 AROMATIC VOLATILE ORGANICS QUALITY ASSURANCE REPORT

Client:	N/A	Project #:	N/A
Sample ID:	08-19-BTEX QA/QC	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Preservative:	N/A	Date Analyzed:	08-19-04
Condition:	N/A	Analysis:	BTEX-MTBE

Calibration and Detection Limits (ug/L)	I-Cal RF	C-Cal RF: Accept. Range 0 - 15%	%Diff.	Blank Conc	Detect Limit
Methyl-t-butyl Ether	7.7846E-001	7.7924E-001	0.10%	ND	0.2
Benzene	2.8990E-001	2.9048E-001	0.20%	ND	0.2
Toluene	2.5460E-002	2.5465E-002	0.02%	ND	0.2
Ethylbenzene	3.8451E-002	3.8528E-002	0.20%	ND	0.2
p,m-Xylene	3.2938E-002	3.2995E-002	0.02%	ND	0.2
o-Xylene	3.3333E-002	3.3433E-002	0.30%	ND	0.1

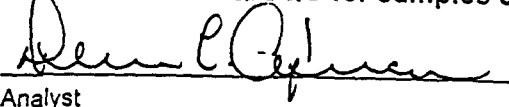
Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Methyl-t-butyl Ether	ND	ND	0.0%	0 - 30%
Benzene	6.3	6.4	1.6%	0 - 30%
Toluene	85.4	86.8	1.6%	0 - 30%
Ethylbenzene	29.0	28.7	1.0%	0 - 30%
p,m-Xylene	95.8	95.9	0.1%	0 - 30%
o-Xylene	14.9	14.7	1.3%	0 - 30%

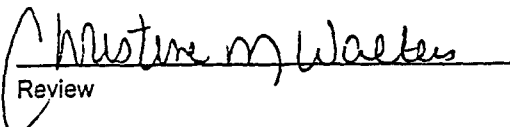
Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Methyl-t-butyl Ether	ND	50.0	50.0	100.0%	80 - 120
Benzene	6.3	50.0	56.2	99.8%	39 - 150
Toluene	85.4	50.0	135	99.4%	46 - 148
Ethylbenzene	29.0	50.0	78.9	99.9%	32 - 160
p,m-Xylene	95.8	100	195	99.8%	46 - 148
o-Xylene	14.9	50.0	64.8	99.8%	46 - 148

ND - Parameter not detected at the stated detection limit.

References: Method 5030B, Purge-and-Trap, Test Methods for Evaluating Solid Waste, SW-846, USEPA, December 1996.
Method 8021B, Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, SW-846, USEPA December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

TRACE METAL ANALYSIS Quality Control / Quality Assurance Report

Client:	QA/QC	Project #:	N/A
Sample ID:	08-18-TM QA/QC	Date Reported:	08-18-04
Laboratory Number:	30065	Date Sampled:	N/A
Sample Matrix:	Water	Date Received:	N/A
Analysis Requested:	Total RCRA Metals	Date Analyzed:	08-18-04
Condition:	N/A	Date Digested:	08-17-04

Blank & Duplicate Conc. (mg/L)	Instrument Blank (mg/L)	Method Blank	Detection Limit	Sample	Duplicate	% Diff.	Acceptance Range
Arsenic	ND	ND	0.001	0.001	0.001	0.0%	0% - 30%
Barium	ND	ND	0.001	0.027	0.027	0.0%	0% - 30%
Cadmium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Chromium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Lead	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Mercury	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Selenium	ND	ND	0.001	ND	ND	0.0%	0% - 30%
Silver	ND	ND	0.001	ND	ND	0.0%	0% - 30%

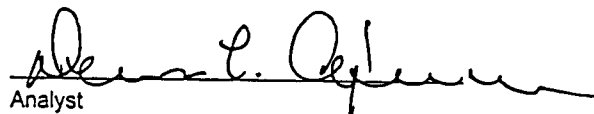
Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.001	0.500	99.8%	80% - 120%
Barium	0.500	0.027	0.527	100.0%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	ND	0.500	100.0%	80% - 120%
Lead	0.500	ND	0.499	99.8%	80% - 120%
Mercury	0.050	ND	0.050	100.0%	80% - 120%
Selenium	0.500	ND	0.499	99.8%	80% - 120%
Silver	0.500	ND	0.500	100.0%	80% - 120%

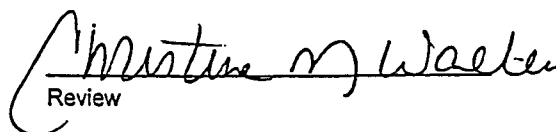
ND - Parameter not detected at the stated detection limit.

References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-843, USEPA, December 1996.

Method 6010B, Analysis of Metals by Inductively Coupled Plasma Atomic Emission
Spectroscopy, SW-846, USEPA, December 1996.

Comments: QA/QC for samples 30065 - 30067.


Analyst


Review

CHAIN OF CUSTODY RECORD

12756

Pg 1 of 2

Client / Project Name			Project Location		ANALYSIS / PARAMETERS							
Giant			outfall area									
Sampler: Morgan K. 11.00			Client No. 96012-028									
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	General Chemistry	TPH	DO15	BTEX (MTBE)	2021	WQCC/MSD	Remarks
001	8-14-04	09:45	300057	Soil	1	X						Topsoil Spill
002	11	08:20	300058	Soil	1	X						Middle of Spill
003	11	09:45	300059	Soil	1	X						Lower Middle of Spill
004	11	05:50	300060	Soil	1	X						Above Soil Containment
005	11	08:55	300061	Soil	1	X						Below Soil Containment
006	11	08:40	300062	Soil	1	X	X	X	X	X		Soil MW #47
007	11	14:40	300063	Soil	1	X	X	X	X	X		Below MW #47
008	11	12:50	300064	Soil	1	X	X	X	X	X		N. of MW #45
009	11	11:20	300065	H ₂ O	2	X	X	X	X	X		Draw MW #47
010	11	11:40	300066	H ₂ O	2	X	X	X	X	X		Draw MW #45
Relinquished by: (Signature) <i>Shane Kiehn</i>			Date	Time	Received by: (Signature)							
Relinquished by: (Signature)			8/14/04	15:30	<i>Minister M. Walter</i>							
Relinquished by: (Signature)												
Received by: (Signature)												
Relinquished by: (Signature)												
Received by: (Signature)												
Relinquished by: (Signature)												
Received by: (Signature)												

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-0615

Sample Receipt

Y N N/A

Received Intact

Cool - Ice/Blue Ice

~~12757~~
Pg 20/2

san juan reproduction 578-129

COVER LETTER

October 05, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: River Downstream

Order No.: 0410010

Dear Cindy Hurtado:

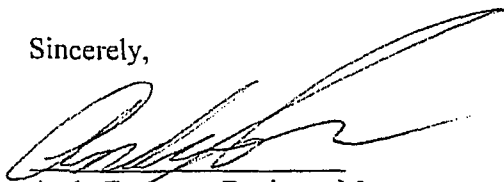
Hall Environmental Analysis Laboratory received 1 sample on 10/1/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 05-Oct-04

CLIENT: San Juan Refining
Lab Order: 0410010
Project: River Downstream
Lab ID: 0410010-01

Client Sample ID: River-Down Stream
Collection Date: 9/30/2004 9:40:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/5/2004 6:01:51 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/5/2004 6:01:51 AM
Surr: DNOP	121	58-140		%REC	1	10/5/2004 6:01:51 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/1/2004 3:12:26 PM
Surr: BFB	86.3	74-118		%REC	1	10/1/2004 3:12:26 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	10/1/2004 3:12:26 PM
Benzene	ND	0.50		µg/L	1	10/1/2004 3:12:26 PM
Toluene	ND	0.50		µg/L	1	10/1/2004 3:12:26 PM
Ethylbenzene	ND	0.50		µg/L	1	10/1/2004 3:12:26 PM
Xylenes, Total	ND	0.50		µg/L	1	10/1/2004 3:12:26 PM
Surr: 4-Bromofluorobenzene	93.3	74-118		%REC	1	10/1/2004 3:12:26 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 05-Oct-04

CLIENT: San Juan Refining
 Work Order: 0410010
 Project: River Downstream

QC SUMMARY REPORT
 Method Blank

Sample ID	MB-6605	Batch ID: 6605	Test Code: SW8015	Units: mg/L	Analysis Date	10/5/2004 4:32:45 AM	Prep Date	10/4/2004
Client ID:			Run ID: FID(17A) 2_041004A		SeqNo:	310403		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1									
Motor Oil Range Organics (MRO)	ND	5									
Surr: DNOP	1.162	0	1	0	116	58	140	0			

Sample ID	Reagent Blank 5m	Batch ID: R13318	Test Code: SW8015	Units: mg/L	Analysis Date	10/1/2004 8:39:21 AM	Prep Date
Client ID:			Run ID: PIDFID_041001A		SeqNo:	309516	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.05									
Surr: BFB	17.31	0	20	0	86.6	74	118	0			

Sample ID	Reagent Blank 5m	Batch ID: R13318	Test Code: SW8021	Units: µg/L	Analysis Date	10/1/2004 8:39:21 AM	Prep Date
Client ID:			Run ID: PIDFID_041001A		SeqNo:	309515	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	0.5									
Toluene	ND	0.5									
Ethylbenzene	ND	0.5									
Xylenes, Total	ND	0.5									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 05-Oct-04

CLIENT: San Juan Refining
 Work Order: 0410010
 Project: River Downstream

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID	LCS-6605	Batch ID: 6605	Test Code: SW8015	Units: mg/L	Analysis Date	10/5/2004 5:02:37 AM	Prep Date	10/4/2004				
Client ID:		Run ID:	FID(17A) 2_041004A		SeqNo:	310404						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.55	1	5	0	111	81.2	149	0			
Sample ID	LCSD-6605	Batch ID: 6605	Test Code: SW8015	Units: mg/L	Analysis Date	10/5/2004 5:32:11 AM	Prep Date	10/4/2004				
Client ID:		Run ID:	FID(17A) 2_041004A		SeqNo:	310405						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.736	1	5	0	115	81.2	149	5.55	3.29	23	
Sample ID	GRO std 2.5ug	Batch ID: R13318	Test Code: SW8015	Units: mg/L	Analysis Date	10/1/2004 9:09:08 AM	Prep Date					
Client ID:		Run ID:	PIDFID_041001A		SeqNo:	309539						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.4924	0.05	0.5	0	98.5	80.3	116	0			
Sample ID	GRO std 2.5ug	Batch ID: R13318	Test Code: SW8015	Units: mg/L	Analysis Date	10/1/2004 3:42:10 PM	Prep Date					
Client ID:		Run ID:	PIDFID_041001A		SeqNo:	309540						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.46	0.05	0.5	0	92.0	80.3	116	0.4924	6.80	8.39	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0410010
Project: River Downstream

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID	BTEX std 100ng	Batch ID: R13318	Test Code: SW8021	Units: µg/L	Analysis Date	10/1/2004 9:38:57 AM	Prep Date				
Client ID:			Run ID: PIDFID_041001A		SeqNo:	309532					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	30.97	2.5	40	0	77.4	54.9	142	0			
Benzene	21	0.5	20	0	105	81.3	121	0			
Toluene	21	0.5	20	0	105	84.9	118	0			
Ethylbenzene	21.34	0.5	20	0	107	53.8	149	0			
Xylenes, Total	64.81	0.5	60	0	108	83.1	122	0			

Sample ID	BTEX std 100ng	Batch ID: R13318	Test Code: SW8021	Units: µg/L	Analysis Date	10/1/2004 8:39:38 PM	Prep Date				
Client ID:			Run ID: PIDFID_041001A		SeqNo:	309533					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	28.94	2.5	40	0	72.3	54.9	142	30.97	6.79	28	
Benzene	19.22	0.5	20	0	96.1	81.3	121	21	8.87	27	
Toluene	19.69	0.5	20	0	98.5	84.9	118	21	6.41	19	
Ethylbenzene	18.92	0.5	20	0	94.6	53.8	149	21.34	12.0	15	
Xylenes, Total	57.34	0.5	60	0	95.6	83.1	122	64.81	12.2	13	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

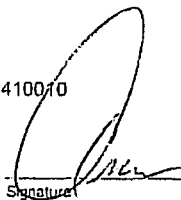
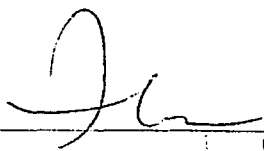
Date and Time Received:

10/1/2004

Work Order Number 0410010

Received by AT

Checklist completed by

  10/1/04

Matrix

Carrier name UPS

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒ Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☒	N/A ☐
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒

Container/Temp Blank temperature?

5°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

COVER LETTER

September 27, 2004

Cindy Hurtado
San Juan Refining
#50 CR 4990
Bloomfield, NM 87413
TEL: (505) 632-4161
FAX (505) 632-3911

RE: River Sampling Sept 2004

Order No.: 0409062

Dear Cindy Hurtado:

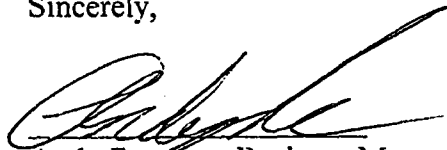
Hall Environmental Analysis Laboratory received 4 samples on 9/8/2004 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

Reporting limits are determined by EPA methodology. No determination of compounds below these (denoted by the ND or < sign) has been made.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,



Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Project: River Sampling Sept 2004
Lab Order: 0409062

CASE NARRATIVE

Method 8270: Acid surrogates not recoverable due to organic matter in the samples.

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-01

Client Sample ID: River Upstream
Collection Date: 9/7/2004 10:50:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.20	0.10		mg/L	1	9/8/2004 8:19:27 PM
Chloride	3.8	0.10		mg/L	1	9/8/2004 8:19:27 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/8/2004 8:19:27 PM
Bromide	ND	0.10		mg/L	1	9/8/2004 8:19:27 PM
Nitrogen, Nitrate (As N)	0.11	0.10		mg/L	1	9/8/2004 8:19:27 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/8/2004 8:19:27 PM
Sulfate	74	0.50		mg/L	1	9/8/2004 8:19:27 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO3)	100	4.0		mg/L CaCO3	2	9/13/2004
Carbonate	ND	4.0		mg/L CaCO3	2	9/13/2004
Bicarbonate	100	4.0		mg/L CaCO3	2	9/13/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/15/2004 1:53:14 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/15/2004 1:53:14 AM
Surr: DNOP	112	58-140		%REC	1	9/15/2004 1:53:14 AM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/14/2004 1:19:23 PM
Surr: BFB	89.1	74-118		%REC	1	9/14/2004 1:19:23 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/14/2004 1:19:23 PM
Benzene	ND	0.50		µg/L	1	9/14/2004 1:19:23 PM
Toluene	ND	0.50		µg/L	1	9/14/2004 1:19:23 PM
Ethylbenzene	ND	0.50		µg/L	1	9/14/2004 1:19:23 PM
Xylenes, Total	ND	0.50		µg/L	1	9/14/2004 1:19:23 PM
EPA METHOD 8270D: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	9/20/2004
Acenaphthylene	ND	10		µg/L	1	9/20/2004
Aniline	ND	10		µg/L	1	9/20/2004
Anthracene	ND	10		µg/L	1	9/20/2004
Azobenzene	ND	10		µg/L	1	9/20/2004
Benz(a)anthracene	ND	15		µg/L	1	9/20/2004
Benzo(a)pyrene	ND	10		µg/L	1	9/20/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	9/20/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/20/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	9/20/2004
Benzoic acid	ND	50		µg/L	1	9/20/2004
Benzyl alcohol	ND	20		µg/L	1	9/20/2004
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/20/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-01

Client Sample ID: River Upstream
Collection Date: 9/7/2004 10:50:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethyl)ether	ND	15		µg/L	1	9/20/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	9/20/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	9/20/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/20/2004
Butyl benzyl phthalate	ND	15		µg/L	1	9/20/2004
Carbazole	ND	10		µg/L	1	9/20/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	9/20/2004
4-Chloroaniline	ND	20		µg/L	1	9/20/2004
2-Chloronaphthalene	ND	10		µg/L	1	9/20/2004
2-Chlorophenol	ND	10		µg/L	1	9/20/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	9/20/2004
Chrysene	ND	15		µg/L	1	9/20/2004
Di-n-butyl phthalate	ND	10		µg/L	1	9/20/2004
Di-n-octyl phthalate	ND	15		µg/L	1	9/20/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/20/2004
Dibenzofuran	ND	10		µg/L	1	9/20/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	9/20/2004
Diethyl phthalate	ND	10		µg/L	1	9/20/2004
Dimethyl phthalate	ND	10		µg/L	1	9/20/2004
2,4-Dichlorophenol	ND	10		µg/L	1	9/20/2004
2,4-Dimethylphenol	ND	10		µg/L	1	9/20/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	9/20/2004
2,4-Dinitrophenol	ND	50		µg/L	1	9/20/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	9/20/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	9/20/2004
Fluoranthene	ND	10		µg/L	1	9/20/2004
Fluorene	ND	10		µg/L	1	9/20/2004
Hexachlorobenzene	ND	10		µg/L	1	9/20/2004
Hexachlorobutadiene	ND	10		µg/L	1	9/20/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/20/2004
Hexachloroethane	ND	10		µg/L	1	9/20/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/20/2004
Isophorone	ND	10		µg/L	1	9/20/2004
2-Methylnaphthalene	ND	10		µg/L	1	9/20/2004
2-Methylphenol	ND	15		µg/L	1	9/20/2004
3+4-Methylphenol	ND	10		µg/L	1	9/20/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/20/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	9/20/2004
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/20/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-01

Client Sample ID: River Upstream
Collection Date: 9/7/2004 10:50:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Naphthalene	ND	10		µg/L	1	9/20/2004
2-Nitroaniline	ND	50		µg/L	1	9/20/2004
3-Nitroaniline	ND	50		µg/L	1	9/20/2004
4-Nitroaniline	ND	20		µg/L	1	9/20/2004
Nitrobenzene	ND	10		µg/L	1	9/20/2004
2-Nitrophenol	ND	15		µg/L	1	9/20/2004
4-Nitrophenol	ND	50		µg/L	1	9/20/2004
Pentachlorophenol	ND	50		µg/L	1	9/20/2004
Phenanthrene	ND	10		µg/L	1	9/20/2004
Phenol	ND	10		µg/L	1	9/20/2004
Pyrene	ND	15		µg/L	1	9/20/2004
Pyridine	ND	30		µg/L	1	9/20/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/20/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/20/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	9/20/2004
Surr: 2,4,6-Tribromophenol	0	16.6-115	S	%REC	1	9/20/2004
Surr: 2-Fluorobiphenyl	55.9	37-95.7		%REC	1	9/20/2004
Surr: 2-Fluorophenol	3.92	9.54-89.8	S	%REC	1	9/20/2004
Surr: 4-Terphenyl-d14	74.7	47.9-115		%REC	1	9/20/2004
Surr: Nitrobenzene-d5	55.7	38-106		%REC	1	9/20/2004
Surr: Phenol-d6	22.7	10.7-63.4		%REC	1	9/20/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
Specific Conductance	310	0.010		µmhos/cm	1	9/10/2004
EPA METHOD 7470: MERCURY						
Mercury	ND	0.00020		mg/L	1	9/14/2004
EPA METHOD 6010C: DISSOLVED METALS						
Arsenic	ND	0.020		mg/L	1	9/15/2004 9:36:29 AM
Barium	0.081	0.0020		mg/L	1	9/15/2004 9:36:29 AM
Cadmium	ND	0.0020		mg/L	1	9/15/2004 9:36:29 AM
Calcium	39	1.0		mg/L	1	9/15/2004 9:36:29 AM
Chromium	ND	0.0060		mg/L	1	9/15/2004 9:36:29 AM
Copper	ND	0.0060		mg/L	1	9/15/2004 9:36:29 AM
Iron	0.031	0.020		mg/L	1	9/15/2004 9:36:29 AM
Lead	ND	0.0050		mg/L	1	9/15/2004 9:36:29 AM
Magnesium	7.5	1.0		mg/L	1	9/15/2004 9:36:29 AM
Manganese	0.0054	0.0020		mg/L	1	9/15/2004 9:36:29 AM
Potassium	2.1	1.0		mg/L	1	9/15/2004 9:36:29 AM
Selenium	ND	0.050		mg/L	1	9/15/2004 9:36:29 AM
Silver	ND	0.0050		mg/L	1	9/15/2004 9:36:29 AM
Sodium	20	1.0		mg/L	1	9/15/2004 9:36:29 AM
Uranium	ND	0.10		mg/L	1	9/15/2004 9:36:29 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-01

Client Sample ID: River Upstream
Collection Date: 9/7/2004 10:50:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Zinc	0.0057	0.0050		mg/L	1	9/15/2004 9:36:29 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/20/2004 11:05:34 AM
Barium	0.10	0.020		mg/L	1	9/20/2004 11:05:34 AM
Cadmium	ND	0.0020		mg/L	1	9/20/2004 11:05:34 AM
Chromium	ND	0.0060		mg/L	1	9/20/2004 11:05:34 AM
Lead	ND	0.0050		mg/L	1	9/20/2004 11:05:34 AM
Selenium	ND	0.050		mg/L	1	9/20/2004 11:05:34 AM
Silver	ND	0.0050		mg/L	1	9/20/2004 12:47:50 PM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	220	50		mg/L	1	9/16/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-02

Client Sample ID: River N of MW#45
Collection Date: 9/7/2004 11:15:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.22	0.10		mg/L	1	9/8/2004 8:36:17 PM
Chloride	3.7	0.10		mg/L	1	9/8/2004 8:36:17 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/8/2004 8:36:17 PM
Bromide	ND	0.10		mg/L	1	9/8/2004 8:36:17 PM
Nitrogen, Nitrate (As N)	0.18	0.10		mg/L	1	9/8/2004 8:36:17 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/8/2004 8:36:17 PM
Sulfate	74	0.50		mg/L	1	9/8/2004 8:36:17 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	100	4.0		mg/L CaCO ₃	2	9/13/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	9/13/2004
Bicarbonate	100	4.0		mg/L CaCO ₃	2	9/13/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/15/2004 2:25:53 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/15/2004 2:25:53 AM
Surr: DNOP	108	58-140		%REC	1	9/15/2004 2:25:53 AM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/14/2004 1:49:19 PM
Surr: BFB	91.8	74-118		%REC	1	9/14/2004 1:49:19 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/14/2004 1:49:19 PM
Benzene	ND	0.50		µg/L	1	9/14/2004 1:49:19 PM
Toluene	ND	0.50		µg/L	1	9/14/2004 1:49:19 PM
Ethylbenzene	ND	0.50		µg/L	1	9/14/2004 1:49:19 PM
Xylenes, Total	ND	0.50		µg/L	1	9/14/2004 1:49:19 PM
EPA METHOD 8270D: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	9/20/2004
Acenaphthylene	ND	10		µg/L	1	9/20/2004
Aniline	ND	10		µg/L	1	9/20/2004
Anthracene	ND	10		µg/L	1	9/20/2004
Azobenzene	ND	10		µg/L	1	9/20/2004
Benz(a)anthracene	ND	15		µg/L	1	9/20/2004
Benzo(a)pyrene	ND	10		µg/L	1	9/20/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	9/20/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/20/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	9/20/2004
Benzoic acid	ND	50		µg/L	1	9/20/2004
Benzyl alcohol	ND	20		µg/L	1	9/20/2004
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/20/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-02

Client Sample ID: River N of MW#45
Collection Date: 9/7/2004 11:15:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethyl)ether	ND	15		µg/L	1	9/20/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	9/20/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	9/20/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/20/2004
Butyl benzyl phthalate	ND	15		µg/L	1	9/20/2004
Carbazole	ND	10		µg/L	1	9/20/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	9/20/2004
4-Chloroaniline	ND	20		µg/L	1	9/20/2004
2-Chloronaphthalene	ND	10		µg/L	1	9/20/2004
2-Chlorophenol	ND	10		µg/L	1	9/20/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	9/20/2004
Chrysene	ND	15		µg/L	1	9/20/2004
Di-n-butyl phthalate	ND	10		µg/L	1	9/20/2004
Di-n-octyl phthalate	ND	15		µg/L	1	9/20/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/20/2004
Dibenzofuran	ND	10		µg/L	1	9/20/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	9/20/2004
Diethyl phthalate	ND	10		µg/L	1	9/20/2004
Dimethyl phthalate	ND	10		µg/L	1	9/20/2004
2,4-Dichlorophenol	ND	10		µg/L	1	9/20/2004
2,4-Dimethylphenol	ND	10		µg/L	1	9/20/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	9/20/2004
2,4-Dinitrophenol	ND	50		µg/L	1	9/20/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	9/20/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	9/20/2004
Fluoranthene	ND	10		µg/L	1	9/20/2004
Fluorene	ND	10		µg/L	1	9/20/2004
Hexachlorobenzene	ND	10		µg/L	1	9/20/2004
Hexachlorobutadiene	ND	10		µg/L	1	9/20/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/20/2004
Hexachloroethane	ND	10		µg/L	1	9/20/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/20/2004
Isophorone	ND	10		µg/L	1	9/20/2004
2-Methylnaphthalene	ND	10		µg/L	1	9/20/2004
2-Methylphenol	ND	15		µg/L	1	9/20/2004
3+4-Methylphenol	ND	10		µg/L	1	9/20/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/20/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	9/20/2004
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/20/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-02

Client Sample ID: River N of MW#45
Collection Date: 9/7/2004 11:15:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Naphthalene	ND	10		µg/L	1	9/20/2004
2-Nitroaniline	ND	50		µg/L	1	9/20/2004
3-Nitroaniline	ND	50		µg/L	1	9/20/2004
4-Nitroaniline	ND	20		µg/L	1	9/20/2004
Nitrobenzene	ND	10		µg/L	1	9/20/2004
2-Nitrophenol	ND	15		µg/L	1	9/20/2004
4-Nitrophenol	ND	50		µg/L	1	9/20/2004
Pentachlorophenol	ND	50		µg/L	1	9/20/2004
Phenanthrene	ND	10		µg/L	1	9/20/2004
Phenol	ND	10		µg/L	1	9/20/2004
Pyrene	ND	15		µg/L	1	9/20/2004
Pyridine	ND	30		µg/L	1	9/20/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/20/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/20/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	9/20/2004
Surr: 2,4,6-Tribromophenol	0	16.6-115	S	%REC	1	9/20/2004
Surr: 2-Fluorobiphenyl	62.9	37-95.7		%REC	1	9/20/2004
Surr: 2-Fluorophenol	5.23	9.54-89.8	S	%REC	1	9/20/2004
Surr: 4-Terphenyl-d14	74.6	47.9-115		%REC	1	9/20/2004
Surr: Nitrobenzene-d5	61.2	38-106		%REC	1	9/20/2004
Surr: Phenol-d6	28.3	10.7-63.4		%REC	1	9/20/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
Specific Conductance	310	0.010		µmhos/cm	1	9/10/2004
EPA METHOD 7470: MERCURY						
Mercury	ND	0.00020		mg/L	1	9/14/2004
EPA METHOD 6010C: DISSOLVED METALS						
Arsenic	ND	0.020		mg/L	1	9/15/2004 9:39:31 AM
Barium	0.081	0.0020		mg/L	1	9/15/2004 9:39:31 AM
Cadmium	ND	0.0020		mg/L	1	9/15/2004 9:39:31 AM
Calcium	39	1.0		mg/L	1	9/15/2004 9:39:31 AM
Chromium	ND	0.0060		mg/L	1	9/15/2004 9:39:31 AM
Copper	ND	0.0060		mg/L	1	9/15/2004 9:39:31 AM
Iron	0.057	0.020		mg/L	1	9/15/2004 9:39:31 AM
Lead	ND	0.0050		mg/L	1	9/15/2004 9:39:31 AM
Magnesium	7.5	1.0		mg/L	1	9/15/2004 9:39:31 AM
Manganese	0.0052	0.0020		mg/L	1	9/15/2004 9:39:31 AM
Potassium	2.1	1.0		mg/L	1	9/15/2004 9:39:31 AM
Selenium	ND	0.050		mg/L	1	9/15/2004 9:39:31 AM
Silver	ND	0.0050		mg/L	1	9/15/2004 9:39:31 AM
Sodium	21	1.0		mg/L	1	9/15/2004 9:39:31 AM
Uranium	ND	0.10		mg/L	1	9/15/2004 9:39:31 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW#45

Lab Order: 0409062

Collection Date: 9/7/2004 11:15:00 AM

Project: River Sampling Sept 2004

Lab ID: 0409062-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Zinc	0.023	0.0050		mg/L	1	9/15/2004 9:39:31 AM
EPA 6010C: TOTAL RECOVERABLE METALS						
Arsenic	ND	0.020		mg/L	1	Analyst: NMO 9/20/2004 11:08:26 AM
Barium	0.11	0.020		mg/L	1	9/20/2004 11:08:26 AM
Cadmium	ND	0.0020		mg/L	1	9/20/2004 11:08:26 AM
Chromium	ND	0.0060		mg/L	1	9/20/2004 11:08:26 AM
Lead	ND	0.0050		mg/L	1	9/20/2004 11:08:26 AM
Selenium	ND	0.050		mg/L	1	9/20/2004 11:08:26 AM
Silver	ND	0.0050		mg/L	1	9/20/2004 12:50:05 PM
EPA METHOD 160.1: TDS						
Total Dissolved Solids	220	50		mg/L	1	Analyst: MAP 9/16/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining

Client Sample ID: River-N of MW#46

Lab Order: 0409062

Collection Date: 9/7/2004 11:35:00 AM

Project: River Sampling Sept 2004

Lab ID: 0409062-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.19	0.10		mg/L	1	9/8/2004 8:53:06 PM
Chloride	3.7	0.10		mg/L	1	9/8/2004 8:53:06 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/8/2004 8:53:06 PM
Bromide	ND	0.10		mg/L	1	9/8/2004 8:53:06 PM
Nitrogen, Nitrate (As N)	0.16	0.10		mg/L	1	9/8/2004 8:53:06 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/8/2004 8:53:06 PM
Sulfate	74	0.50		mg/L	1	9/8/2004 8:53:06 PM
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	100	4.0		mg/L CaCO ₃	2	9/13/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	9/13/2004
Bicarbonate	100	4.0		mg/L CaCO ₃	2	9/13/2004
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	9/15/2004 2:58:46 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	9/15/2004 2:58:46 AM
Surr: DNOP	121	58-140		%REC	1	9/15/2004 2:58:46 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	9/14/2004 2:19:19 PM
Surr: BFB	87.8	74-118		%REC	1	9/14/2004 2:19:19 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/14/2004 2:19:19 PM
Benzene	ND	0.50		µg/L	1	9/14/2004 2:19:19 PM
Toluene	ND	0.50		µg/L	1	9/14/2004 2:19:19 PM
Ethylbenzene	ND	0.50		µg/L	1	9/14/2004 2:19:19 PM
Xylenes, Total	ND	0.50		µg/L	1	9/14/2004 2:19:19 PM
EPA METHOD 8270D: SEMIVOLATILES						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	9/20/2004
Acenaphthylene	ND	10		µg/L	1	9/20/2004
Aniline	ND	10		µg/L	1	9/20/2004
Anthracene	ND	10		µg/L	1	9/20/2004
Azobenzene	ND	10		µg/L	1	9/20/2004
Benz(a)anthracene	ND	15		µg/L	1	9/20/2004
Benzo(a)pyrene	ND	10		µg/L	1	9/20/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	9/20/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	9/20/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	9/20/2004
Benzoic acid	ND	50		µg/L	1	9/20/2004
Benzyl alcohol	ND	20		µg/L	1	9/20/2004
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	9/20/2004

Qualifiers: ND - Not Detected at the Reporting Limit

S - Spike Recovery outside accepted recovery limits

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-03

Client Sample ID: River-N of MW#46
Collection Date: 9/7/2004 11:35:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethyl)ether	ND	15		µg/L	1	9/20/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	9/20/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	9/20/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	9/20/2004
Butyl benzyl phthalate	ND	15		µg/L	1	9/20/2004
Carbazole	ND	10		µg/L	1	9/20/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	9/20/2004
4-Chloroaniline	ND	20		µg/L	1	9/20/2004
2-Chloronaphthalene	ND	10		µg/L	1	9/20/2004
2-Chlorophenol	ND	10		µg/L	1	9/20/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	9/20/2004
Chrysene	ND	15		µg/L	1	9/20/2004
Di-n-butyl phthalate	ND	10		µg/L	1	9/20/2004
Di-n-octyl phthalate	ND	15		µg/L	1	9/20/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	9/20/2004
Dibenzofuran	ND	10		µg/L	1	9/20/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	9/20/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	9/20/2004
Diethyl phthalate	ND	10		µg/L	1	9/20/2004
Dimethyl phthalate	ND	10		µg/L	1	9/20/2004
2,4-Dichlorophenol	ND	10		µg/L	1	9/20/2004
2,4-Dimethylphenol	ND	10		µg/L	1	9/20/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	9/20/2004
2,4-Dinitrophenol	ND	50		µg/L	1	9/20/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	9/20/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	9/20/2004
Fluoranthene	ND	10		µg/L	1	9/20/2004
Fluorene	ND	10		µg/L	1	9/20/2004
Hexachlorobenzene	ND	10		µg/L	1	9/20/2004
Hexachlorobutadiene	ND	10		µg/L	1	9/20/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	9/20/2004
Hexachloroethane	ND	10		µg/L	1	9/20/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	9/20/2004
Isophorone	ND	10		µg/L	1	9/20/2004
2-Methylnaphthalene	ND	10		µg/L	1	9/20/2004
2-Methylphenol	ND	15		µg/L	1	9/20/2004
3+4-Methylphenol	ND	10		µg/L	1	9/20/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	9/20/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	9/20/2004
N-Nitrosodiphenylamine	ND	10		µg/L	1	9/20/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-03

Client Sample ID: River-N of MW#46
Collection Date: 9/7/2004 11:35:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Naphthalene	ND	10		µg/L	1	9/20/2004
2-Nitroaniline	ND	50		µg/L	1	9/20/2004
3-Nitroaniline	ND	50		µg/L	1	9/20/2004
4-Nitroaniline	ND	20		µg/L	1	9/20/2004
Nitrobenzene	ND	10		µg/L	1	9/20/2004
2-Nitrophenol	ND	15		µg/L	1	9/20/2004
4-Nitrophenol	ND	50		µg/L	1	9/20/2004
Pentachlorophenol	ND	50		µg/L	1	9/20/2004
Phenanthrene	ND	10		µg/L	1	9/20/2004
Phenol	ND	10		µg/L	1	9/20/2004
Pyrene	ND	15		µg/L	1	9/20/2004
Pyridine	ND	30		µg/L	1	9/20/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	9/20/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	9/20/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	9/20/2004
Surr: 2,4,6-Tribromophenol	0	16.6-115	S	%REC	1	9/20/2004
Surr: 2-Fluorobiphenyl	76.0	37-95.7		%REC	1	9/20/2004
Surr: 2-Fluorophenol	2.19	9.54-89.8	S	%REC	1	9/20/2004
Surr: 4-Terphenyl-d14	86.0	47.9-115		%REC	1	9/20/2004
Surr: Nitrobenzene-d5	70.1	38-106		%REC	1	9/20/2004
Surr: Phenol-d6	21.1	10.7-63.4		%REC	1	9/20/2004

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: CMC

Specific Conductance 310 0.010 µmhos/cm

EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury ND 0.00020 mg/L 1 9/14/2004

EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020	mg/L	1	9/15/2004 9:42:25 AM
Barium	0.082	0.0020	mg/L	1	9/15/2004 9:42:25 AM
Cadmium	ND	0.0020	mg/L	1	9/15/2004 9:42:25 AM
Calcium	39	1.0	mg/L	1	9/15/2004 9:42:25 AM
Chromium	ND	0.0060	mg/L	1	9/15/2004 9:42:25 AM
Copper	ND	0.0060	mg/L	1	9/15/2004 9:42:25 AM
Iron	0.036	0.020	mg/L	1	9/15/2004 9:42:25 AM
Lead	ND	0.0050	mg/L	1	9/15/2004 9:42:25 AM
Magnesium	7.5	1.0	mg/L	1	9/15/2004 9:42:25 AM
Manganese	0.0040	0.0020	mg/L	1	9/15/2004 9:42:25 AM
Potassium	2.1	1.0	mg/L	1	9/15/2004 9:42:25 AM
Selenium	ND	0.050	mg/L	1	9/15/2004 9:42:25 AM
Silver	ND	0.0050	mg/L	1	9/15/2004 9:42:25 AM
Sodium	21	1.0	mg/L	1	9/15/2004 9:42:25 AM
Uranium	ND	0.10	mg/L	1	9/15/2004 9:42:25 AM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

* - Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-03

Client Sample ID: River-N of MW#46
Collection Date: 9/7/2004 11:35:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Zinc	0.023	0.0050		mg/L	1	9/15/2004 9:42:25 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/20/2004 11:11:17 AM
Barium	0.11	0.020		mg/L	1	9/20/2004 11:11:17 AM
Cadmium	ND	0.0020		mg/L	1	9/20/2004 11:11:17 AM
Chromium	ND	0.0060		mg/L	1	9/20/2004 11:11:17 AM
Lead	ND	0.0050		mg/L	1	9/20/2004 11:11:17 AM
Selenium	ND	0.050		mg/L	1	9/20/2004 11:11:17 AM
Silver	ND	0.0050		mg/L	1	9/20/2004 12:52:21 PM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	230	50		mg/L	1	9/16/2004

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Lab Order: 0409062
Project: River Sampling Sept 2004
Lab ID: 0409062-04

Client Sample ID: Trip Blank
Collection Date:

Matrix: TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/14/2004 2:49:24 PM
Benzene	ND	0.50		µg/L	1	9/14/2004 2:49:24 PM
Toluene	ND	0.50		µg/L	1	9/14/2004 2:49:24 PM
Ethylbenzene	ND	0.50		µg/L	1	9/14/2004 2:49:24 PM
Xylenes, Total	ND	0.50		µg/L	1	9/14/2004 2:49:24 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
* - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining

Work Order: 0409062

Project: River Sampling Sept 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R13058	Test Code: E300	Units: mg/L	Analysis Date 9/8/2004 6:22:06 PM	Prep Date					
Client ID:		Run ID: LC_040908A			SeqNo: 303689						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.1									
Chloride	ND	0.1									
Nitrogen, Nitrite (As N)	ND	0.1									
Bromide	ND	0.1									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID	MB-6468	Batch ID: 6468	Test Code: SW8015	Units: mg/L	Analysis Date 9/15/2004 12:16:19 AM	Prep Date 9/13/2004					
Client ID:		Run ID: FID(17A)_040914A			SeqNo: 305759						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1									
Motor Oil Range Organics (MRO)	ND	5									
Surr: DNOP	1.149	0	1	0	115	58	140	0			

Sample ID	Reagent Blank 5m	Batch ID: R13118	Test Code: SW8015	Units: mg/L	Analysis Date 9/14/2004 8:42:39 AM	Prep Date					
Client ID:		Run ID: PIDFID_040914A			SeqNo: 305309						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.05									
Surr: BFB	16.99	0	20	0	84.9	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining

Work Order: 0409062

Project: River Sampling Sept 2004

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R13118	Test Code: SW8021	Units: µg/L	Analysis Date	9/14/2004 8:42:39 AM	Prep Date					
Client ID:			Run ID: PIDFID_040914A		SeqNo:	305308						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)		ND	2.5									
Benzene		ND	0.5									
Toluene		ND	0.5									
Ethylbenzene		ND	0.5									
Xylenes, Total		ND	0.5									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

Sample ID	mb-6470	Batch ID: 6470	Test Code: SW8270A	Units: µg/L	Analysis Date 9/20/2004	Prep Date 9/13/2004					
Client ID:			Run ID:	ELMO_040920A	SeqNo:	307409					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	ND	10									
Acenaphthylene	ND	10									
Aniline	ND	10									
Anthracene	ND	10									
Azobenzene	ND	10									
Benzo(a)anthracene	ND	15									
Benzo(a)pyrene	ND	10									
Benzo(b)fluoranthene	ND	10									
Benzo(g,h,i)perylene	ND	10									
Benzo(k)fluoranthene	ND	10									
Benzolic acid	ND	50									
Benzyl alcohol	ND	20									
Bis(2-chloroethoxy)methane	ND	10									
Bis(2-chloroethyl)ether	ND	15									
Bis(2-chloroisopropyl)ether	ND	15									
Bis(2-ethylhexyl)phthalate	ND	15									
4-Bromophenyl phenyl ether	ND	10									
Butyl benzyl phthalate	ND	15									
Carbazole	ND	10									
4-Chloro-3-methylphenol	ND	20									
4-Chloroaniline	ND	20									
2-Chloronaphthalene	ND	10									
2-Chlorophenol	ND	10									
4-Chlorophenyl phenyl ether	ND	15									
Chrysene	ND	15									
Di-n-butyl phthalate	ND	10									
Di-n-octyl phthalate	ND	15									
Dibenz(a,h)anthracene	ND	10									

Qualifiers: ND - Not Detected at the Reporting Limit
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

Dibenzofuran	ND	10
1,2-Dichlorobenzene	ND	10
1,3-Dichlorobenzene	ND	10
1,4-Dichlorobenzene	ND	10
3,3'-Dichlorobenzidine	ND	15
Diethyl phthalate	ND	10
Dimethyl phthalate	ND	10
2,4-Dichlorophenol	ND	10
2,4-Dimethylphenol	ND	10
4,6-Dinitro-2-methylphenol	ND	50
2,4-Dinitrophenol	ND	50
2,4-Dinitrotoluene	ND	10
2,6-Dinitrotoluene	ND	10
Fluoranthene	ND	10
Fluorene	ND	10
Hexachlorobenzene	ND	10
Hexachlorobutadiene	ND	10
Hexachlorocyclopentadiene	ND	10
Hexachloroethane	ND	10
Indeno(1,2,3-cd)pyrene	ND	10
Isophorone	ND	10
2-Methylnaphthalene	ND	10
2-Methylphenol	ND	15
3+4-Methylphenol	ND	10
N-Nitrosodi-n-propylamine	ND	10
N-Nitrosodimethylamine	ND	10
N-Nitrosodiphenylamine	ND	10
Naphthalene	ND	10
2-Nitroaniline	ND	50
3-Nitroaniline	ND	50
4-Nitroaniline	ND	20
Nitrobenzene	ND	10
2-Nitrophenol	ND	15

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining

Work Order: 0409062

Project: River Sampling Sept 2004

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4-Nitrophenol	ND	50									
Pentachlorophenol	ND	50									
Phenanthrene	ND	10									
Phenol	ND	10									
Pyrene	ND	15									
Pyridine	ND	30									
1,2,4-Trichlorobenzene	ND	10									
2,4,5-Trichlorophenol	ND	10									
2,4,6-Trichlorophenol	ND	15									
Surr: 2,4,6-Tribromophenol	77	0	200	0	38.5	16.6	115	0			
Surr: 2-Fluorobiphenyl	46.28	0	100	0	46.3	37	95.7	0			
Surr: 2-Fluorophenol	87.14	0	200	0	43.6	9.54	89.8	0			
Surr: 4-Terphenyl-d14	67.54	0	100	0	67.5	51.2	125	0			
Surr: Nitrobenzene-d5	49.46	0	100	0	49.5	38	106	0			
Surr: Phenol-d6	68.96	0	200	0	34.5	10.7	63.4	0			

Prep Date 9/14/2004

Analysis Date 9/14/2004

SeqNo: 305227

Test Code: SW7470 Units: mg/L

Run ID: MI-LA254_040914A

Batch ID: 6477

Sample ID MB-6477

Client ID:

Analyte

Mercury

Result

PQL

SPK value

SPK Ref Val

%REC

LowLimit

HighLimit

RPD Ref Val

%RPD

RPDLimit

Qual

J

0.00008115 0.0002

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

5

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

Sample ID	MB	Batch ID: R13125	Test Code: SW6010A	Units: mg/L	Analysis Date	9/15/2004 9:03:00 AM	Prep Date				
Client ID:		Run ID: ICP_040915A	SeqNo: 305865								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.002									
Cadmium	ND	0.002									
Calcium	ND	1									
Chromium	ND	0.006									
Copper	ND	0.006									
Iron	0.005769	0.02									J
Lead	ND	0.005									
Magnesium	ND	1									
Manganese	ND	0.002									
Potassium	ND	1									
Selenium	ND	0.05									
Silver	ND	0.005									
Sodium	0.03782	1									J
Uranium	ND	0.1									
Zinc	ND	0.005									

Sample ID	MB-6492	Batch ID:	6492	Test Code:	SW6010A	Units:	mg/L	Analysis Date	9/17/2004 2:52:50 PM	Prep Date	9/16/2004
Client ID:		Run ID:	ICP_040917A	SeqNo:	306647						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.02									
Cadmium	0.001101	0.002									J
Chromium	ND	0.006									
Lead	0.003158	0.005									J
Selenium	ND	0.05									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

Sample ID	MB-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 11:27:57 AM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040920A		SeqNo:	306678					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	ND	0.02									
Cadmium	ND	0.002									
Chromium	ND	0.006									
Lead	ND	0.005									
Selenium	ND	0.05									

Sample ID	MB-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 12:31:59 PM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040920A		SeqNo:	306682					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.005									

Sample ID	MB-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 8:05:04 AM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040920E		SeqNo:	307231					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.005									

Sample ID	MB-6480	Batch ID: 6480	Test Code: E160.1	Units: mg/L	Analysis Date	9/16/2004	Prep Date	9/14/2004			
Client ID:			Run ID: WC_040916A		SeqNo:	305825					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining

Work Order: 0409062

Project: River Sampling Sept 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0409062-01C DUP	Batch ID: R13081	Test Code: E120.1	Units: µmhos/cm	Analysis Date	9/10/2004	Prep Date					
Client ID:	River Upstream	Run ID:	WC_040910E		SeqNo:	304192						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance		306	0.01	0	0	0	0	0	310	1.30	20	

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Work Order: 0409062
Project: River Sampling Sept 2004

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0409062-01a.ms	Batch ID: R13118	Test Code: SW8015	Units: mg/L	Analysis Date	9/15/2004 12:16:35 AM	Prep Date					
Client ID:	River Upstream		Run ID: PIDFID_040914A		SeqNo:	305326						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.4962	0.05	0.5	0	99.2	80.3	116	0			
Surr: BFB		24.28	0	25	0	97.1	74	118	0			

Sample ID	0409062-01a.ms	Batch ID: R13118	Test Code: SW8015	Units: mg/L	Analysis Date	9/15/2004 12:46:14 AM	Prep Date					
Client ID:	River Upstream		Run ID: PIDFID_040914A		SeqNo:	305327						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.4794	0.05	0.5	0	95.9	80.3	116	0.4962	3.44	8.39	
Surr: BFB		24.84	0	25	0	99.4	74	118	24.28	2.31	0	

Sample ID	0409062-01a.ms	Batch ID: R13118	Test Code: SW8021	Units: µg/L	Analysis Date	9/15/2004 1:15:57 AM	Prep Date					
Client ID:	River Upstream		Run ID: PIDFID_040914A		SeqNo:	305319						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)		35.33	2.5	40	0	88.3	65	132	0			
Benzene		20.85	0.5	20	0	104	77	122	0			
Toluene		20.39	0.5	20	0	102	81	115	0			
Ethylbenzene		19.69	0.5	20	0	98.5	84	117	0			
Xylenes, Total		59.65	0.5	60	0	99.4	84	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

Sample ID	0409062-01a msd	Batch ID: R13118	Test Code: SW8021	Units: µg/L	Analysis Date	9/15/2004 1:45:42 AM	Prep Date				
Client ID:	River Upstream		Run ID: PIDFID_040914A		SeqNo:	305320					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	34.01	2.5	40	0	85.0	65	132	35.33	3.80	28	
Benzene	20.1	0.5	20	0	100	77	122	20.85	3.66	27	
Toluene	19.34	0.5	20	0	96.7	81	115	20.39	5.26	19	
Ethylbenzene	19.1	0.5	20	0	95.5	84	117	19.69	3.06	10	
Xylenes, Total	57.67	0.5	60	0	96.1	84	116	59.65	3.38	13	

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 27-Sep-04

CLIENT: San Juan Refining
Work Order: 0409062
Project: River Sampling Sept 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13058	Test Code: E300	Units: mg/L	Analysis Date	9/8/2004 6:38:49 PM	Prep Date				
Client ID:		Run ID:	LC_040908A		SeqNo:	303690					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4818	0.1	0.5	0	96.4	90	110	0			
Chloride	4.833	0.1	5	0	96.7	90	110	0			
Nitrogen, Nitrite (As N)	0.9588	0.1	1	0	95.9	90	110	0			
Bromide	2.531	0.1	2.5	0	101	90	110	0			
Nitrogen, Nitrate (As N)	2.507	0.1	2.5	0	100	90	110	0			
Phosphorus, Orthophosphate (As P)	5.121	0.5	5	0	102	90	110	0			
Sulfate	10.23	0.5	10	0	102	90	110	0			

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Sample ID	LCS-6468	Batch ID: 6468	Test Code: SW8015	Units: mg/L	Analysis Date	9/15/2004 12:48:57 AM	Prep Date	9/13/2004			
Client ID:		Run ID:	FID(17A)_040914A		SeqNo:	305760					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.541	1	5	0	90.8	81.2	149	0			

Sample ID	LCSD-6468	Batch ID: 6468	Test Code: SW8015	Units: mg/L	Analysis Date	9/16/2004 4:45:14 PM	Prep Date	9/13/2004			
Client ID:		Run ID:	FID(17A)_040914A	SeqNo:	305989						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.212	1	5	0	104	81.2	149	4.541	13.8	23	

Sample ID	GRO std 2.5ug	Batch ID: R13118	Test Code: SW8015	Units: mg/L	Analysis Date	9/14/2004 7:19:00 PM	Prep Date				
Client ID:		Run ID: PIDFID_040914A	SeqNo: 305349								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5098	0.05	0.5	0	102	80.3	116	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

Sample ID	BTEX std	100ng	Batch ID: R13118	Test Code: SW8021	Units: µg/L	Analysis Date	9/14/2004 7:48:46 PM	Prep Date			
Client ID:				Run ID: PIDFID_040914A		SeqNo: 305321					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	37	2.5	40	0	92.5	54.9	142	0			
Benzene	20.94	0.5	20	0	105	81.3	121	0			
Toluene	20.16	0.5	20	0	101	84.9	118	0			
Ethylbenzene	20.23	0.5	20	0	101	53.8	149	0			
Xylenes, Total	55.93	0.5	60	0	93.2	83.1	122	0			

Sample ID	Ics-6470	Batch ID: 6470	Test Code: SW8270A	Units: µg/L	Analysis Date	9/20/2004	Prep Date	9/13/2004			
Client ID:			Run ID: ELMO_040920A		SeqNo:	307410					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	52.68	10	100	0	52.7	44.6	87.9	0			
4-Chloro-3-methylphenol	97.22	20	200	0	48.6	46	92.2	0			
2-Chlorophenol	112.1	10	200	0	56.1	46.3	91.1	0			
1,4-Dichlorobenzene	45.84	10	100	0	45.8	37.8	91.3	0			
2,4-Dinitrotoluene	58.9	10	100	0	58.9	53.2	94.9	0			
N-Nitrosodi-n-propylamine	50.78	10	100	0	50.8	46.2	82.6	0			
4-Nitrophenol	52.42	50	200	0	26.2	3.95	65.2	0			
Pentachlorophenol	89.64	50	200	0	44.8	21.6	105	0			
Phenol	68.14	10	200	0	34.1	26.3	53.8	0			
Pyrene	63.4	15	100	0	63.4	53.8	94.5	0			
1,2,4-Trichlorobenzene	42.9	10	100	0	42.9	37.1	90.7	0			

Sample ID	LCS-6477	Batch ID: 6477	Test Code: SW7470	Units: mg/L	Analysis Date	9/14/2004	Prep Date	9/14/2004			
Client ID:			Run ID: MI-LA254_040914A		SeqNo:	305228					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005065	0.0002	0.005	0.00008115	99.7	75.2	134	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0409062
Project: River Sampling Sept 2004

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID	LCSD-6477	Batch ID: 6477	Test Code: SW7470	Units: mg/L	Analysis Date	9/14/2004	Prep Date	9/14/2004				
Client ID:			Run ID: MI-LA254_040914A		SeqNo:	305245						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.005324	0.0002	0.005	0.00008115	105	75.2	134	0.005065	5.00	0	
Sample ID	LCS	Batch ID: R13125	Test Code: SW6010A	Units: mg/L	Analysis Date	9/15/2004 8:53:37 AM	Prep Date					
Client ID:			Run ID: ICP_040915A		SeqNo:	305443						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		0.4828	0.02	0.5	0	96.6	80	120	0			
Barium		0.46	0.002	0.5	0	92.0	80	120	0			
Cadmium		0.4677	0.002	0.5	0	93.5	80	120	0			
Calcium		49.83	1	50.5	0	98.7	80	120	0			
Chromium		0.4666	0.006	0.5	0	93.3	80	120	0			
Copper		0.4514	0.006	0.5	0	90.3	80	120	0			
Iron		0.536	0.02	0.5	0.005769	106	80	120	0			
Lead		0.4658	0.005	0.5	0	93.2	80	120	0			
Magnesium		50.81	1	50.5	0	101	80	120	0			
Manganese		0.485	0.002	0.5	0	97.0	80	120	0			
Potassium		51.14	1	55	0	93.0	80	120	0			
Selenium		0.4649	0.05	0.5	0	93.0	80	120	0			
Silver		0.5026	0.005	0.5	0	101	80	120	0			
Sodium		47.79	1	50.5	0.03782	94.6	80	120	0			
Uranium		ND	0.1	5	0	0	80	120	0			S
Zinc		0.4678	0.005	0.5	0	93.6	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 S - Spike Recovery outside accepted recovery limits
 B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits
 R - RPD outside accepted recovery limits

CLIENT: San Juan Refining

Work Order: 0409062

Project: River Sampling Sept 2004

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD	Batch ID: R13125	Test Code: SW6010A	Units: mg/L	Analysis Date 9/15/2004 8:56:51 AM	Prep Date							
Client ID:	Analyte	Result	Run ID:	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	Arsenic	0.4992		0.02	0.5	0	99.8	80	120	0.4828	3.34	20	
	Barium	0.4615		0.002	0.5	0	92.3	80	120	0.46	0.329	20	
	Cadmium	0.4695		0.002	0.5	0	93.9	80	120	0.4677	0.388	20	
	Calcium	49.99		1	50.5	0	99.0	80	120	49.83	0.312	20	
	Chromium	0.469		0.006	0.5	0	93.8	80	120	0.4666	0.507	20	
	Copper	0.4538		0.006	0.5	0	90.8	80	120	0.4514	0.533	20	
	Iron	0.5351		0.02	0.5	0.005769	106	80	120	0.536	0.169	20	
	Lead	0.4655		0.005	0.5	0	93.1	80	120	0.4658	0.0725	20	
	Magnesium	50.88		1	50.5	0	101	80	120	50.81	0.135	20	
	Manganese	0.4868		0.002	0.5	0	97.4	80	120	0.485	0.389	20	
	Potassium	51.28		1	55	0	93.2	80	120	51.14	0.275	20	
	Selenium	0.468		0.05	0.5	0	93.6	80	120	0.4649	0.672	20	
	Silver	0.4294		0.005	0.5	0	85.9	80	120	0.5026	15.7	20	
	Sodium	47.86		1	50.5	0.03782	94.7	80	120	47.79	0.136	20	
	Uranium	ND		0.1	5	0	0	80	120	0	0	20	S
	Zinc	0.4708		0.005	0.5	0	94.2	80	120	0.4678	0.631	20	

Sample ID	LCS U	Batch ID: R13125	Test Code: SW6010A	Units: mg/L	Analysis Date 9/15/2004 11:21:31 AM	Prep Date					
Client ID:			Run ID: ICP_040915A		SeqNo: 305866						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.831	0.1	5	0	96.6	80	120	0			

Sample ID	LCSD U	Batch ID: R13125	Test Code: SW6010A	Units: mg/L	Analysis Date 9/15/2004 11:24:27 AM	Prep Date					
Client ID:			Run ID: ICP_040915A		SeqNo: 305867						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.867	0.1	5	0	97.3	80	120	4.831	0.745	20	

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank

J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/17/2004 2:55:08 PM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040917A		SeqNo: 306648						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5026	0.02	0.5	0	101	80	120	0			
Barium	0.4711	0.02	0.5	0	94.2	80	120	0			
Cadmium	0.4858	0.002	0.5	0.001101	96.9	80	120	0			
Chromium	0.4789	0.006	0.5	0	95.8	80	120	0			
Lead	0.4833	0.005	0.5	0.003158	96.0	80	120	0			
Selenium	0.4785	0.05	0.5	0	95.7	80	120	0			

Sample ID	LCSD-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/17/2004 2:57:19 PM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040917A		SeqNo:	306649					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4921	0.02	0.5	0	98.4	80	120	0.5026	2.13	20	
Barium	0.4702	0.02	0.5	0	94.0	80	120	0.4711	0.206	20	
Cadmium	0.4836	0.002	0.5	0.001101	96.5	80	120	0.4858	0.465	20	
Chromium	0.4754	0.006	0.5	0	95.1	80	120	0.4789	0.732	20	
Lead	0.4817	0.005	0.5	0.003158	95.7	80	120	0.4833	0.323	20	
Selenium	0.4981	0.05	0.5	0	99.6	80	120	0.4785	4.01	20	

Sample ID	LCS-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 10:46:14 AM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040920A		SeqNo:	306667					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5658	0.02	0.5	0	113	80	120	0			
Barium	0.5299	0.02	0.5	0	106	80	120	0			
Cadmium	0.5455	0.002	0.5	0	109	80	120	0			
Chromium	0.533	0.006	0.5	0	107	80	120	0			
Lead	0.5396	0.005	0.5	0	108	80	120	0			
Selenium	0.5398	0.05	0.5	0	108	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
Work Order: 0409062
Project: River Sampling Sept 2004

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID	LCSD-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 10:49:14 AM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040920A		SeqNo: 306668						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.568	0.02	0.5	0	114	80	120	0.5658	0.394	20	
Barium	0.5279	0.02	0.5	0	106	80	120	0.5299	0.391	20	
Cadmium	0.5408	0.002	0.5	0	108	80	120	0.5455	0.862	20	
Chromium	0.5294	0.006	0.5	0	106	80	120	0.533	0.673	20	
Lead	0.5329	0.005	0.5	0	107	80	120	0.5396	1.26	20	
Selenium	0.5307	0.05	0.5	0	106	80	120	0.5398	1.69	20	

Sample ID	LCS-6492	Batch ID: 6492	Test Code: SW6010A		Units: mg/L		Analysis Date 9/20/2004 12:34:15 PM		Prep Date 9/16/2004		
Client ID:			Run ID: ICP_040920A				SeqNo: 306683				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.5907	0.005	0.5	0	118	80	120	0			

Sample ID	LCSD-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 12:36:33 PM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040920A		SeqNo: 306684						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.5705	0.005	0.5	0	114	80	120	0.5907	3.48	20	

Sample ID	LCS-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 8:07:23 AM	Prep Date	9/16/2004			
Client ID:			Run ID: ICP_040920E		SeqNo: 307232						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.498	0.005	0.5	0	99.6	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit S - Spike Recovery outside accepted recovery limits B - Analyte detected in the associated Method Blank
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0409062
 Project: River Sampling Sept 2004

Sample ID	LCSD-6492	Batch ID: 6492	Test Code: SW6010A	Units: mg/L	Analysis Date	9/20/2004 8:09:28 AM	Prep Date	9/16/2004				
Client ID:			Run ID: ICP_040920E		SeqNo:	307233						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver		0.4968	0.005	0.5	0	99.4	80	120	0.498	0.251	20	

Sample ID	LCS-6480	Batch ID: 6480	Test Code: E160.1	Units: mg/L	Analysis Date	9/16/2004	Prep Date	9/14/2004				
Client ID:			Run ID: WC_040916A		SeqNo:	305826						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids		991	50	1000	0	99.1	80	120	0			

Qualifiers: ND - Not Detected at the Reporting Limit
 J - Analyte detected below quantitation limits
 S - Spike Recovery outside accepted recovery limits
 R - RPD outside accepted recovery limits
 B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

9/8/2004

Work Order Number 0409062

Received by AT

Checklist completed by

Signature

Date

9/13/04

Matrix

Carrier name UPS

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐	
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒	Not Shipped ☐
Custody seals intact on sample bottles?	Yes ☐	No ☒	N/A ☐	
Chain of custody present?	Yes ☒	No ☐		
Chain of custody signed when relinquished and received?	Yes ☒	No ☐		
Chain of custody agrees with sample labels?	Yes ☒	No ☐		
Samples in proper container/bottle?	Yes ☒	No ☐		
Sample containers intact?	Yes ☒	No ☐		
Sufficient sample volume for indicated test?	Yes ☒	No ☐		
All samples received within holding time?	Yes ☒	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒	

Container/Temp Blank temperature?

1°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

Accreditation Applied: ☐ USACE ☐ NELAC ☐

NELAC ☐ USACE ☐

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ANALYSIS REQUEST

[illegible]

Remarks:

