

GW - 1

MONITORING REPORTS

DATE:

2005

**2004 GROUNDWATER REMEDIATION AND MONITORING
ANNUAL REPORT
APRIL 2005
VOLUME II**



**SAN JUAN REFINING COMPANY
GIANT - BLOOMFIELD REFINERY**

COVER LETTER

September 14, 2004

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

RE: Annual Monitoring Wells 2004

Order No.: 0408153

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 4 samples on 8/18/2004 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: 14-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW #34

Lab Order: 0408153

Collection Date: 8/17/2004 8:15:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408153-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.62	0.10		mg/L	1	8/18/2004 6:19:45 PM
Chloride	100	2.0		mg/L	20	8/19/2004 7:32:26 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/18/2004 6:19:45 PM
Bromide	1.2	0.10		mg/L	1	8/18/2004 6:19:45 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/18/2004 6:19:45 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/18/2004 6:19:45 PM
Sulfate	29	0.50		mg/L	1	8/18/2004 6:19:45 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO ₃)	1100	4.0		mg/L CaCO ₃	2	8/24/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	8/24/2004
Bicarbonate	1100	4.0		mg/L CaCO ₃	2	8/24/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	13		µg/L	5	8/24/2004 12:56:27 AM
Benzene	ND	2.5		µg/L	5	8/24/2004 12:56:27 AM
Toluene	3.9	2.5		µg/L	5	8/24/2004 12:56:27 AM
Ethylbenzene	19	2.5		µg/L	5	8/24/2004 12:56:27 AM
Xylenes, Total	13	2.5		µg/L	5	8/24/2004 12:56:27 AM
Surr: 4-Bromofluorobenzene	105	74-118		%REC	5	8/24/2004 12:56:27 AM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: IC
Total Carbon Dioxide	990	1.0		mg CO ₂ /L	1	8/24/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: MAP
Specific Conductance	2100	0.010		µmhos/cm	1	8/24/2004
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	8/20/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 1:47:04 PM
Barium	0.78	0.0020		mg/L	1	8/26/2004 1:47:04 PM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 1:47:04 PM
Calcium	110	1.0		mg/L	1	8/26/2004 1:47:04 PM
Chromium	ND	0.0060		mg/L	1	8/26/2004 1:47:04 PM
Copper	0.015	0.0060		mg/L	1	8/26/2004 1:47:04 PM
Iron	5.6	0.020		mg/L	1	8/26/2004 1:47:04 PM
Lead	ND	0.0050		mg/L	1	8/26/2004 1:47:04 PM
Magnesium	20	1.0		mg/L	1	8/26/2004 1:47:04 PM
Manganese	4.3	0.0020		mg/L	1	8/26/2004 1:47:04 PM
Potassium	1.3	1.0		mg/L	1	8/26/2004 1:47:04 PM
Selenium	ND	0.050		mg/L	1	9/10/2004 3:31:18 PM
Silver	ND	0.0050		mg/L	1	8/27/2004 8:06:48 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: 14-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408153
Project: Annual Monitoring Wells 2004
Lab ID: 0408153-01

Client Sample ID: MW #34
Collection Date: 8/17/2004 8:15:00 AM

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	400	10		mg/L	10	8/26/2004 2:03:59 PM
Uranium	ND	0.10		mg/L	1	8/26/2004 1:47:04 PM
Zinc	0.020	0.0050		mg/L	1	8/26/2004 1:47:04 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 9:33:14 AM
Barium	0.94	0.020		mg/L	1	8/26/2004 9:33:14 AM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 9:33:14 AM
Chromium	ND	0.0060		mg/L	1	8/26/2004 9:33:14 AM
Lead	ND	0.0050		mg/L	1	8/26/2004 9:33:14 AM
Selenium	ND	0.050		mg/L	1	9/10/2004 3:39:46 PM
Silver	ND	0.0050		mg/L	1	8/26/2004 9:33:14 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	8.23	0.010		pH units	1	8/24/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1500	50		mg/L	1	8/25/2004

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: 14-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408153
Project: Annual Monitoring Wells 2004
Lab ID: 0408153-02

Client Sample ID: MW #35
Collection Date: 8/17/2004 8:35:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.36	0.10		mg/L	1	8/18/2004 6:36:34 PM
Chloride	110	2.0		mg/L	20	8/20/2004 8:53:20 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/18/2004 6:36:34 PM
Bromide	1.2	0.10		mg/L	1	8/18/2004 6:36:34 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/18/2004 6:36:34 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/18/2004 6:36:34 PM
Sulfate	1.7	0.50		mg/L	1	8/18/2004 6:36:34 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO ₃)	1000	4.0		mg/L CaCO ₃	2	8/24/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	8/24/2004
Bicarbonate	1000	4.0		mg/L CaCO ₃	2	8/24/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	9.6	2.5		µg/L	1	8/23/2004 1:17:52 PM
Benzene	0.82	0.50		µg/L	1	8/23/2004 1:17:52 PM
Toluene	ND	0.50		µg/L	1	8/23/2004 1:17:52 PM
Ethylbenzene	6.1	0.50		µg/L	1	8/23/2004 1:17:52 PM
Xylenes, Total	3.3	0.50		µg/L	1	8/23/2004 1:17:52 PM
Surr: 4-Bromofluorobenzene	116	74-118		%REC	1	8/23/2004 1:17:52 PM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: IC
Total Carbon Dioxide	910	1.0		mg CO ₂ /L	1	8/24/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: MAP
Specific Conductance	2000	0.010		µmhos/cm	1	8/24/2004
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	8/20/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 1:51:26 PM
Barium	0.71	0.0020		mg/L	1	8/26/2004 1:51:26 PM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 1:51:26 PM
Calcium	130	1.0		mg/L	1	8/26/2004 1:51:26 PM
Chromium	ND	0.0060		mg/L	1	8/26/2004 1:51:26 PM
Copper	0.0065	0.0060		mg/L	1	8/26/2004 1:51:26 PM
Iron	7.2	0.020		mg/L	1	8/26/2004 1:51:26 PM
Lead	0.0063	0.0050		mg/L	1	8/26/2004 1:51:26 PM
Magnesium	23	1.0		mg/L	1	8/26/2004 1:51:26 PM
Manganese	3.1	0.0020		mg/L	1	8/26/2004 1:51:26 PM
Potassium	3.0	1.0		mg/L	1	8/26/2004 1:51:26 PM
Selenium	ND	0.050		mg/L	1	9/10/2004 3:35:31 PM
Silver	ND	0.0050		mg/L	1	8/27/2004 8:09:08 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: 14-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW #35

Lab Order: 0408153

Collection Date: 8/17/2004 8:35:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408153-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	300	10		mg/L	10	8/26/2004 2:06:43 PM
Uranium	ND	0.10		mg/L	1	8/26/2004 1:51:26 PM
Zinc	0.022	0.0050		mg/L	1	8/26/2004 1:51:26 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 9:37:33 AM
Barium	1.2	0.20		mg/L	10	8/26/2004 11:18:09 AM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 9:37:33 AM
Chromium	ND	0.0060		mg/L	1	8/26/2004 9:37:33 AM
Lead	0.0067	0.0050		mg/L	1	8/26/2004 9:37:33 AM
Selenium	ND	0.050		mg/L	1	9/10/2004 3:44:03 PM
Silver	ND	0.0050		mg/L	1	8/26/2004 9:37:33 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	8.02	0.010		pH units	1	8/24/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1400	50		mg/L	1	8/25/2004

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: 14-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW #37

Lab Order: 0408153

Collection Date: 8/17/2004 10:10:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408153-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.46	0.10		mg/L	1	8/18/2004 6:53:22 PM
Chloride	98	1.0		mg/L	10	8/19/2004 8:06:04 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/18/2004 6:53:22 PM
Bromide	1.0	0.10		mg/L	1	8/18/2004 6:53:22 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/18/2004 6:53:22 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/18/2004 6:53:22 PM
Sulfate	15	0.50		mg/L	1	8/18/2004 6:53:22 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO ₃)	1000	4.0		mg/L CaCO ₃	2	8/24/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	8/24/2004
Bicarbonate	1000	4.0		mg/L CaCO ₃	2	8/24/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	2.6	2.5		µg/L	1	8/23/2004 1:48:17 PM
Benzene	ND	0.50		µg/L	1	8/23/2004 1:48:17 PM
Toluene	ND	0.50		µg/L	1	8/23/2004 1:48:17 PM
Ethylbenzene	1.2	0.50		µg/L	1	8/23/2004 1:48:17 PM
Xylenes, Total	0.62	0.50		µg/L	1	8/23/2004 1:48:17 PM
Surr: 4-Bromofluorobenzene	106	74-118		%REC	1	8/23/2004 1:48:17 PM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: IC
Total Carbon Dioxide	940	1.0		mg CO ₂ /L	1	8/24/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: MAP
Specific Conductance	1800	0.010		µmhos/cm	1	8/24/2004
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	0.00044	0.00020		mg/L	1	8/20/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 1:55:43 PM
Barium	0.28	0.0020		mg/L	1	8/26/2004 1:55:43 PM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 1:55:43 PM
Calcium	100	1.0		mg/L	1	8/26/2004 1:55:43 PM
Chromium	ND	0.0060		mg/L	1	8/26/2004 1:55:43 PM
Copper	ND	0.0060		mg/L	1	8/26/2004 1:55:43 PM
Iron	1.5	0.020		mg/L	1	8/26/2004 1:55:43 PM
Lead	ND	0.0050		mg/L	1	8/26/2004 1:55:43 PM
Magnesium	19	1.0		mg/L	1	8/26/2004 1:55:43 PM
Manganese	1.3	0.0020		mg/L	1	8/26/2004 1:55:43 PM
Potassium	5.0	1.0		mg/L	1	8/26/2004 1:55:43 PM
Selenium	ND	0.050		mg/L	1	8/26/2004 1:55:43 PM
Silver	ND	0.0050		mg/L	1	8/27/2004 8:11:28 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: 14-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW #37

Lab Order: 0408153

Collection Date: 8/17/2004 10:10:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408153-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	350	10		mg/L	10	8/26/2004 2:09:35 PM
Uranium	ND	0.10		mg/L	1	8/26/2004 1:55:43 PM
Zinc	0.028	0.0050		mg/L	1	8/26/2004 1:55:43 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 9:51:59 AM
Barium	1.3	0.20		mg/L	10	8/26/2004 11:21:04 AM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 9:51:59 AM
Chromium	0.018	0.0060		mg/L	1	8/26/2004 9:51:59 AM
Lead	0.050	0.0050		mg/L	1	8/26/2004 9:51:59 AM
Selenium	ND	0.050		mg/L	1	8/26/2004 9:51:59 AM
Silver	ND	0.0050		mg/L	1	8/26/2004 9:51:59 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	8.17	0.010		pH units	1	8/24/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1300	50		mg/L	1	8/25/2004

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: 14-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW #38

Lab Order: 0408153

Collection Date: 8/17/2004 10:30:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408153-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.53	0.10		mg/L	1	8/18/2004 7:10:11 PM
Chloride	140	5.0		mg/L	50	8/20/2004 9:43:46 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/18/2004 7:10:11 PM
Bromide	1.3	0.10		mg/L	1	8/18/2004 7:10:11 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/18/2004 7:10:11 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/18/2004 7:10:11 PM
Sulfate	330	25		mg/L	50	8/20/2004 9:43:46 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO3)	660	4.0		mg/L CaCO3	2	8/24/2004
Carbonate	ND	4.0		mg/L CaCO3	2	8/24/2004
Bicarbonate	660	4.0		mg/L CaCO3	2	8/24/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	8.5	2.5		µg/L	1	8/23/2004 2:18:45 PM
Benzene	ND	0.50		µg/L	1	8/23/2004 2:18:45 PM
Toluene	ND	0.50		µg/L	1	8/23/2004 2:18:45 PM
Ethylbenzene	1.2	0.50		µg/L	1	8/23/2004 2:18:45 PM
Xylenes, Total	0.68	0.50		µg/L	1	8/23/2004 2:18:45 PM
Surr: 4-Bromofluorobenzene	106	74-118		%REC	1	8/23/2004 2:18:45 PM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: IC
Total Carbon Dioxide	590	1.0		mg CO2/L	1	8/24/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: MAP
Specific Conductance	1800	0.010		µmhos/cm	1	8/24/2004
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	0.0012	0.00020		mg/L	1	8/20/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 1:59:40 PM
Barium	0.19	0.0020		mg/L	1	8/26/2004 1:59:40 PM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 1:59:40 PM
Calcium	180	1.0		mg/L	1	8/26/2004 1:59:40 PM
Chromium	ND	0.0060		mg/L	1	8/26/2004 1:59:40 PM
Copper	ND	0.0060		mg/L	1	8/26/2004 1:59:40 PM
Iron	8.0	0.020		mg/L	1	8/26/2004 1:59:40 PM
Lead	ND	0.0050		mg/L	1	8/26/2004 1:59:40 PM
Magnesium	32	1.0		mg/L	1	8/26/2004 1:59:40 PM
Manganese	3.6	0.0020		mg/L	1	8/26/2004 1:59:40 PM
Potassium	4.7	1.0		mg/L	1	8/26/2004 1:59:40 PM
Selenium	ND	0.050		mg/L	1	8/26/2004 1:59:40 PM
Silver	ND	0.0050		mg/L	1	8/27/2004 8:12:54 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

Page 7 of 8

Hall Environmental Analysis Laboratory

Date: 14-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW #38

Lab Order: 0408153

Collection Date: 8/17/2004 10:30:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408153-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	250	10		mg/L	10	8/26/2004 2:12:28 PM
Uranium	ND	0.10		mg/L	1	8/26/2004 1:59:40 PM
Zinc	0.035	0.0050		mg/L	1	8/26/2004 1:59:40 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/26/2004 9:56:19 AM
Barium	0.74	0.020		mg/L	1	8/26/2004 9:56:19 AM
Cadmium	ND	0.0020		mg/L	1	8/26/2004 9:56:19 AM
Chromium	0.079	0.0060		mg/L	1	8/26/2004 9:56:19 AM
Lead	0.028	0.0050		mg/L	1	8/26/2004 9:56:19 AM
Selenium	ND	0.050		mg/L	1	8/26/2004 9:56:19 AM
Silver	ND	0.0050		mg/L	1	8/26/2004 9:56:19 AM
EPA METHOD 150.1: PH						Analyst: MAP
pH	8.29	0.010		pH units	1	8/24/2004
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	1500	50		mg/L	1	8/25/2004

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: 01-Sep-04

CLIENT: San Juan Refining

Work Order: 0408153

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R12816	Test Code: E300	Units: mg/L	Analysis Date 8/18/2004 10:50:35 AM	Prep Date					
Client ID:			Run ID: LC_040818A		SeqNo: 297633						
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									

9 / 22

Sample ID	MBLK	Batch ID: R12816	Test Code: E300	Units: mg/L	Analysis Date 8/18/2004 5:46:07 PM	Prep Date					
Client ID:			Run ID: LC_040818A		SeqNo: 297647						
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 limitsS - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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CLIENT: San Juan Refining
Work Order: 0408153
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R12828	Test Code: E300	Units: mg/L	Analysis Date	8/19/2004 11:34:57 AM	Prep Date				
Client ID:		Run ID:	LC_040819A		SeqNo:	297905					
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: R12828	Test Code: E300	Units: mg/L	Analysis Date	8/19/2004 6:25:10 PM	Prep Date				
Client ID:			Run ID: LC_040819A		SeqNo: 297929						
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

CLIENT: San Juan Refining
Work Order: 0408153
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MBLK	Batch ID: R12848	Test Code: E300	Units: mg/L	Analysis Date 8/20/2004 11:36:03 AM	Prep Date					
Client ID:			Run ID: LC_040820A		SeqNo: 298287						
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: R12848	Test Code: E300	Units: mg/L	Analysis Date 8/20/2004 6:22:07 PM	Prep Date					
Client ID:			Run ID: LC_040820A		SeqNo: 298308						
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: R12869	Test Code: E310.1	Units: mg/L CaCO3	Analysis Date 8/24/2004	Prep Date					
Client ID:			Run ID: WC_040824A		SeqNo: 299026						
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
 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: 0408153
Project: Annual Monitoring Wells 2004

Sample ID	Reagent Blank 5m	Batch ID: R12859	Test Code: SW8021	Units: µg/L	Analysis Date	8/23/2004 8:01:48 AM	Prep Date				
Client ID:			Run ID: PIDFID_040823A		SeqNo: 298631						
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	21.97	0	20	0	110	74	118	0			

Sample ID	MB-6359	Batch ID: 6359	Test Code: SW7470	Units: mg/L	Analysis Date	8/20/2004	Prep Date	8/20/2004			
Client ID:			Run ID: MI-LA254_040820B		SeqNo: 298062						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	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

CLIENT: San Juan Refining
Work Order: 0408153
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MB	Batch ID: R12902	Test Code: SW6010A	Units: mg/L	Analysis Date	8/26/2004 12:29:53 PM	Prep Date				
Client ID:		Run ID:	ICP_040826B		SeqNo:	299790					
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	0.05596	1									J
Chromium	ND	0.006									
Copper	ND	0.006									
Iron	ND	0.02									
Lead	ND	0.005									
Magnesium	0.05801	1									J
Manganese	0.0005672	0.002									J
Potassium	0.07551	1									J
Selenium	ND	0.05									
Sodium	0.07082	1									J
Uranium	ND	0.1									
Zinc	ND	0.005									

Sample ID	MB	Batch ID: R12906	Test Code: SW6010A	Units: mg/L	Analysis Date 8/27/2004 7:58:22 AM	Prep Date					
Client ID:		Run ID: ICP_040827A			SeqNo: 299883						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
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

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0408153
 Project: Annual Monitoring Wells 2004

Sample ID MB-6369	Batch ID: 6369	Test Code: SW6010A	Units: mg/L	Analysis Date 8/26/2004 9:10:03 AM	Prep Date 8/24/2004						
Client ID:	Run ID: ICP_040826A	SeqNo: 299548									
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									
Silver	ND	0.005									

Sample ID MB-6365	Batch ID: 6365	Test Code: E160.1	Units: mg/L	Analysis Date 8/25/2004	Prep Date 8/23/2004						
Client ID:	Run ID: WC_040825A	SeqNo: 299155									
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: 01-Sep-04

CLIENT: San Juan Refining

Work Order: 0408153

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R12816	Test Code: E300	Units: mg/L	Analysis Date	8/18/2004 11:07:23 AM	Prep Date				
Client ID:		Run ID:	LC_040818A		SeqNo:	297634					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4545	0.1	0.5	0	90.9	90	110	0			
Chloride	4.881	0.1	5	0	97.6	90	110	0			
Nitrogen, Nitrite (As N)	0.9322	0.1	1	0	93.2	90	110	0			
Bromide	2.268	0.1	2.5	0	90.7	90	110	0			
Nitrogen, Nitrate (As N)	2.388	0.1	2.5	0	95.5	90	110	0			
Phosphorus, Orthophosphate (As P)	4.518	0.5	5	0	90.4	90	110	0			
Sulfate	9.728	0.5	10	0	97.3	90	110	0			

Sample ID	LCS	Batch ID: R12816	Test Code: E300	Units: mg/L	Analysis Date	8/18/2004 6:02:55 PM	Prep Date				
Client ID:		Run ID:	LC_040818A		SeqNo:	297648					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4618	0.1	0.5	0	92.4	90	110	0			
Chloride	4.838	0.1	5	0	96.8	90	110	0			
Nitrogen, Nitrite (As N)	0.9416	0.1	1	0	94.2	90	110	0			
Bromide	2.319	0.1	2.5	0	92.8	90	110	0			
Nitrogen, Nitrate (As N)	2.401	0.1	2.5	0	96.0	90	110	0			
Phosphorus, Orthophosphate (As P)	4.716	0.5	5	0	94.3	90	110	0			
Sulfate	9.835	0.5	10	0	98.4	90	110	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: 0408153
 Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R12828	Test Code: E300	Units: mg/L	Analysis Date	8/19/2004 11:51:46 AM	Prep Date				
Client ID:		Run ID: LC_040819A			SeqNo: 297906						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4515	0.1	0.5	0	90.3	90	110	0			
Chloride	4.828	0.1	5	0	96.6	90	110	0			
Nitrogen, Nitrite (As N)	0.9201	0.1	1	0	92.0	90	110	0			
Bromide	2.339	0.1	2.5	0	93.5	90	110	0			
Nitrogen, Nitrate (As N)	2.378	0.1	2.5	0	95.1	90	110	0			
Phosphorus, Orthophosphate (As P)	4.533	0.5	5	0	90.7	90	110	0			
Sulfate	9.677	0.5	10	0	96.8	90	110	0			

Sample ID	LCS	Batch ID: R12828	Test Code: E300	Units: mg/L	Analysis Date	8/19/2004 6:41:58 PM	Prep Date				
Client ID:		Run ID:	LC_040819A		SeqNo:	297930					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4622	0.1	0.5	0	92.4	90	110	0			
Chloride	4.856	0.1	5	0	97.1	90	110	0			
Nitrogen, Nitrite (As N)	0.922	0.1	1	0	92.2	90	110	0			
Bromide	2.364	0.1	2.5	0	94.6	90	110	0			
Nitrogen, Nitrate (As N)	2.395	0.1	2.5	0	95.8	90	110	0			
Phosphorus, Orthophosphate (As P)	4.786	0.5	5	0	95.7	90	110	0			
Sulfate	9.811	0.5	10	0	98.1	90	110	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: 0408153
 Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R12848	Test Code: E300	Units: mg/L	Analysis Date	8/20/2004 11:52:52 AM	Prep Date				
Client ID:		Run ID: LC_040820A			SeqNo: 298288						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4527	0.1	0.5	0	90.5	90	110	0			
Chloride	4.862	0.1	5	0	97.2	90	110	0			
Nitrogen, Nitrite (As N)	0.9548	0.1	1	0	95.5	90	110	0			
Bromide	2.278	0.1	2.5	0	91.1	90	110	0			
Nitrogen, Nitrate (As N)	2.368	0.1	2.5	0	94.7	90	110	0			
Phosphorus, Orthophosphate (As P)	4.505	0.5	5	0	90.1	90	110	0			
Sulfate	9.669	0.5	10	0	96.7	90	110	0			

Sample ID	LCS	Batch ID: R12848	Test Code: E300	Units: mg/L	Analysis Date	8/20/2004 6:38:56 PM	Prep Date				
Client ID:		Run ID:	LC_040820A		SeqNo:	298309					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4668	0.1	0.5	0	93.4	90	110	0			
Chloride	4.906	0.1	5	0	98.1	90	110	0			
Nitrogen, Nitrite (As N)	0.9447	0.1	1	0	94.5	90	110	0			
Bromide	2.318	0.1	2.5	0	92.7	90	110	0			
Nitrogen, Nitrate (As N)	2.388	0.1	2.5	0	95.5	90	110	0			
Phosphorus, Orthophosphate (As P)	4.651	0.5	5	0	93.0	90	110	0			
Sulfate	9.78	0.5	10	0	97.8	90	110	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: 0408153
 Project: Annual Monitoring Wells 2004

Sample ID	BTEX std 100ng	Batch ID: R12859	Test Code: SW8021	Units: µg/L	Analysis Date	8/24/2004 3:27:49 AM	Prep Date				
Client ID:			Run ID: PIDFID_040823A		SeqNo: 298734						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	43.89	2.5	40	0	110	54.9	142	0			
Benzene	20.74	0.5	20	0	104	81.3	121	0			
Toluene	21.66	0.5	20	0	108	84.9	118	0			
Ethylbenzene	21.14	0.5	20	0	106	53.8	149	0			
Xylenes, Total	65.02	0.5	60	0	108	83.1	122	0			

Sample ID	LCS-6359	Batch ID: 6359	Test Code: SW7470	Units: mg/L	Analysis Date	8/20/2004	Prep Date	8/20/2004			
Client ID:			Run ID: MI-LA254_040820B		SeqNo: 298063						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005405	0.0002	0.005	0	108	75.2	134	0			

Sample ID	LCSD-6359	Batch ID: 6359	Test Code: SW7470	Units: mg/L	Analysis Date	8/20/2004	Prep Date	8/20/2004			
Client ID:			Run ID: MI-LA254_040820B		SeqNo:	298085					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005314	0.0002	0.005	0	106	75.2	134	0.005405	1.70	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: 0408153

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R12902	Test Code: SW6010A	Units: mg/L	Analysis Date	8/26/2004 12:32:43 PM	Prep Date				
Client ID:		Run ID: ICP_040826B			SeqNo: 299791						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4614	0.02	0.5	0	92.3	80	120	0			
Barium	0.4657	0.002	0.5	0	93.1	80	120	0			
Cadmium	0.4779	0.002	0.5	0	95.6	80	120	0			
Calcium	49.71	1	50.5	0.05596	98.3	80	120	0			
Chromium	0.4718	0.006	0.5	0	94.4	80	120	0			
Copper	0.4622	0.006	0.5	0	92.4	80	120	0			
Iron	0.4955	0.02	0.5	0	99.1	80	120	0			
Lead	0.4704	0.005	0.5	0	94.1	80	120	0			
Magnesium	51.23	1	50.5	0.05801	101	80	120	0			
Manganese	0.4794	0.002	0.5	0.0005672	95.8	80	120	0			
Potassium	52.12	1	55	0.07551	94.6	80	120	0			
Selenium	0.4666	0.05	0.5	0	93.3	80	120	0			
Sodium	49.34	1	50.5	0.07082	97.6	80	120	0			
Uranium	ND	0.1	5	0	0	80	120	0			S
Zinc	0.4643	0.005	0.5	0	92.9	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: 0408153

Project: Annual Monitoring Wells 2004

Sample ID	LCSD	Batch ID: R12902	Test Code: SW6010A	Units: mg/L	Analysis Date	8/26/2004 12:35:41 PM	Prep Date				
Client ID:		Run ID: ICP_040826B			SeqNo:	299792					
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	0.4614	3.36	20	
Barium	0.4741	0.002	0.5	0	94.8	80	120	0.4657	1.77	20	
Cadmium	0.4837	0.002	0.5	0	96.7	80	120	0.4779	1.22	20	
Calcium	50.89	1	50.5	0.05596	101	80	120	49.71	2.33	20	
Chromium	0.4747	0.006	0.5	0	94.9	80	120	0.4718	0.605	20	
Copper	0.4727	0.006	0.5	0	94.5	80	120	0.4622	2.25	20	
Iron	0.5269	0.02	0.5	0	105	80	120	0.4955	6.15	20	
Lead	0.475	0.005	0.5	0	95.0	80	120	0.4704	0.981	20	
Magnesium	52.38	1	50.5	0.05801	104	80	120	51.23	2.22	20	
Manganese	0.4897	0.002	0.5	0.0005672	97.8	80	120	0.4794	2.13	20	
Potassium	53.29	1	55	0.07551	96.8	80	120	52.12	2.22	20	
Selenium	0.4715	0.05	0.5	0	94.3	80	120	0.4666	1.05	20	
Sodium	50.59	1	50.5	0.07082	100	80	120	49.34	2.50	20	
Uranium	ND	0.1	5	0	0	80	120	0	0	20	S
Zinc	0.4702	0.005	0.5	0	94.0	80	120	0.4643	1.25	20	

Sample ID	LCS	Batch ID: R12906	Test Code: SW6010A	Units: mg/L	Analysis Date	8/27/2004 8:00:39 AM	Prep Date				
Client ID:		Run ID: ICP_040827A			SeqNo:	299884					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.491	0.005	0.5	0	98.2	80	120	0			

Sample ID	LCSD	Batch ID: R12906	Test Code: SW6010A	Units: mg/L	Analysis Date	8/27/2004 8:02:41 AM	Prep Date				
Client ID:		Run ID: ICP_040827A			SeqNo:	299885					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.5122	0.005	0.5	0	102	80	120	0.491	4.23	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

CLIENT: San Juan Refining
Work Order: 0408153
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID	LCS-6369	Batch ID: 6369	Test Code: SW6010A	Units: mg/L	Analysis Date	8/26/2004 9:12:34 AM	Prep Date	8/24/2004			
Client ID:		Run ID:	ICP_040826A		SeqNo:	299549					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5777	0.02	0.5	0	116	80	120	0			
Barium	0.5069	0.02	0.5	0	101	80	120	0			
Cadmium	0.5343	0.002	0.5	0	107	80	120	0			
Chromium	0.5052	0.006	0.5	0	101	80	120	0			
Lead	0.5242	0.005	0.5	0	105	80	120	0			
Selenium	0.6003	0.05	0.5	0	120	80	120	0			S
Silver	0.5215	0.005	0.5	0	104	80	120	0			

Sample ID	LCSD-6369	Batch ID: 6369	Test Code: SW6010A	Units: mg/L	Analysis Date	8/26/2004 9:15:33 AM	Prep Date	8/24/2004			
Client ID:			Run ID: ICP_040826A		SeqNo:	299550					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5728	0.02	0.5	0	115	80	120	0.5777	0.858	20	
Barium	0.5069	0.02	0.5	0	101	80	120	0.5069	0.00132	20	
Cadmium	0.5349	0.002	0.5	0	107	80	120	0.5343	0.119	20	
Chromium	0.5081	0.006	0.5	0	102	80	120	0.5052	0.556	20	
Lead	0.5288	0.005	0.5	0	106	80	120	0.5242	0.863	20	
Selenium	0.6026	0.05	0.5	0	121	80	120	0.6003	0.384	20	S
Silver	0.5227	0.005	0.5	0	105	80	120	0.5215	0.239	20	

Sample ID	LCS-6365	Batch ID: 6365	Test Code: E160.1	Units: mg/L	Analysis Date	8/25/2004	Prep Date	8/23/2004			
Client ID:			Run ID: WC_040825A		SeqNo:	299156					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1003	50	1000	0	100	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									
											7

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR

Date and Time Received:

Work Order Number 0408153

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 _____

hallenvironmental.com

QUALITY ASSURANCE PLAN

October 2004

Revision 6

Control Number: 0000038

Approved By:

Approved By:

Nancy McDuffie Date
Laboratory Manager

Scott Hallenbeck Date
Laboratory Director



Table of Contents

<u>Section</u>	<u>Title</u>	<u>Page</u>
1.0	Title Page	1
2.0	Table of Contents	2
3.0	Introduction Purpose of Document Objectives	4
4.0	Organization and Responsibility Company Personnel and Responsibilities Laboratory Manager Business/Project Manager Quality Assurance Officer Section Supervisors GC/MS Analyst Analyst Lab Technician Sample Control Manager Delegation of absence employees Personnel Qualifications and Training Organizational Structure	6
5.0	Receipt and Handling of Samples Sampling Procedures Containers Preservation Holding Times Sample Custody Chain-of-Custody Form Receiving Samples Logging in Samples and Storage Disposal of Samples	11
6.0	Analytical Procedures List of Procedures Used	19
7.0	Calibration Instrument Calibration Standards Procedures Reagents Analytical Balance pH Meter Thermometers	21

Refrigerators
Ovens
Analytical Instrumentation
Other Analytical Instrumentation and Equipment

8.0	Maintenance	24
9.0	Quality Control	25
	Internal Quality Control Checks	
	Precision, Accuracy, Detection Limit	
	Quality Control Parameter Calculations	
	Mean	
	Standard Deviation	
	Percent Recovery (%R)	
	Confidence Intervals	
	Relative Percent Difference (RPD)	
10.0	Data Reduction, Validation, and Reporting	30
	Data Reduction	
	Validation	
	Reports and Records	
11.0	Corrective Action	32
2.0	Quality Assurance Audits and Reports	33
	Internal/External Systems' Audits and	
	Internal and External Reports	
13.0	Analytical Protocols	35

3.0 Introduction

Purpose of Document

The purpose of this Quality Assurance Manual is to formally document the quality assurance policies and procedures of Hall Environmental Analysis Laboratory, Inc. (HEAL), for the benefit of its employees, clients, and accrediting organizations. This laboratory continually implements the aspects of this plan as an essential and integral part of laboratory operations in order to assure that the results and work produced are accurate, precise, and reliable.

Objectives

The objective of HEAL is to achieve and maintain excellence in environmental testing. This is accomplished by developing, incorporating and documenting the procedures and policies specified in this manual. A laboratory staff that is analytically competent, well qualified, and highly trained carries out these activities. An experienced management team, knowledgeable in their area of expertise, monitors them. Finally, a comprehensive Quality Assurance program governs laboratory practices and assures that the analytical results are valid and defensible.

HEAL establishes and thoroughly documents its practices so that there is no uncertainty in determining appropriate procedures. Routine laboratory activities are detailed in method specific Standard Operating Procedures (SOP's) and Quality Assurance practices are outlined in this QA/QC manual

The management assures that this documentation is correct in terms of required accuracy, data reproducibility, and that the procedures contain proper Quality Control measures. The management additionally assures that all equipment is reliable, well maintained and calibrated. The procedures and practices of the laboratory are able to conform to client specifications and regulatory requirements. Meticulous records are maintained for all samples and their respective analyses so that results are well documented and defensible in a court of law.

The HEAL management is responsible for supervising and administering this quality assurance program, insuring each individual is responsible for its proper implementation. Accordingly, the HEAL management remains committed to the encouragement of excellence in analytical testing and will continue to provide the necessary resources and environment conducive to its achievement.

Understanding that quality cannot be mandated, it is the policy of this laboratory to provide an environment that encourages all staff members to take pride in the quality of their work. In addition to furnishing proper equipment and supplies, HEAL stresses the importance of continued training and professional development. Further, HEAL recognizes the time required for data interpretation. Therefore, no analyst feels pressure to sacrifice data quality for data quantity. Each staff member must perform with the highest level of integrity and professional competence, always being alert to problems that could compromise the quality of technical work. Management and senior personnel supervise analysts closely in all operations. The laboratory staff is encouraged to speak

with lab managers or senior management if they feel that there are any commercial, financial, or other undue pressures, which might adversely affect the quality of their work.

When properly conceived and executed, our quality assurance program will result in a measurement system that operates in analytical control and where error is at a minimum level. The goal of HEAL is to produce quality results that are accurate, reliable and reflect the analytical needs of our clients.

This is a controlled document. Each copy is assigned a unique tracking number and when released to a client or accrediting agency the QA Officer keeps the tracking number on file.

4.0 Organization and Responsibility

Company

HEAL is accredited in accordance with NELAC standards (see NELAC accredited analysis list). Additionally, HEAL is qualified as defined under the Petroleum Storage Tank Regulations of the State of New Mexico Environmental Improvement Board (USTR §1201) and the State of New Mexico Water Quality Control Commission regulations. It is a locally owned small business that was established in 1991. HEAL is a full service Environmental Analysis Laboratory with analytical capabilities that include both organic and inorganic methodologies and has performed analyses of soil, water and air samples for many sites statewide. HEAL's client base includes local, state and federal governmental agencies, private consultants as well as individual homeowners. It has performed as a subcontractor to the state of New Mexico and to the State Highway and Transportation Department. HEAL has been acclaimed by its customers as producing quality results and as being adaptive to client-specific needs.

The laboratory is divided into a volatile organic section, a semi-volatile organic section, and an inorganic section. Each section has a designated supervisor. The section supervisors report directly to the laboratory manager, who oversees all of the operations.

Certifications

National Environmental Laboratory Accreditation Program (NELAP) – Oregon Primary accrediting authority. Accredited for EPA methods 8260, 8310, 8015, 8021.

Personnel

Laboratory Manager

The Laboratory Manager is responsible for the daily operations of the laboratory. Additionally, the laboratory manager reviews and approves new analytical procedures and methods, and performs a technical review of most analytical results. The Lab Manager also observes the performance of supervisors to ensure good laboratory practices and proper techniques are being taught and utilized. Also, the Lab Manager is responsible for meeting with clients, assisting in overall quality control implementation, and strategic planning for the future of the company. Other duties include assisting in establishing laboratory policies which lead to the fulfillment of requirements for various certification programs, assuring that all Quality Assurance and Quality Control documents are reviewed and approved, and assisting in conducting Quality Assurance Audits. The lab manager addresses questions or complaints that cannot be answered by the section managers. Someone with a minimum of 7 years of directly related experience and a scientific degree should fill this position.

Business/ Project Manager

The role of the business/project manager is to act as a liaison between the client and the laboratory. The business project manager reviews reports, updates clients on the status of projects in-house, prepares quotations for new work, and is responsible for the marketing effort. All new work is assessed by the project manager and reviewed with the other managers so as the not exceed the laboratories capacity. It is also the duty of the project manager to work with government agencies and accrediting authorities to make certain that the laboratory is compliant on new regulations or policies. Someone with a minimum of 5 years of directly related experience and a scientific degree should fill this position.

Quality Assurance Officer

The Quality Assurance Officer (QAO) is responsible for developing and carrying out the approved Quality Assurance Program, and advising and assisting management in meeting these requirements. The QAO monitors quality control activities of the laboratory in order to determine conformance with the Quality Assurance Program, performing Quality Assurance Audits, writing reports, providing follow-up action, and issuing Observation and Corrective Action Reports as needed. Additional responsibilities include cataloged documentation of the following: Staff Training and Demonstration Of Capability (DOC) records, Instrument Detection Limits (IDL), Method Detection Limits (MDL), and Instrument/Equipment Certification and/or Maintenance records. Complaints from clients are logged on a complaint form, which is reviewed by the QAO to ensure that it is handled according to the Quality Systems Section 5.5.3.1 and kept on file. When procedures are not in compliance with the requirements of this plan, "stop work orders" can be issued. Finally, the QAO provides clients with Quality Control data and Quality Assurance reports as requested. This position should be filled by someone with a minimum of 3 years of directly related experience and can also be filled by a senior manager.

Section Supervisors

The Section Supervisors are responsible for training and supervising departmental staff. The Section Supervisors schedule incoming work and monitor laboratory personnel to ensure that proper procedures and techniques are being used. The section supervisors implement new Quality Control procedures as directed by the QAO, update and maintain quality control records and evaluate laboratory personnel in their Quality Control activities. They are the technical director of the associated section and review analytical data to acknowledge that data meets all criteria set forth for good Quality Assurance practices. Someone with a minimum of 3 years of directly related experience should fill this position.

Senior Analyst

A senior analyst performs soil and water analysis in a section of the laboratory. A senior analyst shall have a minimum of one year of analytical instrument experience. A scientific degree is strongly recommended.

Analyst

An analyst performs soil and water analysis in the laboratory. The analyst also performs instrument maintenance. All analysts shall have a minimum 6 months of relevant prior experience or training. A scientific degree is encouraged. An analyst may also perform the duties of a lab technician.

Lab Technician

A lab technician performs multiple duties in the laboratory. These duties may include, but not be limited to sample preparation, glassware washing, sample kit preparation.

Sample Control Manager

The sample control manager is responsible for receiving samples and reviewing the sample login information after it has been entered into the computer. The sample control manager also checks the samples against the chain-of-custody for any sample and/or labeling discrepancies prior to distribution.

The sample control manager is also responsible for sending out samples to the sub-contractors along with the review and shipping of field sampling bottle kits. The sample control manager acts as a liaison between the laboratory and field sampling crew to assure the appropriate analytical tests is assigned.

Delegations in the Absence of Key Personnel

Planned absences shall be preceded by notification to the laboratory manager. The appropriate staff members shall be informed of the absence. In the case of unplanned absences, the organizational superior shall either assume the responsibilities and duties or delegate the responsibilities and duties to an appropriately qualified member.

Laboratory Personnel Qualification and Training

All personnel joining HEAL shall undergo orientation and training. During this period the new personnel shall be introduced to the organization and their responsibilities, as well as the policies and procedures of the company. They shall also undergo on the job training and shall work with trained staff. They will be shown required tasks and be observed while performing them. Initial demonstration of capability must be completed and documented prior to performing assignments unsupervised. New employees that do not have prior analysis experience will not be allowed to perform analysis until they have demonstrated attention to detail with minimal errors in the assigned tasks. To ensure a

sustained level of quality performance among staff members, continuing demonstration of capability shall be performed at least once a year. Laboratory staff must successfully pass an external Proficiency Evaluation (PE) sample or initial PE sample. Each new employee shall sign an ethics and data integrity agreement to ensure that they know that data quality is our main objective. Every HEAL employee recognizes that although turn around time is important, quality is put above any pressure to complete the task expediently. Analysts are not compensated for passing QC parameters nor are incentives given for the quantity of work produced.

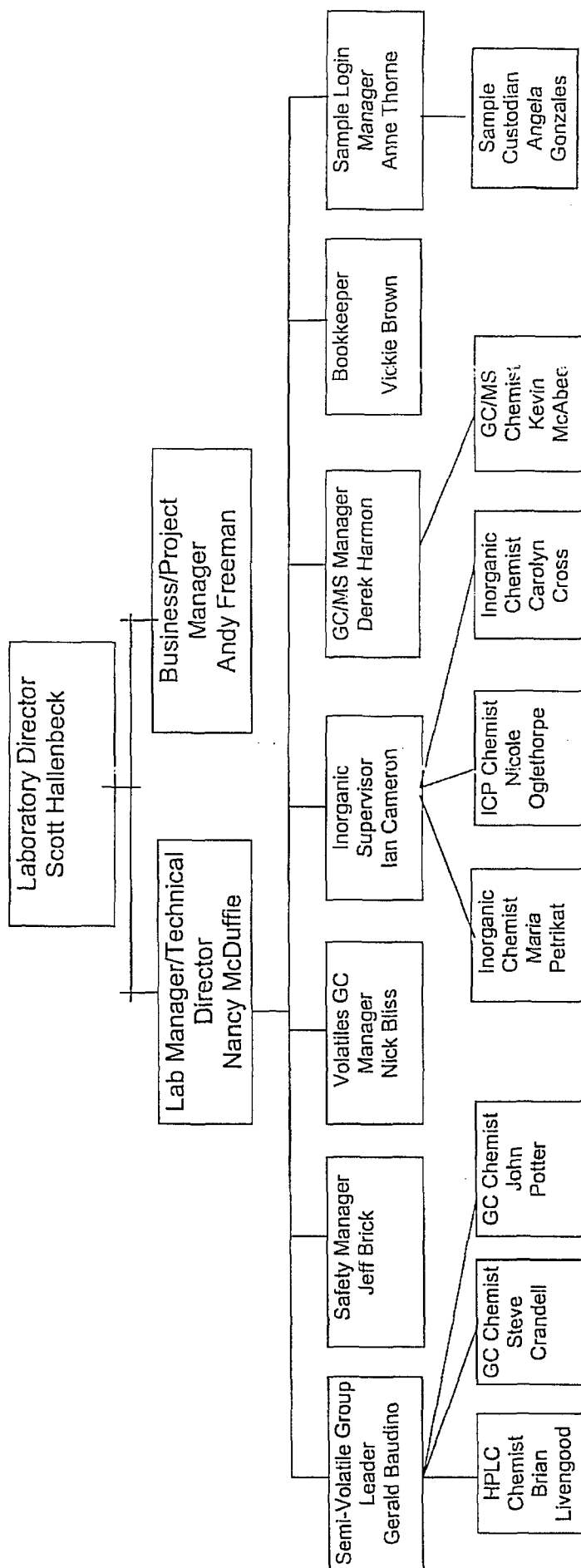


Diagram of organizational Structure

5.0 Receipt and Handling of Samples

Sampling

Procedures

HEAL does not provide field sampling for any projects. Sample kits are prepared and provided for clients upon request. The sample kits contain the appropriate sampling containers (with a preservative when necessary), labels, blue ice, a cooler, chain-of-custody forms, plastic bags, bubble wrap, and any special sampling instructions. The sample control manager reviews the kits prior to shipment.

Containers

Containers which are sent out for sampling are purchased by HEAL from a commercial source. Glass containers are certified "EPA Cleaned" QA level 1. Those containers are received with a Certificate of Analysis verifying that the containers have been cleaned according to the EPA wash procedure.

Preservation

If sampling for an analyte(s) requires preservation, the sample custodians fortify the containers prior to shipment to the field. The required preservative is introduced into the vials in uniform amounts and done so rapidly to minimize the risk of contamination. Vials that contain a preservative are labeled appropriately.

The following pages contain tables specifying additional preservation requirements for samples.

Tables of Standard Holding Times, Preservation, and Containers

Organic Compounds

Compound	Matrix	Container	Preservative	Holding Time
Purgeable halocarbons and aromatics	aqueous	40 mL glass voas, teflon-lined septum	HgCl ₂ , or HCl, pH <2; cool	14 days to analysis
Purgeable halocarbons and aromatics	Soil/MeOH*	4 oz. Jar/2-20 ml VOAs w/ methanol	cool, 4° C	14 days to analysis
Semi-volatiles	aqueous	1 L amber	cool, 4° C	7 days to extract, 40 days after extraction to analyze
Semi-volatiles	soil	8 oz. Jar	cool, 4° C	14 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	aqueous	1 L amber	cool, 4° C	7 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	soil	8 oz. Jar	cool, 4° C	14 days to extract, 40 days after extraction to analyze

*Use of field methanol kits are available and recommended for the PSTB.

Inorganic Compounds

Compound	Matrix	Container	Preservative	Holding time
Acidity	aqueous	250-mL HDP	cool, 4° C	14 days
Alkalinity	aqueous	250-mL HDP	cool, 4° C	14 days
Ammonia	aqueous	1-L HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Biochemical Oxygen Demand	aqueous	2-L HDP	cool, 4° C	48 hours
Bromide	aqueous	250-mL HDP	none required	28 days
Chemical Oxygen Demand	aqueous	125-mL HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Chloride	aqueous	125-mL HDP	none required	28 days
Chloride	solid	4-oz jar	none required	28 days
Chlorine, total residual	aqueous	500-mL HDP	none required	analyze immediately
Chromium VI	aqueous	250-mL HDP	cool, 4° C	24 hours
Chromium VI	solid	8-oz jar	cool, 4° C	as soon as possible
Color	aqueous	125-mL HDP	cool, 4° C	48 hours
Cyanide	aqueous	1-L HDP	cool, 4° C NaOH pH>12	14 days
Cyanide	solid	4-oz jar	cool, 4° C	14 days
Fluoride	aqueous	500-mL HDP	none required	28 days
Hardness	aqueous	250-mL HDP	HNO ₃ or H ₂ SO ₄ pH<2	6 months
Hydrogen ion (pH)	aqueous	60-mL HDP	none required	analyze immediately
Hydrogen ion (pH)	solid	4-oz jar	none required	analyze immediately
Kjeldahl and organic nitrogen	aqueous	1-L HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days

Compound	Matrix	Container	Preservative	Holding Time
Mercury	aqueous	250-mL HDP	HNO ₃ pH < 2	28 days
Mercury	solid	8-oz jar	none required	28 days
Metals (except Cr VI and Hg)	aqueous	500-mL HDP	HNO ₃ pH < 2	6 months
Metals (except Cr VI and Hg)	solid	8-oz jar		6 months
Nitrate	aqueous	250-mL HDP	cool, 4° C	48 hours
Nitrate	solid	8-oz jar	cool, 4° C	analyze immediately
Nitrate-Nitrite	aqueous	250-mL HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Nitrate-Nitrite	solid	8-oz jar	cool, 4° C	28 days
Nitrite	aqueous	125-mL HDP	cool, 4° C	48 hours
Oil and Grease	aqueous	2-L wide-mouth glass	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Oil and Grease	solid	2-L wide-mouth glass	cool, 4° C	28 days
Organic Carbon	aqueous	125-mL HDP	cool, 4° C, HCl or H ₂ SO ₄ pH<2	28 days
Organic Carbon	solid	4-oz jar	cool, 4° C	28 days
Orthophosphate	aqueous	125-mL HDP	Cool, 4° C	48 hours
Phenolics	aqueous	1-L Boston Round	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Phenolics	solid	8-oz jar (glass only)	cool, 4° C	28 days
Phosphorous (elemental)	aqueous	1-L Boston Round	cool, 4° C	48 hours
Phosphorous (total)	aqueous	125-mL HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Residue, total	aqueous	250-mL HDP	cool, 4° C	7 days
Residue, filterable(TDS)	aqueous	250-mL HDP	cool, 4° C	7 days
Residue, non-filterable (TSS)	aqueous	250-mL HDP	cool, 4° C	7 days
Residue, settleable	aqueous	Imhoff Cone	cool, 4° C	48 hours
Residue, volatile	aqueous	250-mL HDP	cool, 4° C	7 days

Compound	Matrix	Container	Preservative	Holding Time
Silica	aqueous	125-mL HDP	cool, 4° C	28 days
Specific conductance	aqueous	250-mL HDP	cool, 4° C	28 days
Specific conductance	solid	8-oz jar	cool, 4° C	28 days
Sulfate	aqueous	125-mL HDP	cool, 4° C	28 days
Sulfate	solid	4-oz jar	cool, 4° C	28 days
Sulfide	aqueous	1-L HDP	cool, 4° C, ZnAc + NaOH pH>9	7 days
Sulfide	solid	8-oz jar	cool, 4° C	7 days
Surfactants	aqueous	500-mL HDP	cool, 4° C	48 hours
Turbidity	aqueous	250-mL HDP	cool, 4° C	48 hours

Sample Custody

Chain-of-Custody Form

A Chain-of-Custody (CoC) form is used to provide a record of sample chronology starting with the field sampling through laboratory analysis. HEALs CoC contains the client's name, address, phone and fax numbers, the project name and number, the project manager's name, and the field sampler's name. It also identifies the date and time of sample collection, sample matrix, field sample ID number, number/volume of sample containers, sample temperature upon receipt, and any sample preservative information.

There is also a space to record the HEAL ID number assigned to samples after they are received. Next to the sample information is a space for the client to indicate the desired analyses to be performed. Finally, there is a section to track the actual custody of the samples. The custody section contains lines for signatures, dates and times when samples are relinquished and received. The CoC form also includes a space to record special sample related instructions, sampling anomalies, time constraints, and any sample disposal considerations.

A sample chain-of-custody form can be found at the end of this section.

Receiving Samples

Samples are received by authorized HEAL personnel. Upon arrival, the CoC is compared to the respective samples. After the samples and CoC have been determined to be complete and accurate, the sampler signs over the CoC. The HEAL staff member in turn signs the chain-of-custody, also noting the current date and time. This relinquishes custody of the samples from the sampler and delegates sample custody to HEAL. The third (pink) copy of the CoC form is given to the person who has relinquished custody of the samples.

Logging in Samples and Storage

Each sample set is given a unique HEAL tracking ID number. Individual sample locations within a defined sample set are given a unique sample ID suffix-number. Labels with the HEAL numbers, and analytes requested, are generated and placed on their respective containers. The samples are reviewed by the sample control manager prior to being distributed to the storage refrigerators or appropriate laboratory personnel.

Samples are stored in the volatile section refrigerator, the semi-volatile section refrigerator, or the inorganic section refrigerator. If a soil sample must be extracted for both volatile and semi-volatile analysis, it is first placed into the volatile soil sample refrigerator. After the volatile extraction, the sample is moved to the semi-volatile refrigerator to minimize any risk of contamination.

Each project (sample set) is entered into the Laboratory Information Management System (LIMS) with a unique ID given to every container. The ID tag includes the Lab ID, Client ID, date and time of collection, and the analysis/analyses to be performed. The LIMS continually updates throughout the lab. Therefore, at any time, an analyst or manager may inquire about a project and/or samples status. For more information about the login procedures, reference the Sample Login SOP.

Disposal of Samples

Analytical results are used to characterize their respective sample contamination level(s) so that the proper disposal can be performed. These wastes will be disposed of according to their hazard as well as their type and level of contamination. Refer to the Hall Environmental Analysis Laboratory Chemical Hygiene Plan for details regarding waste disposal.

Waste drums are provided by an outside agency. These drums are removed by the outside agency and disposed of in a proper manner.

The wastes that are determined to be non-hazardous are disposed of as non-hazardous waste.

Accreditation Applied: ☐ NEIAC ☐ USACE ☐

Other: _____

Project Name:

Project #2

Project Manager:

Sampler:

Sample Temperature:

[illegible]

ANALYSIS REQUEST



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

6.0 Analytical Procedures

All analytical methods used at HEAL incorporate necessary and sufficient Quality Assurance and Quality Control practices. A Standard Operating Procedure is used for each method to provide the necessary criteria to yield acceptable results. These procedures are updated each year or more often if necessary and are attached as a pdf file in the Laboratory Information Management System (LIMS) for easy access by each analyst. The sample is almost always consumed or altered during the analytical process. Therefore, it is important that each step in the analytical process be correctly followed in order to yield valid data.

When unforeseen problems arise, the analyst, section supervisor, and lab manager meet to discuss the factors involved. The analytical requirements are evaluated and a suitable corrective action, or resolution is established.

List of Procedures Used

Typically, the procedures used by HEAL are EPA approved methodologies. However, proprietary methods for client specific samples, are sometimes used. The following tables list EPA Method numbers with their corresponding analytes and/or instrument classification.

Organic Analysis

Methodology	Title of Method
8021B	"Halogenated and Aromatic Volatile Organics by Gas Chromatography"
8015B	"Nonhalogenated Volatile Organics by Gas Chromatography" (Gasoline Range and Diesel Range Organics)
8081A	"Organochlorine Pesticides by Gas Chromatography"
8082	"PCBs as Aroclors by Gas Chromatography"
8151A	"Chlorinated Herbicides by GC using Methylation or Pentafluorobenzoylation Derivatization"
8310	"Polynuclear Aromatic Hydrocarbons"
8330	"Nitroaromatics and Nitramines"
8315	"Formaldehyde"
1005	"TNRCC – Total Petroleum Hydrocarbons"
504.1	"EDB" & "DBCP"
418.1	"Total Petroleum Hydrocarbons"
413.2	"Oil and Grease"

Gas Chromatographic/Mass Spectrometric Methods

Methodology	Title of Method
8260B	"Volatile Organic Compounds by GC/MS: Capillary Column Technique"
8270D	"Semivolatile Organic Compounds by GC/MS: Capillary Column Technique"
624	"Purgeables"
625	"Base/Neutrals and Acids"

Inorganic Analysis

Methodology	Title of Method
310.1	Alkalinity
350.3	Ammonia
300.0/300.1	Anions (aqueous)
9065	Anion (soil)
120.1	Electrical Conductivity
3500	Ferrous Iron
351.2	Total Kjeldhal Nitrogen (TKN)
9095	Paint Filter
150.1	pH
420.3	Phenols
160.1	Total Dissolved Solids (TDS)
160.2	Total Suspended Solids (TSS)
180.1	Turbidity

Metals

200.7/6010C	ICP Metals
7470	Mercury (aqueous)
7471	Mercury (soil)

Preparative Methodologies

Methodology	Title of Method
1311	Toxicity Characteristic Leaching Procedure
1312	Synthetic Precipitation Leaching Procedure
3005	Acid Digestion of Waters for Total Recoverable or Dissolved Metals
3010	Acid Digestion of Aqueous Samples and Extracts for Total Metals
3050	Acid Digestion of Sediment, Sludge, and Soil samples
3510C	Separatory Funnel Liquid-Liquid Extraction
3540	Soxhlet Extraction
3665	Sulfuric Acid/Permanganate Cleanup (PCB)
5030	Purge-and-Trap for Aqueous Samples
5035	Closed-System Purge-and-Trap and Extraction for Volatile Organics in Soil and Waste Samples

7.0 Calibration

Instrument Calibration

An instrument calibration is the relationship between the known concentrations of a set of calibration standards introduced into an analytical instrument and the measured response they produce. Calibration curve standards are a prepared series of aliquots at various known concentrations levels from a primary source reference standard. Specific mathematical types of calibration techniques are outlined in SW-846 8000B. Analysts choose the proper calibration type following guidelines set fourth in their method specific protocol. Field samples are then analyzed on the instrument. The unknown concentration in the sample can be extrapolated from the calibration curve as a function of the instrument response. Any sample with an analyte response which exceeds the highest calibration standard response must be diluted to fall within the calibration range (ideally at or near the mid-level calibration standard response) of that analyte.

Standards

All of the source reference standards used are ordered from a reliable commercial vendor. A Certificate of Analysis (CoA), which verifies the quality of the standard, accompanies the standards from the vendor. The Certificates of Analysis are dated and stored on file by the QAO. These standards are traceable to the National Institute of Standards (NIST).

All standard solutions, calibration curve preparations, and all other quality control solutions are labeled in a manner that can be traced back to the original source reference standard. All source reference standards are entered into the LIMS with an appropriate description of the standard. Dilutions of the source reference standard (or any mixes of the source standards) are fully tracked in the LIMS as well. Standards are labeled with the date received, date opened for use, and an expiration date. New source standards received into the laboratory are checked with current standard solutions. Source standard vials will never be altered. Rather, small aliquots are removed and stored in working standard solution vials from which measured amounts can be withdrawn.

As part of the quality assurance procedures at HEAL, analysts strictly adhere to method protocols for storage times and policies of analytical standards and quality control solutions.

Procedures

Reagents

HEAL assures that the reagents used are of acceptable quality for their intended purpose. This is accomplished by ordering high quality reagents and adhering to good laboratory practices so as to minimize contamination or chemical degradation. All reagents must meet any specifications noted in the analytical method.

Upon receipt, all reagents are assigned a separate ID number, and logged into the LIMS. All reagents shall be labeled with the date received into the laboratory and again with the date opened for use. Recommended shelf life shall be documented and controlled. Dilutions or solutions prepared shall be clearly labeled, dated, and signed. These solutions are traceable back to their primary reagents.

All gases used with an instrument shall meet specifications of the manufacturer. Recommended shelf life shall be documented and controlled. All safety requirements that relate to maximum and/or minimum allowed pressure, fitting types, and leak test frequency, shall be followed. When a new tank of gas is delivered, it shall be checked for leaks and marked with the date put in use. The date and initial pressure of a new tank will be noted on the new tank.

HEAL has a Quality Assurance Procedure designed to assure that the quality of laboratory reagent water meets established criteria for all analytical methods. HEAL continuously monitors the quality of the reagent water and provides the necessary indicators for maintenance of the purification systems.

Analytical balance

All of the analytical balances are capable of weighing to a minimum precision of 0.1 grams. Records are kept of daily calibration checks for the balances in use. Class S weights are used in these checks. The balances are annually certified by an outside source and the certifications are on file with the QAO.

pH Meter

The pH meter measures to a precision of 0.01 pH units. Records showing its calibration before each use, or each day, if used more than once per day. It is calibrated using a certified buffer. Also available with the pH meter is a magnetic stirrer with a temperature sensor.

Thermometers

The thermometers in the laboratory are used to measure the temperatures of the refrigerators/freezers, ovens, water baths, TCLP Extractions and sample log-in.

Refrigerators/Freezers

Each laboratory refrigerator or freezer contains a thermometer capable of measuring to a minimum precision of 1°C. The thermometers are kept with the bulb immersed in liquid. Each workday, the temperatures of the refrigerators are recorded in a designated logbook to insure that the refrigerators are between $\pm 2^\circ \text{C}$. Samples are stored separately from the standards to reduce the risk of contamination.

Ovens

The oven contains a thermometer graduated by 1° C. the temperature is measured before and after a cycle when the operating procedure demands this level of precision.

Analytical Instrumentation (GC, IC, HPLC, ICP, Hg analyzer, IR, GCMS)

A calibration curve is analyzed on each instrument according to specific method protocols. The calibration curve typically consists of the analysis a blank and a minimum of five dilutions of the analyte list (or lists) outlined in the analytical method. The quality assurance program requires a second source verification of a calibration curve. Ideally, a second source verification is provided from a separate vendor. However, a different Lot Number from the same vendor is acceptable for second source verification. In the absence of standards from a separate vendor or the same vendor with two different Lot Numbers, two separate preparations from the same source standard can be used for second source verification.

Each day that an analysis is performed on the instrument, the calibration must be verified. This is accomplished by analyzing a calibration standard usually (but not exclusively), a mid-point standard. Another calibration verification is analyzed according to method specific protocols. If during the analysis the specified QC criteria are no longer satisfied, then the analysis should be stopped and the problem examined. When the calibration curve is determined to be no longer acceptable, a new curve is prepared and the instrument re-calibrated. Any samples not bracketed with acceptable daily calibration verifications should be re-analyzed or the results may be subject data qualification or rejection.

Reagent blank samples are also analyzed to ensure that no contamination is present at detectable levels. The frequency of reagent blank analysis is the same as calibration verification samples. The reagent blank and calibration verification should be analyzed successively.

Analytical methods vary in QC acceptance criteria. HEAL follows the method specific guidelines for QC acceptance. The specific acceptance criteria are outlined in the analytical methods and its corresponding SOP.

Other Analytical Instrumentation and Equipment

The conductivity probe constant shall be determined prior to use.

Eppendorf (or equivalent brands) pipettes are calibrated gravimetrically prior to use.

8.0 Maintenance

Maintenance logs are kept for each major instrument. In the front of the log, the following information is included:

Unique name of the item or equipment
Manufacturer
Type of Instrument
Model Number
Serial Number
Date received and date placed into service
Location of Instrument
Condition of instrument upon receipt

For routine maintenance, the following information shall be included in the log:

Maintenance Date
Maintenance Description
Maintenance Performed by Initials

A manufacturer service agreement (or equivalent) covers most major instrumentation to assure prompt and reliable response to maintenance needs beyond HEAL instrument operator capabilities.

9.0 Quality Control

Internal Quality Control Checks

Hall Environmental Analysis Laboratory, Inc. utilizes various internal quality control checks, including replicates, spiked samples, blanks, quality control samples, calibration standards, quality control charts, and surrogate samples.

Replicates, or duplicates, are identical tests repeated for the same sample in order to determine the precision of such a method. A Relative Percent Difference (RPD) is calculated as a measure of this precision.

Spiked Samples are samples evaluated with a known added quantity of a target compound. This is to help determine the accuracy of the analyses. A percent recovery is calculated to assess the quality of the accuracy.

Duplicate samples and spiked samples are performed according to the following schedule for each area:

Organics: LCS and MS/MSD samples are analyzed for every batch of 20 samples (sufficient sample volume permitting for the MS/MSD).

Metals and wet chemistry: LCS, MS, and sample duplicate analysis are performed, at a minimum, for every batch of 20 samples (sufficient sample volume permitting for the MS and sample duplicate).

Anions: LCS, MS, and sample duplicate analysis are performed, at a minimum, for every batch of 10 samples (sufficient sample volume permitting for the MS and sample duplicate).

Blanks consist of all the reagents measured and treated as they are with samples, except without the samples. This enables the laboratory to assure clean reagents and procedures.

Blind Quality Control Samples are samples provided by an unbiased third party. They contain a pre-determined concentration of the target compound, which is unknown to the analyst. They are analyzed quarterly, and enable the laboratory to assess the quality of its results.

Calibration standards are standards run to calibrate and confirm the consistency of the instrumentation. Calibration standards are utilized at the beginning and end of each batch, and more frequently for larger batches.

Quality Control Charts are charts with acceptable ranges of the values of quality control checks. If a value falls outside the appropriate range, immediate evaluation and assessment of the procedures is required.

A surrogate compound, a substance that has similar properties to the target compounds (but not expected to be present), is added in all applicable tests. It is a measure of the level of recovery achieved in testing.

The specific types and frequency of QC sample analysis differ from method to method and section to section. Individual method specific QC sample criteria are outlined in the each Methods SOP.

SOPs will be update annually or more often if changes are deemed necessary. SOPs are stored as a linked pdf file in the test portion of the LIMS. This is done by right clicking on the SOP tab of the test screen and adding the appropriate path where the current SOPs are located on the server. The QAO will update these links as necessary.

An initial demonstration of capability is performed everytime there is a change in instrument type, personnel, or test method. A minimum of 4 replicate samples are prepared and analyzed according to the test method. Sample results are compared against current acceptable LCS recovery limits. On-going DOCs are performed annually through the use of proficiency testing, LCS recoveries, and/or MDL analysis.

Precision, Accuracy, Detection Levels

Precision

The laboratory uses sample duplicates to assess precision. A duplicate sample is analyzed for each batch of 20 samples (5% frequency) when possible. HEAL requires the RPD to fall within the 99% confidence interval of established control charts or a RPD of less than 20 if control charts are not available. RPDs greater than these limits are considered out-of-control and require an appropriate response. Allowances can be made for high RPD values when the sample results are above the detection limit but less than less than 5X the detection limit. Criteria (based on sample matrix and methodology) for these situations require analyst/supervisor review to determine appropriate corrective action required.

Accuracy

The accuracy of an analysis refers to the difference between the calculated value and the actual value of a measurement. The accuracy of a laboratory result is evaluated by comparing the measured amount of QC reference material recovered from a sample and the known amount added. Control limits are established for each analytical method and sample matrix. Recoveries are assessed to determine the method efficiency and/or the matrix effect.

Analytical accuracy is expressed as the percent recovery (%R) of an analyte or parameter. A known amount of analyte is added to an environmental sample before the sample is prepared and subsequently analyzed. The equation used to calculate percent recovery is:

$$\% \text{Recovery} = \{(\text{concentration} * \text{recovered}) / (\text{concentration} * \text{added})\} \times 100$$

*or amount

HEAL requires that the Percent Recovery to fall within the 99 % confidence interval of established control limits. A value that falls outside of the confidence interval requires a warning and process evaluation. The confidence intervals are calculated by determining the mean and sample standard deviation. If control limits are not available, the range of 85 to 115% is used unless the specific method dictates otherwise. Percent Recoveries outside of this range mandate additional action such as analyses by Method of Standard Additions, additional sample preparation(s) where applicable, method changes, out-of-control action or data qualification.

Detection Limit

Current practices at HEAL define the Detection Limit (DL) as the smallest amount that can be detected above the baseline noise in a procedure within a stated confidence level.

HEAL presently utilize an Instrument Detection Limit (IDL), a Method Detection Limit (MDL), and a Practical Quantitation Limit (PQL). The relationship between these levels is approximately
IDL: MDL: PQL = 1:5:5.

The IDL is a measure of the sensitivity of an analytical instrument. The IDL is the amount which, when injected, produces a detectable signal in 99% of the analyses at that concentration. An IDL can be considered the minimum level of analyte concentration that is detectable above random baseline noise.

The MDL is a laboratories measure of the sensitivity of an analytical method. An MDL determination (also outlined in SW-846 Chapter 1) consists of replicate spiked samples carried through all necessary preparation steps. The spike concentration is three to five times the lowest calibration standard level. The replicates are then analyzed successively and their Standard Deviation (s) calculated. The method detection limit (MDL) can be calculated using the standard deviation according to the formula:

$$\text{MDL} = s * t (99\%)$$

Where t (99%) is the student's t value for the 99% confidence interval. It depends on the number of trials used in calculating the sample standard deviation, so choose the appropriate value according to the number of trials.

Number of Trials	$t(99\%)$
3	6.96
4	4.54
5	3.75
6	3.36
7	3.14
8	3.00
9	2.90

The PQL is significant because different laboratories can produce different MDLs although they may employ the same analytical procedures, instruments and sample matrices. The PQL is about two to five times the MDL and represents a practical, and routinely achievable, reporting level with a good certainty that the reported value is reliable. The reported PQL for a sample is dependent on the dilution factor utilized during sample analysis.

Quality Control Parameter Calculations

Mean

The sample mean is also known as the arithmetic average. It can be calculated by adding all of the appropriate values together, and dividing this sum by the number of values.

$$\text{Average} = (\sum x_i) / n$$

x_i = the value x in the i^{th} trial
 n = the number of trials

Standard Deviation

The sample standard deviation, represented by s , is a measure of dispersion. The dispersion is considered to be the difference between the average and each of the values x_i . The variance, s^2 , can be calculated by summing the squares of the differences and dividing by the number of differences. The sample standard deviation, s , can be found by taking the square root of the variance.

$$\text{Standard deviation} = s = \left[\frac{\sum (x_i - \text{average})^2}{(n - 1)} \right]^{1/2}$$

Percent Recovery (MS, MSD, LCS and LCSD)

$$\text{Percent Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result}) \times 100}{(\text{Spike Added})}$$

Confidence Intervals

Confidence intervals are calculated using the average ($\bar{x}$), the sample standard deviation (s), and the Student's t distribution ($s\text{-dist}$), which depends on the number of values used to calculate the average and sample standard deviation.

The formula is:

$$\text{confidence interval} = \bar{x} \pm s * s\text{-dist}$$

Student's t Distribution

# values	10	15	20	25	30	40	60	120	≥ 120
95 %	2.262	2.145	2.093	2.064	2.042	2.021	2.000	1.980	1.960
99%	3.250	2.977	2.861	2.797	2.750	2.704	2.660	2.617	2.576

Unless there is insufficient data, at least 20 values will always be used in calculating the confidence intervals.

RPD (Relative Percent Difference)

Analytical precision is expressed as a percentage of the difference between the results of duplicate samples for a given analyst. Relative percent difference (RPD) is calculated as follows:

$$\text{RPD} = 2 \times \frac{(\text{Sample Result} - \text{Duplicate Result}) \times 100}{(\text{Sample Result} + \text{Duplicate Result})}$$

10.0 Data Reduction, Validation, Reporting, and Record Keeping

All data reported must be of the highest possible accuracy and quality. During the processes of data reduction, validation, and report generation, the work is thoroughly checked to insure that error is minimized.

Data Reduction

The analyst who generated the data usually performs the data reduction. The calculations include evaluation of surrogate recoveries (where applicable), response factor calculations for manual calculations, and other miscellaneous calculations related to the sample quantitation.

If the results are computer generated, then the formulas must be confirmed by hand calculations.

Validation

A senior analyst, most often the section supervisor, validates the data. The data is checked at a minimum of 20% after an analyst has shown analytical proficiency. If an error is detected, all of the current data generated by that analyst is reviewed. Previous and/or common mistake areas are stringently monitored throughout the validation process. Data is reported using appropriate significant figure criteria. In most cases, two significant digits are utilized, but three significant digits can be used in QC calculations. Significant digits are not rounded until after the last step of a sample calculation.

If data is to be manually transferred from one medium to another, the transcribed data is checked at a minimum of 20%. This includes data typing, computer data entry, chromatographic data transfer, data table inclusion to a cover letter, or when data results are combined with other data fields.

All hand written data from run logs, analytical standard logbooks, hand entered data logbooks, or on instrument generated chromatograms, are systematically archived should the need for future retrieval arise.

Data that is being reported is treated with the utmost respect and care to help eliminate errors. Unethical practices will be detected through peer review and be dealt with the utmost severity.

Reports and Records

The reports are compiled by the Laboratory Information Management System (LIMS). Most data is transferred directly from the instruments to the LIMS. After being processed by the analyst and reviewed by the section supervisor, reports are approved and signed by the senior laboratory management. A comparative analysis of the data is performed at this point. For example, if TKN and NH3 are analyzed on the same sample the NH3 result should never be greater than the TKN result. Lab

results and reports are released only to appropriately designated individuals. Release of the data can be by fax, email, diskette deliverables, or mailed hard copy.

When a project is completed, the project file folder is stored with a hard copy of the report, relevant supporting data, and the quality assurance/control worksheets. These folders are kept on file and are arranged by project number. Additionally, all electronic data is backed up daily on the HEAL main server. The backup includes raw data, chromatograms and report documents. Hard copies of chromatograms are stored separately according to the instrument and the analysis date. All records and analytical data reports are retained in a secure location as permanent records for a minimum period of five years (unless specified otherwise in a client contract). Access to archived information shall be documented with an access log. Access to archived electronic reports and data will be protected by a project manager password. In the event that HEAL transfers ownership or terminates business practices, complete records will be maintained or transferred according to the client's instructions.

After issuance, the original report shall remain unchanged. If a correction to the report is necessary, then an additional document shall be issued. This document shall have a title of "Addendum to Test Report or Correction to Original Report", or equivalent. Demonstration of original report integrity comes in two forms. First, the report date is included on each page of the final report. Second, each page is numbered in sequential order, making the addition or omission of any data page(s) readily detectable.

11.0 Corrective Action

The limits that have been defined for data acceptability also form the basis for corrective action initiation. Initiation of corrective action occurs when the data generated from continuing calibration standard, sample surrogate recovery, laboratory control spike, matrix spike or sample duplicates exceed acceptance criteria. If corrective action is necessary, the analyst or the section supervisor will coordinate to take the following steps to determine and correct the measurement system deficiency:

Check all calculations and data measurements systems (Calibrations, reagents, instrument performance checks etc.).

Assure that proper procedures were followed.

Unforeseen problems that arise during sample preparation and/or sample analysis that lead to treating a sample differently from documented procedures shall be documented with a corrective action report. The section supervisor and lab manager shall be made aware of the problem at the time of the occurrence. See the SOP regarding departures from documented procedures.

Continuing calibration standards below acceptance criteria can not be used for reporting analytical data unless method specific criteria states otherwise.

An analyte above control limits in a Continuing Calibration may be acceptable if the previous continuing calibration standard was acceptable for that analyte. Further, the target analyte in the samples analyzed after the acceptable calibration standard and before calibration standard with the high bias, are reported as non-detected. Finally, the samples following an analyte that is above control limits for a continuing calibration standard can not be reported for that analyte.

Samples with non-compliant surrogate recoveries should be reanalyzed unless deemed un-necessary by the supervisor for matrix, historical data, or other analysis related anomalies.

Laboratory and Matrix Spike acceptance criteria vary significantly depending on method and matrix. Analysts and supervisors meet and discuss appropriate corrective action measures as spike failures occur.

Sample duplicates with RPD values outside control limits require supervisor evaluation and possible reanalysis.

A second mechanism for initiation of corrective action is that resulting from Quality Assurance performance audits, system audits, inter and intra-laboratory comparison studies. Corrective Actions initiated through this mechanism will be monitored and coordinated by the laboratory QA officer.

All corrective action forms are reviewed by and filed with the QA Officer.

12.0 Quality Assurance Audits, Reports and Complaints

Internal/External Systems' Audits, Performance Evaluations, and Complaints

Several procedures are used to assess the effectiveness of the quality control system. One of the methods includes internal performance evaluations, which are conducted by the use of control samples, replicate measurements and use control charts. Another method is external performance audits, which are conducted by the use of inter-laboratory checks, such as participation in laboratory evaluation programs and performance evaluation samples available from ERA (Environmental Resource Associates).

Proficiency samples will be obtained twice per year from ERA. We also participate in soil and water Underground Storage Tank PE studies. Copies of our results are available upon request.

Quality Assurance Audits are performed annually by the Quality Assurance Officer. They are performed using the guidelines outlined below:

The system audit consists of a qualitative inspection of the QA system in the laboratory and an assessment of the adequacy of the physical facilities for sampling, calibration, and measurement. This audit includes a careful evaluation and review of laboratory quality control procedures. Including but not limited to:

1. Review of staff qualifications, demonstration of capability, and personnel training programs
2. Storage and handling of reagents, standards and samples
3. Standard preparation logbook and LIMS procedures
4. Extraction logbooks
5. Raw data logbooks
6. Analytical logbooks or batch printouts and instrument maintenance logbooks
7. Data review procedures
8. Corrective action procedures

Review of data packages is performed regularly by the lab manager/QA Officer.

The Quality Assurance Officer will conduct these audits on an annual basis. Performance evaluation will, in part, be based upon the results obtained on the ERA proficiency results.

Complaints

Complaints from clients are documented and given to the laboratory manager. The lab manager shall review the information and contact the client. If doubt is raised concerning the laboratories policies or procedures, then an audit of the section or sections may be performed. All records of complaints and subsequent actions shall be maintained for 3 years unless otherwise stated.

Internal and External Reports

The Quality Assurance Officer is responsible for preparation and submission of quality assurance reports to the appropriate management personnel as problems and issues arise. These reports include the assessment of measurement systems, data precision and accuracy, and the results of performance and system audits. Additionally, they also include significant QA problems, corrective actions, and recommended resolution measures. Reports of these Quality Assurance Audits describe the particular activities audited, procedures utilized in the examination and evaluation of laboratory records, and data validation procedures. Finally, there are procedures for evaluating the performance of Quality Control and Quality Assurance activities, and laboratory deficiencies and the implementation of corrective actions with the review requirements.

13.0 Analytical Protocols Utilized at Hall Environmental Analysis Laboratory, Inc.

1. Standard Methods for the Examination of Water and Wastewater: AOHA, AWWA, and WPCG; 20th Edition, 1999.
2. Methods for Chemical Analysis of Water and Wastes, USEPA, EPA-600/4-79-020, March 1979 and as amended December, 1982 (EPA-600/4-82-055)
3. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, USEPA SW-846, 3rd Edition, Updates I, II, IIA, IIB, III, December, 1996.
4. Methods of Soil Analysis: Parts 1 & 2, 2nd Edition, Agronomy Society of America, Monograph 9
5. Diagnosis & Improvement of Saline & Alkali Soils, Agriculture Handbook No. 60, USDA, 1954
6. Handbook on Reference Methods for Soil Testing, The Council on Soil Testing & Plant Analysis, 1980 and 1992
7. Field and Laboratory Methods Applicable to Overburdens and Mine Soils, USEPA, EPA-600/2-78-054, March 1978
8. Laboratory Procedures for Analyses of Oilfield Waste. Department of Natural Resources, Office of Conservation, Injection and Mining Division, Louisiana, August 1988
9. Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity, Technical Bulletin LT B88-2 January, 1988
10. Manual of Operating Procedures for the Analysis of Selected Soil, Water, Plant Tissue and Wastes Chemical and physical Parameter. Soil, Water, and Plant Analysis Laboratory, Dept. of Soil and Water Science, The University of Arizona, August 1989
11. Sampling Procedures and Chemical Methods in Use at the U.S. Salinity Laboratory for Characterizing Salt-Affected Soils and Water. USDA Salinity Laboratory.
12. Procedures for Collecting Soil Samples and Methods of Analysis for Soil Survey. USDA Soil Conservation Service, SSIR No. 1.
13. Soil Survey Laboratory Methods Manual. Soil Survey Laboratory Staff. Soil Survey Investigations Report No. 42, version 2.0, August 1992.
14. Methods for the Determination of Metals in Environmental Samples, USEPA, EPA-600/4-91-010, June 1991
15. The Merck Index, Eleventh Edition, Merck & Co., Inc. 1989.
16. Handbook of Chemistry and Physics, 62nd Edition, CRC Press, Inc. 1981-1982.

17. Analytical Chemistry of PCB's. Erickson, Mitchell D., CRC Press, Inc. 1992.
18. Environmental Perspective on the Emerging Oil Shale Industry, EPA Oil & Shale Research Group.
19. Polycyclic Aromatic Hydrocarbons in Water Systems, CRC Press, Inc.

COVER LETTER

September 15, 2004

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

RE: Annual Monitoring Wells 2004

Order No.: 0408295

Dear Cindy Hurtado:

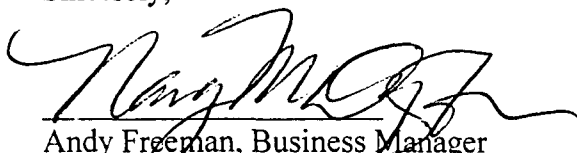
Hall Environmental Analysis Laboratory received 2 samples on 8/31/2004 for the analyses presented in the following report.

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: 15-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW#7

Lab Order: 0408295

Collection Date: 8/30/2004 8:40:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408295-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.75	0.10		mg/L	1	9/1/2004 12:10:46 AM
Chloride	25	0.10		mg/L	1	9/1/2004 12:10:46 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/1/2004 12:10:46 AM
Bromide	0.14	0.10		mg/L	1	9/1/2004 12:10:46 AM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	9/1/2004 12:10:46 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/1/2004 12:10:46 AM
Sulfate	5100	50	*	mg/L	100	9/13/2004 12:46:30 PM
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO3)	110	4.0		mg/L CaCO3	2	9/9/2004
Carbonate	ND	4.0		mg/L CaCO3	2	9/9/2004
Bicarbonate	110	4.0		mg/L CaCO3	2	9/9/2004
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/9/2004 4:10:50 PM
Benzene	ND	0.50		µg/L	1	9/9/2004 4:10:50 PM
Toluene	ND	0.50		µg/L	1	9/9/2004 4:10:50 PM
Ethylbenzene	ND	0.50		µg/L	1	9/9/2004 4:10:50 PM
Xylenes, Total	ND	0.50		µg/L	1	9/9/2004 4:10:50 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	9/9/2004 4:10:50 PM
TOTAL CARBON DIOXIDE CALCULATION						Analyst: CMC
Total Carbon Dioxide	98	1.0		mg CO2/L	1	9/9/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	7800	0.010		µmhos/cm	1	9/1/2002
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	9/1/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/10/2004 10:21:14 AM
Barium	0.0097	0.0020		mg/L	1	9/10/2004 10:21:14 AM
Cadmium	ND	0.0020		mg/L	1	9/10/2004 10:21:14 AM
Calcium	300	100		mg/L	100	9/10/2004 10:45:42 AM
Chromium	ND	0.0060		mg/L	1	9/10/2004 10:21:14 AM
Copper	ND	0.0060		mg/L	1	9/10/2004 10:21:14 AM
Iron	0.081	0.020		mg/L	1	9/10/2004 10:21:14 AM
Lead	ND	0.0050		mg/L	1	9/10/2004 10:21:14 AM
Magnesium	31	1.0		mg/L	1	9/10/2004 10:21:14 AM
Manganese	0.28	0.0020		mg/L	1	9/10/2004 10:21:14 AM
Potassium	8.1	1.0		mg/L	1	9/10/2004 11:47:53 AM
Selenium	ND	0.050		mg/L	1	9/10/2004 10:21:14 AM
Silver	ND	0.0050		mg/L	1	9/10/2004 11:47:53 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: 15-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW#7

Lab Order: 0408295

Collection Date: 8/30/2004 8:40:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408295-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	1100	100		mg/L	100	9/10/2004 11:59:22 AM
Uranium	ND	0.10		mg/L	1	9/14/2004 8:02:11 AM
Zinc	0.0096	0.0050		mg/L	1	9/10/2004 10:21:14 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/3/2004 9:11:32 AM
Barium	ND	0.020		mg/L	1	9/3/2004 9:11:32 AM
Cadmium	ND	0.0020		mg/L	1	9/3/2004 9:11:32 AM
Chromium	ND	0.0060		mg/L	1	9/3/2004 9:11:32 AM
Lead	ND	0.0050		mg/L	1	9/3/2004 9:11:32 AM
Selenium	ND	0.050		mg/L	1	9/3/2004 9:11:32 AM
Silver	ND	0.0050		mg/L	1	9/3/2004 9:11:32 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	7400	50		mg/L	1	9/7/2004

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: 15-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW#39

Lab Order: 0408295

Collection Date: 8/30/2004 9:00:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408295-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.65	0.10		mg/L	1	9/1/2004 1:51:37 AM
Chloride	140	2.0		mg/L	20	9/9/2004 10:59:45 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	9/1/2004 1:51:37 AM
Bromide	1.7	0.10		mg/L	1	9/1/2004 1:51:37 AM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	9/1/2004 1:51:37 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	9/1/2004 1:51:37 AM
Sulfate	3100	25		mg/L	50	9/10/2004 4:11:51 PM
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO3)	38	4.0		mg/L CaCO3	2	9/9/2004
Carbonate	ND	4.0		mg/L CaCO3	2	9/9/2004
Bicarbonate	38	4.0		mg/L CaCO3	2	9/9/2004
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	9/10/2004 1:47:59 PM
Benzene	460	10		µg/L	20	9/10/2004 1:47:59 PM
Toluene	150	10		µg/L	20	9/10/2004 1:47:59 PM
Ethylbenzene	550	10		µg/L	20	9/10/2004 1:47:59 PM
Xylenes, Total	920	10		µg/L	20	9/10/2004 1:47:59 PM
Surr. 4-Bromofluorobenzene	102	74-118		%REC	20	9/10/2004 1:47:59 PM
TOTAL CARBON DIOXIDE CALCULATION						Analyst: CMC
Total Carbon Dioxide	35	1.0		mg CO2/L	1	9/9/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	5200	0.010		µmhos/cm	1	9/1/2002
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	0.00021	0.00020		mg/L	1	9/1/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/10/2004 10:25:22 AM
Barium	0.015	0.0020		mg/L	1	9/10/2004 10:25:22 AM
Cadmium	ND	0.0020		mg/L	1	9/10/2004 10:25:22 AM
Calcium	290	100		mg/L	100	9/10/2004 10:50:08 AM
Chromium	ND	0.0060		mg/L	1	9/10/2004 10:25:22 AM
Copper	ND	0.0060		mg/L	1	9/10/2004 10:25:22 AM
Iron	0.18	0.020		mg/L	1	9/10/2004 10:25:22 AM
Lead	ND	0.0050		mg/L	1	9/10/2004 10:25:22 AM
Magnesium	28	1.0		mg/L	1	9/10/2004 10:25:22 AM
Manganese	0.30	0.0020		mg/L	1	9/10/2004 10:25:22 AM
Potassium	8.7	1.0		mg/L	1	9/10/2004 11:51:29 AM
Selenium	ND	0.050		mg/L	1	9/10/2004 10:25:22 AM
Silver	ND	0.0050		mg/L	1	9/10/2004 11:51:29 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: 15-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW#39

Lab Order: 0408295

Collection Date: 8/30/2004 9:00:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408295-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	750	100		mg/L	100	9/10/2004 12:42:20 PM
Uranium	ND	0.10		mg/L	1	9/14/2004 7:59:46 AM
Zinc	ND	0.0050		mg/L	1	9/10/2004 10:25:22 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/3/2004 9:19:22 AM
Barium	0.71	0.020		mg/L	1	9/3/2004 9:19:22 AM
Cadmium	ND	0.0020		mg/L	1	9/3/2004 9:19:22 AM
Chromium	0.59	0.0060		mg/L	1	9/3/2004 9:19:22 AM
Lead	0.019	0.0050		mg/L	1	9/3/2004 9:19:22 AM
Selenium	ND	0.050		mg/L	1	9/3/2004 9:19:22 AM
Silver	ND	0.0050		mg/L	1	9/3/2004 9:19:22 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	4900	50		mg/L	1	9/7/2004

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: 15-Sep-04

CLIENT: San Juan Refining
Work Order: 0408295
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R12965	Test Code: E300	Units: mg/L	Analysis Date 8/31/2004 10:51:17 AM	Prep Date					
Client ID:			Run ID: LC_040831A		SeqNo: 301240						
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									

5 / 21

Sample ID	MBLK	Batch ID: R12965	Test Code: E300	Units: mg/L	Analysis Date 8/31/2004 4:20:11 PM	Prep Date					
Client ID:		Run ID: LC_040831A			SeqNo: 301245						
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

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0408295
 Project: Annual Monitoring Wells 2004

Sample ID	MBLK	Batch ID: R12965	Test Code: E300	Units: mg/L	Analysis Date	8/31/2004 9:05:53 PM	Prep Date				
Client ID:			Run ID: LC_040831A		SeqNo:	301262					
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: R13067	Test Code: E300	Units: mg/L	Analysis Date 9/9/2004 5:06:47 PM	Prep Date					
Client ID:			Run ID: LC_040909A		SeqNo: 303812						
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
 2

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0408295
 Project: Annual Monitoring Wells 2004

Sample ID	MBLK	Batch ID: R13067	Test Code: E300	Units: mg/L	Analysis Date	9/9/2004 11:50:11 PM	Prep Date				
Client ID:		Run ID:	LC_040909A		SeqNo:	303839					
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: R13087	Test Code: E300	Units: mg/L	Analysis Date	9/10/2004 11:43:21 AM	Prep Date				
Client ID:		Run ID: LC_040910A			SeqNo:	304275					
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
 3

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0408295
 Project: Annual Monitoring Wells 2004

Sample ID	MBLK	Batch ID: R13087	Test Code: E300	Units: mg/L	Analysis Date	9/10/2004 6:59:12 PM	Prep Date				
Client ID:		Run ID:	LC_040910A		SeqNo:	304301					
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: R13106	Test Code: E300	Units: mg/L	Analysis Date	9/13/2004 12:12:52 PM	Prep Date				
Client ID:		Run ID: LC_040913A			SeqNo: 304865						
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

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
Work Order: 0408295
Project: Annual Monitoring Wells 2004

Sample ID	Reagent Blank 5m	Batch ID: R13065	Test Code: SW8021	Units: µg/L	Analysis Date 9/9/2004 9:14:41 AM	Prep Date					
Client ID:			Run ID: PIDFID_040909A		SeqNo: 303791						
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	19.62	0	20	0	98.1	74	118	0			

Sample ID	Reagent Blank 5m	Batch ID: R13090	Test Code: SW8021	Units: µg/L	Analysis Date 9/10/2004 9:14:01 AM	Prep Date					
Client ID:			Run ID: PIDFID_040910A		SeqNo: 304408						
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	19.28	0	20	0	96.4	74	118	0			

Sample ID	MB-6409	Batch ID: 6409	Test Code: SW7470	Units: mg/L	Analysis Date 9/1/2004	Prep Date 9/1/2004					
Client ID:			Run ID: MI-LA254_040901A		SeqNo: 301561						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0001283	0.0002									J

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: 0408295
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MB-6436	Batch ID: 6436	Test Code: SW7470	Units: mg/L	Analysis Date	9/7/2004	Prep Date	9/7/2004				
Client ID:		Run ID: MI-LA254_040907A	SeqNo: 302914									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		0.0001224	0.0002									J

Sample ID	MB	Batch ID: R13077	Test Code: SW6010A	Units: mg/L	Analysis Date	9/10/2004 11:34:57 AM	Prep Date					
Client ID:		Run ID: ICP_040910B	SeqNo: 304172									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Potassium		ND	1									
Silver		ND	0.005									
Sodium		ND	1									

Sample ID	MB	Batch ID: R13108	Test Code: SW6010A	Units: mg/L	Analysis Date	9/14/2004 7:49:24 AM	Prep Date					
Client ID:		Run ID: ICP_040913C	SeqNo: 305051									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium		ND	0.1									

Sample ID	MB-6415	Batch ID:	6415	Test Code:	SW6010A	Units:	mg/L	Analysis Date	9/3/2004 8:54:36 AM	Prep Date	9/1/2004	
Client ID:		Run ID:	ICP_040903B	SeqNo:	302356							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	0.02									J
Barium		0.007842	0.02									
Cadmium		ND	0.002									
Chromium		ND	0.006									
Lead		ND	0.005									
Selenium		0.01517	0.05									J
Silver		0.04958	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

Annual Monitoring Wells 2004

Project:

Sample ID	MB-6429	Batch ID: 6429	Test Code: E160.1	Units: mg/L	Analysis Date	9/7/2004	Prep Date	9/3/2004
Client ID:			Run ID: WC_040907B		SeqNo:	303219		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
							RPD Ref Val	%RPD
Total Dissolved Solids		ND	50				RPDLimit	Qual

B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: 15-Sep-04

CLIENT: San Juan Refining
Work Order: 0408295
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID: 0408295-01B DUP		Batch ID: R12965	Test Code: E300		Units: mg/L		Analysis Date: 9/1/2004 12:27:35 AM				Prep Date:	
Client ID: MW#7		Run ID: LC_040831A		SeqNo: 301274								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Fluoride	0.7721	0.1	0	0	0	0	0	0.7507	2.82	20		
Chloride	25.1	0.1	0	0	0	0	0	25.16	0.214	20		
Nitrogen, Nitrite (As N)	ND	0.1	0	0	0	0	0	0	0	20		
Nitrogen, Nitrate (As N)	ND	0.1	0	0	0	0	0	0.02276	0	20		
Phosphorus, Orthophosphate (As P)	ND	0.5	0	0	0	0	0	0	0	20		

Sample ID: 0408295-01B DUP		Batch ID: R13059	Test Code: E310.1	Units: mg/L CaCO3		Analysis Date: 9/9/2004		Prep Date:			
Client ID: MW#7		Run ID: WC_040909C		SeqNo: 303711							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	112	4	0	0	0	0	0	110	1.80	15	
Carbonate	ND	4	0	0	0	0	0	0	0	15	
Bicarbonate	112	4	0	0	0	0	0	110	1.80	15	

Sample ID: 0408295-01B DUP		Batch ID: R13061	Test Code:		Units: mg CO2/L		Analysis Date: 9/9/2004		Prep Date:		
Client ID: MW#7		Run ID: WC_040909E		SeqNo: 303720							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Carbon Dioxide	100	1	0	0	0	0	0	98	2.02	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

QC SUMMARY REPORT

Sample Duplicate

CLIENT: San Juan Refining
 Work Order: 0408295
 Project: Annual Monitoring Wells 2004

Sample ID: 0408295-02B DUP	Batch ID: R13077	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/10/2004 10:28:23 AM	Prep Date:						
Client ID: MW#39	Run ID: ICP_040910B	SeqNo: 304149									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.01687	0.02	0	0	0	0	0	0.01641	0	20	J
Barium	0.01482	0.002	0	0	0	0	0	0.015	1.19	20	
Cadmium	ND	0.002	0	0	0	0	0	0	0	20	
Chromium	ND	0.006	0	0	0	0	0	0	0	20	
Copper	ND	0.006	0	0	0	0	0	0	0	20	
Iron	0.2156	0.02	0	0	0	0	0	0.1794	18.3	20	
Lead	ND	0.005	0	0	0	0	0	0	0	20	
Magnesium	25.99	1	0	0	0	0	0	28.21	8.20	20	
Manganese	0.3036	0.002	0	0	0	0	0	0.3026	0.332	20	
Selenium	ND	0.05	0	0	0	0	0	0	0	20	
Zinc	0.0008449	0.005	0	0	0	0	0	0.0009006	0	20	J

Sample ID: 0408295-02B DUP	Batch ID: R13077	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/10/2004 10:53:01 AM	Prep Date:						
Client ID: MW#39		Run ID: ICP_040910B		SeqNo: 304154							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	288.3	100	0	0	0	0	0	289.6	0.476	20	

Sample ID: 0408295-02B DUP	Batch ID: R13077	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/10/2004 11:55:24 AM	Prep Date:						
Client ID: MW#39		Run ID: ICP_040910B		SeqNo: 304179							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.005	0	0	0	0	0	0	0	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: 0408295
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Sample Duplicate

Sample ID: 0408295-02B DUP		Batch ID: R13077	Test Code: SW6010A		Units: mg/L		Analysis Date: 9/10/2004 12:45:43 PM				Prep Date:	
Client ID: MW#39			Run ID: ICP_040910B				SeqNo: 304187					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Sodium		733.3	100	0	0	0	0	0	750	2.25	20	

Sample ID: 0408295-02B dup		Batch ID: 6429	Test Code: E160.1		Units: mg/L		Analysis Date: 9/7/2004				Prep Date: 9/3/2004	
Client ID: MW#39			Run ID: WC_040907B				SeqNo: 303241					
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids		4984	50	0	0	0	0	0	4884	2.03	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

Date: 15-Sep-04

Hall Environmental Analysis Laboratory

QC SUMMARY REPORT

Laboratory Control Spike - generic

CLIENT: San Juan Refining
 Work Order: 0408295
 Project: Annual Monitoring Wells 2004

Sample ID: LCS	Batch ID: R12965	Test Code: E300	Units: mg/L	Analysis Date: 8/31/2004 11:52:17 AM	Prep Date:						
Client ID:	Run ID: LC_040831A	SeqNo: 301241									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4551	0.1	0.5	0	91.0	90	110	0			
Chloride	4.902	0.1	5	0	98.0	90	110	0			
Nitrogen, Nitrite (As N)	0.9401	0.1	1	0	94.0	90	110	0			
Bromide	2.368	0.1	2.5	0	94.7	90	110	0			
Nitrogen, Nitrate (As N)	2.443	0.1	2.5	0	97.7	90	110	0			
Phosphorus, Orthophosphate (As P)	4.689	0.5	5	0	93.8	90	110	0			
Sulfate	9.972	0.5	10	0	99.7	90	110	0			

Sample ID: LCS	Batch ID: R12965	Test Code: E300	Units: mg/L	Analysis Date: 8/31/2004 9:22:42 PM	Prep Date:						
Client ID:	Run ID: LC_040831A	SeqNo: 301263									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.453	0.1	0.5	0	90.6	90	110	0			
Chloride	4.775	0.1	5	0	95.5	90	110	0			
Nitrogen, Nitrite (As N)	0.95	0.1	1	0	95.0	90	110	0			
Bromide	2.296	0.1	2.5	0	91.8	90	110	0			
Nitrogen, Nitrate (As N)	2.373	0.1	2.5	0	94.9	90	110	0			
Phosphorus, Orthophosphate (As P)	4.634	0.5	5	0	92.7	90	110	0			
Sulfate	9.7	0.5	10	0	97.0	90	110	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: 0408295
Project: Annual Monitoring Wells 2004

Sample ID: LCS	Batch ID: R13087	Test Code: E300	Units: mg/L	Analysis Date: 9/10/2004 12:00:05 PM	Prep Date:						
Client ID:	Run ID:	LC_040910A		SeqNo: 304276							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4735	0.1	0.5	0	94.7	90	110	0			
Chloride	4.793	0.1	5	0	95.9	90	110	0			
Nitrogen, Nitrite (As N)	0.9102	0.1	1	0	91.0	90	110	0			
Bromide	2.561	0.1	2.5	0	102	90	110	0			
Nitrogen, Nitrate (As N)	2.506	0.1	2.5	0	100	90	110	0			
Phosphorus, Orthophosphate (As P)	5.195	0.5	5	0	104	90	110	0			
Sulfate	9.64	0.5	10	0	96.4	90	110	0			

Sample ID: LCS	Batch ID: R13087	Test Code: E300	Units: mg/L	Analysis Date: 9/10/2004 7:15:56 PM	Prep Date:						
Client ID:	Run ID:	LC_040910A		SeqNo: 304302							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5059	0.1	0.5	0	101	90	110	0			
Chloride	4.746	0.1	5	0	94.9	90	110	0			
Nitrogen, Nitrite (As N)	0.9853	0.1	1	0	98.5	90	110	0			
Bromide	2.518	0.1	2.5	0	101	90	110	0			
Nitrogen, Nitrate (As N)	2.486	0.1	2.5	0	99.4	90	110	0			
Phosphorus, Orthophosphate (As P)	5.164	0.5	5	0	103	90	110	0			
Sulfate	9.844	0.5	10	0	98.4	90	110	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: 0408295

Project: Annual Monitoring Wells 2004

Sample ID: LCS	Batch ID: R13106	Test Code: E300	Units: mg/L	Analysis Date: 9/13/2004 12:29:41 PM	Prep Date:						
Client ID:	Run ID: LC_040913A	SeqNo: 304866									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4606	0.1	0.5	0	92.1	90	110	0			
Chloride	4.506	0.1	5	0	90.1	90	110	0			
Nitrogen, Nitrite (As N)	0.9155	0.1	1	0	91.5	90	110	0			
Bromide	2.318	0.1	2.5	0	92.7	90	110	0			
Nitrogen, Nitrate (As N)	2.256	0.1	2.5	0	90.3	90	110	0			
Phosphorus, Orthophosphate (As P)	4.71	0.5	5	0	94.2	90	110	0			
Sulfate	9.159	0.5	10	0	91.6	90	110	0			

Sample ID: BTEX std 100ng	Batch ID: R13065	Test Code: SW8021	Units: µg/L	Analysis Date: 9/9/2004 9:38:34 PM	Prep Date:						
Client ID:	Run ID: PIDFID_040909A	SeqNo: 303927									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	43.78	2.5	40	0	109	54.9	142	0			
Benzene	20.38	0.5	20	0	102	81.3	121	0			
Toluene	19.97	0.5	20	0	99.8	84.9	118	0			
Ethylbenzene	20.38	0.5	20	0	102	53.8	149	0			
Xylenes, Total	60.48	0.5	60	0	101	83.1	122	0			

Sample ID: BTEX std 100ng	Batch ID: R13090	Test Code: SW8021	Units: µg/L	Analysis Date: 9/10/2004 8:46:11 PM	Prep Date:						
Client ID:	Run ID: PIDFID_040910A	SeqNo: 304462									
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	38.53	2.5	40	0	96.3	54.9	142	0			
Benzene	21.35	0.5	20	0	107	81.3	121	0			
Toluene	21.18	0.5	20	0	106	84.9	118	0			
Ethylbenzene	20.93	0.5	20	0	105	53.8	149	0			
Xylenes, Total	64.11	0.5	60	0	107	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

CLIENT: San Juan Refining
Work Order: 0408295
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID: LCS-6409	Batch ID: 6409	Test Code: SW7470	Units: mg/L	Analysis Date: 9/1/2004	Prep Date: 9/1/2004
Client ID:		Run ID: MI-LA254_040901A		SeqNo: 301562	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.005088	0.0002	0.005	0.0001283	99.2 75.2 134 0
Sample ID: LCSD-6409	Batch ID: 6409	Test Code: SW7470	Units: mg/L	Analysis Date: 9/1/2004	Prep Date: 9/1/2004
Client ID:		Run ID: MI-LA254_040901A		SeqNo: 301586	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.005395	0.0002	0.005	0.0001283	105 75.2 134 0.005088 5.85 0
Sample ID: LCS-6436	Batch ID: 6436	Test Code: SW7470	Units: mg/L	Analysis Date: 9/7/2004	Prep Date: 9/7/2004
Client ID:		Run ID: MI-LA254_040907A		SeqNo: 302915	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.005726	0.0002	0.005	0.0001224	112 75.2 134 0
Sample ID: LCSD-6439	Batch ID: 6436	Test Code: SW7470	Units: mg/L	Analysis Date: 9/7/2004	Prep Date: 9/7/2004
Client ID:		Run ID: MI-LA254_040907A		SeqNo: 302927	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury	0.005047	0.0002	0.005	0.0001224	98.5 75.2 134 0.005726 12.6 0
Sample ID: LCS	Batch ID: R13077	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/10/2004 11:37:33 AM	Prep Date:
Client ID:		Run ID: ICP_040910B		SeqNo: 304173	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Potassium	48.75	1	55	0	88.6 80 120 0
Silver	0.4153	0.005	0.5	0	83.1 80 120 0
Sodium	45.21	1	50.5	0	89.5 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: 0408295
 Project: Annual Monitoring Wells 2004

Sample ID: LCSD	Batch ID: R13077	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/10/2004 11:40:10 AM	Prep Date:
Client ID:	Run ID: ICP_040910B	SeqNo: 304174			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Potassium	48.65	1	55	0	88.5 80 120 48.75 0.204 20
Silver	0.4202	0.005	0.5	0	84.0 80 120 0.4153 1.17 20
Sodium	45.32	1	50.5	0	89.7 80 120 45.21 0.247 20

Sample ID: LCSD	Batch ID: R13108	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/14/2004 7:51:30 AM	Prep Date:
Client ID:	Run ID: ICP_040913C	SeqNo: 305052			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Uranium	4.959	0.1	5	0	99.2 80 120 4.963 0.0722 20

Sample ID: LCS	Batch ID: R13108	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/14/2004 7:54:06 AM	Prep Date:
Client ID:	Run ID: ICP_040913C	SeqNo: 305053			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Uranium	4.963	0.1	5	0	99.3 80 120 0

Sample ID: LCS-6415	Batch ID: 6415	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/3/2004 8:57:30 AM	Prep Date: 9/1/2004
Client ID:	Run ID: ICP_040903B	SeqNo: 302357			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Arsenic	0.5335	0.02	0.5	0	107 80 120 0
Barium	0.5077	0.02	0.5	0.007842	100 80 120 0
Cadmium	0.5015	0.002	0.5	0	100 80 120 0
Chromium	0.5157	0.006	0.5	0	103 80 120 0
Lead	0.5161	0.005	0.5	0	103 80 120 0
Selenium	0.4865	0.05	0.5	0.01517	94.3 80 120 0
Silver	0.5618	0.005	0.5	0.04958	102 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: 0408295
 Project: Annual Monitoring Wells 2004

Sample ID: LCSD-6415	Batch ID: 6415	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/3/2004 9:00:42 AM	Prep Date: 9/1/2004						
Client ID:		Run ID: ICP_040903B		SeqNo: 302358							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5116	0.02	0.5	0	102	80	120	0.5335	4.20	20	
Barium	0.4855	0.02	0.5	0.007842	95.5	80	120	0.5077	4.47	20	
Cadmium	0.478	0.002	0.5	0	95.6	80	120	0.5015	4.80	20	
Chromium	0.4883	0.006	0.5	0	97.7	80	120	0.5157	5.45	20	
Lead	0.4895	0.005	0.5	0	97.9	80	120	0.5161	5.28	20	
Selenium	0.4646	0.05	0.5	0.01517	89.9	80	120	0.4865	4.61	20	
Silver	0.4986	0.005	0.5	0.04958	89.8	80	120	0.5618	11.9	20	B

Sample ID: LCS-6429	Batch ID: 6429	Test Code: E160.1	Units: mg/L	Analysis Date: 9/7/2004	Prep Date: 9/3/2004						
Client ID:		Run ID: WC_040907B		SeqNo: 303220							
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:

8/31/2004

Work Order Number 0408295

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?

2°

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**

Accreditation Applied

USACE

Other:

Client: Sand van Refining

Project Name: Annual Monitoring
wells 2004

Address: 50 CR 499D

Bloomfield, NM 87413

Phone #: 505-637-4461

Fax #: 505-632-3911

Sampler: Cindy Huntzdo/Daniel Hym

Sample Temperature:

Date _____

Time

Matrix

Sample I.D. No.

30 Aug 84	8404	H ₂ O	MW #7

30 Aug 04	9 AM	H ₂ O	MW #39

Date: _____

Time:

Relinquished By: (Signature)

Date:

Time:

Relinquished By: (Signature)

Remarks:

Received By: (Signature)

Received By: (Signature)

1559

ANALYSIS REQUEST

	Air Bubbles or Headspace (Y or N)
BTEX + MTBE + TPB (Gasoline Only)	X
BTEX + MTBE + GMDs (8021)	X
TPH Method 8015B (Gas/Diesel)	
TPH (Method 418.1)	
EDB (Method 504.1)	
EDC (Method 8021)	
8310 (PNA or PAH)	
RCRA 8 Metals	X
Anions (F^- , Cl^- , NO_3^- , PO_4^{3-} , SO_4^{2-})	X
8081 Pesticides / PCB's (8082)	
8260B (VOC) - Cations	X
8270 (Semi-VOC)	X
Dissolved Metals, WACB Mn ²⁺	X
Carbon Dioxide	X
EC, pH, TDS, ALK	X

CONTENTS

Section	Title

VOLUME 1

1.0	Executive Summary
2.0	Introduction
3.0	Scope of Services
4.0	Regulatory Criteria / Groundwater Cleanup Standards
5.0	Groundwater Monitoring Results
6.0	Groundwater Chemical Analytical Data
7.0	Remediation System Monitoring
8.0	Summary
9.0	List of Tables
10.0	List of Figures
11.0	BTEX & MTBE Concentration vs Time
12.0	Field Methods
13.0	Waste Disposition
14.0	Drilling Logs and Installation Diagrams
15.0	Below Grade Testing
16.0	Correspondence

VOLUME 2

17.0	Chemical Analytical Program
18.0	Chemical Analytical Reports

Section 17.0 Chemical Analytical Program

COVER LETTER

September 10, 2004

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

RE: Annual Monitoring Wells 2004

Order No.: 0408226

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 6 samples on 8/24/2004 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: 10-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW#44

Lab Order: 0408226

Collection Date: 8/23/2004 8:15:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408226-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.30	0.10		mg/L	1	8/24/2004 8:41:04 PM
Chloride	210	10		mg/L	100	8/25/2004 11:26:28 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/24/2004 8:41:04 PM
Bromide	0.79	0.10		mg/L	1	8/24/2004 8:41:04 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/24/2004 8:41:04 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/24/2004 8:41:04 PM
Sulfate	2800	50		mg/L	100	8/25/2004 11:26:28 AM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	450	4.0		mg/L CaCO ₃	2	8/31/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	8/31/2004
Bicarbonate	450	4.0		mg/L CaCO ₃	2	8/31/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	4.8	2.5		µg/L	1	9/1/2004 11:33:35 PM
Benzene	ND	0.50		µg/L	1	9/1/2004 11:33:35 PM
Toluene	ND	0.50		µg/L	1	9/1/2004 11:33:35 PM
Ethylbenzene	ND	0.50		µg/L	1	9/1/2004 11:33:35 PM
Xylenes, Total	ND	0.50		µg/L	1	9/1/2004 11:33:35 PM
Surr. 4-Bromofluorobenzene	104	74-118		%REC	1	9/1/2004 11:33:35 PM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: CMC
Total Carbon Dioxide	400	1.0		mg CO ₂ /L	1	8/31/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: CMC
Specific Conductance	5200	0.010		µmhos/cm	1	8/25/2004
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	0.00033	0.00020		mg/L	1	8/26/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/2/2004 11:10:03 AM
Barium	0.046	0.0020		mg/L	1	9/2/2004 11:10:03 AM
Cadmium	ND	0.0020		mg/L	1	9/2/2004 11:10:03 AM
Calcium	520	10		mg/L	10	9/2/2004 3:07:50 PM
Chromium	0.034	0.0060		mg/L	1	9/2/2004 11:10:03 AM
Copper	0.027	0.0060		mg/L	1	9/2/2004 11:10:03 AM
Iron	76	0.20		mg/L	10	9/2/2004 3:07:50 PM
Lead	0.015	0.0050		mg/L	1	9/2/2004 11:10:03 AM
Magnesium	87	10		mg/L	10	9/2/2004 3:07:50 PM
Manganese	1.7	0.0020		mg/L	1	9/2/2004 11:10:03 AM
Potassium	44	10		mg/L	10	9/2/2004 3:07:50 PM
Selenium	ND	0.050		mg/L	1	9/2/2004 11:10:03 AM
Silver	ND	0.0050		mg/L	1	9/2/2004 11:10:03 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: 10-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408226
Project: Annual Monitoring Wells 2004
Lab ID: 0408226-01

Client Sample ID: MW#44
Collection Date: 8/23/2004 8:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	970	10		mg/L	10	9/2/2004 3:07:50 PM
Uranium	ND	0.10		mg/L	1	9/8/2004 2:39:16 PM
Zinc	0.084	0.0050		mg/L	1	9/2/2004 11:10:03 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/1/2004 3:10:02 PM
Barium	0.084	0.020		mg/L	1	9/1/2004 3:10:02 PM
Cadmium	ND	0.0020		mg/L	1	9/1/2004 3:10:02 PM
Chromium	0.10	0.0060		mg/L	1	9/1/2004 3:10:02 PM
Lead	0.036	0.0050		mg/L	1	9/1/2004 3:10:02 PM
Selenium	ND	0.050		mg/L	1	9/1/2004 3:10:02 PM
Silver	ND	0.0050		mg/L	1	9/1/2004 3:10:02 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	4800	50		mg/L	1	8/25/2004

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: 10-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408226
Project: Annual Monitoring Wells 2004
Lab ID: 0408226-02

Client Sample ID: MW#30
Collection Date: 8/23/2004 8:50:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.18	0.10		mg/L	1	8/24/2004 9:31:25 PM
Chloride	360	2.0		mg/L	20	8/25/2004 11:43:17 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/24/2004 9:31:25 PM
Bromide	5.6	0.10		mg/L	1	8/24/2004 9:31:25 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/24/2004 9:31:25 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/24/2004 9:31:25 PM
Sulfate	720	10		mg/L	20	8/25/2004 11:43:17 AM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	1400	4.0		mg/L CaCO ₃	2	8/31/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	8/31/2004
Bicarbonate	1400	4.0		mg/L CaCO ₃	2	8/31/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	40	9/2/2004 12:04:07 AM
Benzene	1700	20		µg/L	40	9/2/2004 12:04:07 AM
Toluene	370	20		µg/L	40	9/2/2004 12:04:07 AM
Ethylbenzene	1900	20		µg/L	40	9/2/2004 12:04:07 AM
Xylenes, Total	2500	20		µg/L	40	9/2/2004 12:04:07 AM
Surr: 4-Bromofluorobenzene	95.8	74-118		%REC	40	9/2/2004 12:04:07 AM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: CMC
Total Carbon Dioxide	1200	1.0		mg CO ₂ /L	1	8/31/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: CMC
Specific Conductance	3900	0.010		µmhos/cm	1	8/25/2004
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	0.00023	0.00020		mg/L	1	8/26/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/2/2004 11:42:16 AM
Barium	0.13	0.0020		mg/L	1	9/2/2004 11:42:16 AM
Cadmium	ND	0.0020		mg/L	1	9/2/2004 11:42:16 AM
Calcium	350	10		mg/L	10	9/2/2004 3:09:45 PM
Chromium	ND	0.0060		mg/L	1	9/2/2004 11:42:16 AM
Copper	0.0061	0.0060		mg/L	1	9/2/2004 11:42:16 AM
Iron	4.7	0.020		mg/L	1	9/2/2004 11:42:16 AM
Lead	0.0051	0.0050		mg/L	1	9/2/2004 11:42:16 AM
Magnesium	88	10		mg/L	10	9/2/2004 3:09:45 PM
Manganese	2.1	0.0020		mg/L	1	9/2/2004 11:42:16 AM
Potassium	ND	10		mg/L	10	9/2/2004 3:09:45 PM
Selenium	ND	0.050		mg/L	1	9/2/2004 11:42:16 AM
Silver	ND	0.0050		mg/L	1	9/2/2004 11:42:16 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: 10-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408226
Project: Annual Monitoring Wells 2004
Lab ID: 0408226-02

Client Sample ID: MW#30
Collection Date: 8/23/2004 8:50:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	750	10		mg/L	10	9/2/2004 3:09:45 PM
Uranium	ND	0.10		mg/L	1	9/8/2004 2:44:01 PM
Zinc	0.046	0.0050		mg/L	1	9/2/2004 11:42:16 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/1/2004 12:11:06 PM
Barium	0.24	0.020		mg/L	1	9/1/2004 12:11:06 PM
Cadmium	ND	0.0020		mg/L	1	9/1/2004 12:11:06 PM
Chromium	0.0073	0.0060		mg/L	1	9/1/2004 12:11:06 PM
Lead	0.011	0.0050		mg/L	1	9/1/2004 12:11:06 PM
Selenium	ND	0.050		mg/L	1	9/1/2004 12:11:06 PM
Silver	ND	0.0050		mg/L	1	9/1/2004 12:11:06 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	3100	50		mg/L	1	8/25/2004

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: 10-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW#3

Lab Order: 0408226

Collection Date: 8/23/2004 10:35:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408226-03

Matrix: AQUEOUS

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	9/2/2004 12:34:25 AM
Benzene	ND	0.50		µg/L	1	9/2/2004 12:34:25 AM
Toluene	ND	0.50		µg/L	1	9/2/2004 12:34:25 AM
Ethylbenzene	ND	0.50		µg/L	1	9/2/2004 12:34:25 AM
Xylenes, Total	ND	0.50		µg/L	1	9/2/2004 12:34:25 AM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	1	9/2/2004 12:34:25 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: 10-Sep-04

CLIENT: San Juan Refining

Client Sample ID: MW#1

Lab Order: 0408226

Collection Date: 8/23/2004 11:05:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408226-04

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.63	0.10		mg/L	1	8/24/2004 9:48:13 PM
Chloride	29	0.10		mg/L	1	8/24/2004 9:48:13 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/24/2004 9:48:13 PM
Bromide	0.14	0.10		mg/L	1	8/24/2004 9:48:13 PM
Nitrogen, Nitrate (As N)	1.9	0.10		mg/L	1	8/24/2004 9:48:13 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/24/2004 9:48:13 PM
Sulfate	220	5.0		mg/L	10	8/25/2004 12:00:05 PM
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	240	4.0		mg/L CaCO ₃	2	8/31/2004
Carbonate	8.0	4.0		mg/L CaCO ₃	2	8/31/2004
Bicarbonate	240	4.0		mg/L CaCO ₃	2	8/31/2004
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	9/2/2004 1:04:37 AM
Benzene	ND	0.50		µg/L	1	9/2/2004 1:04:37 AM
Toluene	ND	0.50		µg/L	1	9/2/2004 1:04:37 AM
Ethylbenzene	ND	0.50		µg/L	1	9/2/2004 1:04:37 AM
Xylenes, Total	ND	0.50		µg/L	1	9/2/2004 1:04:37 AM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	9/2/2004 1:04:37 AM
TOTAL CARBON DIOXIDE CALCULATION						Analyst: CMC
Total Carbon Dioxide	220	1.0		mg CO ₂ /L	1	8/31/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	870	0.010		µmhos/cm	1	8/25/2004
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	8/26/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/2/2004 1:40:51 PM
Barium	0.025	0.0020		mg/L	1	9/2/2004 1:40:51 PM
Cadmium	ND	0.0020		mg/L	1	9/2/2004 1:40:51 PM
Calcium	67	1.0		mg/L	1	9/2/2004 1:40:51 PM
Chromium	ND	0.0060		mg/L	1	9/2/2004 1:40:51 PM
Copper	ND	0.0060		mg/L	1	9/2/2004 1:40:51 PM
Iron	0.27	0.020		mg/L	1	9/2/2004 1:40:51 PM
Lead	ND	0.0050		mg/L	1	9/2/2004 1:40:51 PM
Magnesium	18	1.0		mg/L	1	9/2/2004 1:40:51 PM
Manganese	0.13	0.0020		mg/L	1	9/2/2004 1:40:51 PM
Potassium	2.1	1.0		mg/L	1	9/2/2004 1:40:51 PM
Selenium	ND	0.050		mg/L	1	9/2/2004 1:40:51 PM
Silver	ND	0.0050		mg/L	1	9/2/2004 1:40:51 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: 10-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408226
Project: Annual Monitoring Wells 2004
Lab ID: 0408226-04

Client Sample ID: MW#1
Collection Date: 8/23/2004 11:05:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	110	1.0		mg/L	1	9/2/2004 1:40:51 PM
Uranium	ND	0.10		mg/L	1	9/8/2004 2:48:32 PM
Zinc	0.021	0.0050		mg/L	1	9/2/2004 1:40:51 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/1/2004 12:15:45 PM
Barium	0.052	0.020		mg/L	1	9/1/2004 12:15:45 PM
Cadmium	ND	0.0020		mg/L	1	9/1/2004 12:15:45 PM
Chromium	ND	0.0060		mg/L	1	9/1/2004 12:15:45 PM
Lead	ND	0.0050		mg/L	1	9/1/2004 12:15:45 PM
Selenium	ND	0.050		mg/L	1	9/1/2004 12:15:45 PM
Silver	ND	0.0050		mg/L	1	9/1/2004 12:15:45 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	650	50		mg/L	1	8/25/2004

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: 10-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408226
Project: Annual Monitoring Wells 2004
Lab ID: 0408226-05

Client Sample ID: RW#14
Collection Date: 8/23/2004 1:20:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.18	0.10		mg/L	1	8/24/2004 10:05:01 PM
Chloride	840	5.0		mg/L	50	8/25/2004 1:26:42 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/24/2004 10:05:01 PM
Bromide	5.7	0.10		mg/L	1	8/24/2004 10:05:01 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/24/2004 10:05:01 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/24/2004 10:05:01 PM
Sulfate	2.0	0.50		mg/L	1	8/24/2004 10:05:01 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	1200	4.0		mg/L CaCO ₃	2	8/31/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	8/31/2004
Bicarbonate	1200	4.0		mg/L CaCO ₃	2	8/31/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	40	9/2/2004 1:34:55 AM
Benzene	1900	100		µg/L	200	9/2/2004 8:55:48 PM
Toluene	17000	100		µg/L	200	9/2/2004 8:55:48 PM
Ethylbenzene	3200	100		µg/L	200	9/2/2004 8:55:48 PM
Xylenes, Total	20000	100		µg/L	200	9/2/2004 8:55:48 PM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	200	9/2/2004 8:55:48 PM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: CMC
Total Carbon Dioxide	1100	1.0		mg CO ₂ /L	1	8/31/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: CMC
Specific Conductance	4000	0.010		µmhos/cm	1	8/25/2004
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	8/26/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/2/2004 11:48:22 AM
Barium	1.7	0.0020		mg/L	1	9/2/2004 11:48:22 AM
Cadmium	ND	0.0020		mg/L	1	9/2/2004 11:48:22 AM
Calcium	180	10		mg/L	10	9/2/2004 3:11:52 PM
Chromium	ND	0.0060		mg/L	1	9/2/2004 11:48:22 AM
Copper	ND	0.0060		mg/L	1	9/2/2004 11:48:22 AM
Iron	8.5	0.020		mg/L	1	9/2/2004 11:48:22 AM
Lead	ND	0.0050		mg/L	1	9/2/2004 11:48:22 AM
Magnesium	87	10		mg/L	10	9/2/2004 3:11:52 PM
Manganese	3.6	0.0020		mg/L	1	9/2/2004 11:48:22 AM
Potassium	ND	10		mg/L	10	9/2/2004 3:11:52 PM
Selenium	ND	0.050		mg/L	1	9/2/2004 11:48:22 AM
Silver	ND	0.0050		mg/L	1	9/2/2004 11:48:22 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: 10-Sep-04

CLIENT: San Juan Refining

Client Sample ID: RW#14

Lab Order: 0408226

Collection Date: 8/23/2004 1:20:00 PM

Project: Annual Monitoring Wells 2004

Lab ID: 0408226-05

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	810	10		mg/L	10	9/2/2004 3:11:52 PM
Uranium	ND	0.10		mg/L	1	9/8/2004 3:15:55 PM
Zinc	0.044	0.0050		mg/L	1	9/2/2004 11:48:22 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/1/2004 12:18:58 PM
Barium	1.8	0.20		mg/L	10	9/1/2004 3:15:32 PM
Cadmium	ND	0.0020		mg/L	1	9/1/2004 12:18:58 PM
Chromium	ND	0.0060		mg/L	1	9/1/2004 12:18:58 PM
Lead	ND	0.0050		mg/L	1	9/1/2004 12:18:58 PM
Selenium	ND	0.050		mg/L	1	9/1/2004 12:18:58 PM
Silver	ND	0.0050		mg/L	1	9/1/2004 12:18:58 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	2700	50		mg/L	1	8/25/2004

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: 10-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408226
Project: Annual Monitoring Wells 2004
Lab ID: 0408226-06

Client Sample ID: MW#21
Collection Date: 8/23/2004 2:15:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.18	0.10		mg/L	1	8/24/2004 10:21:51 PM
Chloride	420	2.5		mg/L	25	8/26/2004 10:41:10 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/24/2004 10:21:51 PM
Bromide	3.4	0.10		mg/L	1	8/24/2004 10:21:51 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/24/2004 10:21:51 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/24/2004 10:21:51 PM
Sulfate	1400	13		mg/L	25	8/26/2004 10:41:10 AM
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	670	4.0		mg/L CaCO ₃	2	8/31/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	8/31/2004
Bicarbonate	670	4.0		mg/L CaCO ₃	2	8/31/2004
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	28	13		µg/L	5	9/2/2004 9:26:08 PM
Benzene	130	2.5		µg/L	5	9/2/2004 9:26:08 PM
Toluene	ND	2.5		µg/L	5	9/2/2004 9:26:08 PM
Ethylbenzene	9.8	2.5		µg/L	5	9/2/2004 9:26:08 PM
Xylenes, Total	30	2.5		µg/L	5	9/2/2004 9:26:08 PM
Surr: 4-Bromofluorobenzene	97.5	74-118		%REC	5	9/2/2004 9:26:08 PM
TOTAL CARBON DIOXIDE CALCULATION						Analyst: CMC
Total Carbon Dioxide	600	1.0		mg CO ₂ /L	1	8/31/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	4000	0.010		µmhos/cm	1	8/25/2004
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	8/26/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/2/2004 2:34:54 PM
Barium	0.028	0.0020		mg/L	1	9/2/2004 2:34:54 PM
Cadmium	ND	0.0020		mg/L	1	9/2/2004 2:34:54 PM
Calcium	450	10		mg/L	10	9/2/2004 3:13:31 PM
Chromium	ND	0.0060		mg/L	1	9/2/2004 2:34:54 PM
Copper	ND	0.0060		mg/L	1	9/2/2004 2:34:54 PM
Iron	2.9	0.020		mg/L	1	9/2/2004 2:34:54 PM
Lead	ND	0.0050		mg/L	1	9/2/2004 2:34:54 PM
Magnesium	97	10		mg/L	10	9/2/2004 3:13:31 PM
Manganese	1.4	0.0020		mg/L	1	9/2/2004 2:34:54 PM
Potassium	6.8	1.0		mg/L	1	9/2/2004 2:34:54 PM
Selenium	ND	0.050		mg/L	1	9/2/2004 2:34:54 PM
Silver	ND	0.0050		mg/L	1	9/2/2004 2:34:54 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: 10-Sep-04

CLIENT: San Juan Refining
Lab Order: 0408226
Project: Annual Monitoring Wells 2004
Lab ID: 0408226-06

Client Sample ID: MW#21
Collection Date: 8/23/2004 2:15:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	600	10		mg/L	10	9/2/2004 3:13:31 PM
Uranium	ND	0.10		mg/L	1	9/8/2004 3:18:29 PM
Zinc	0.028	0.0050		mg/L	1	9/2/2004 2:34:54 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/1/2004 12:23:16 PM
Barium	0.029	0.020		mg/L	1	9/1/2004 12:23:16 PM
Cadmium	ND	0.0020		mg/L	1	9/1/2004 12:23:16 PM
Chromium	ND	0.0060		mg/L	1	9/1/2004 12:23:16 PM
Lead	ND	0.0050		mg/L	1	9/1/2004 12:23:16 PM
Selenium	ND	0.050		mg/L	1	9/1/2004 12:23:16 PM
Silver	ND	0.0050		mg/L	1	9/1/2004 12:23:16 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	3400	50		mg/L	1	8/25/2004

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: 10-Sep-04

CLIENT: San Juan Refining

Work Order: 0408226

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R12867	Test Code: E300	Units: mg/L	Analysis Date	8/24/2004 10:33:38 AM	Prep Date				
Client ID:		Run ID: LC_040824A			SeqNo: 298902						
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: R12884	Test Code: E300	Units: mg/L	Analysis Date	8/25/2004 10:36:02 AM	Prep Date				
Client ID:		Run ID: LC_040825A			SeqNo: 299317						
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 limitsS - 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: 0408226
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MBLK	Batch ID: R12925	Test Code: E300	Units: mg/L	Analysis Date 8/26/2004 10:07:20 AM	Prep Date					
Client ID:		Run ID: LC_040826A	SeqNo: 300274								
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	Reagent Blank 5m	Batch ID: R12975	Test Code: SW8021	Units: µg/L	Analysis Date 9/1/2004 8:49:22 AM	Prep Date					
Client ID:		Run ID: PIDFID_040901A	SeqNo: 301620								
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	19.24	0	20	0	96.2	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

CLIENT: San Juan Refining
Work Order: 0408226
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R12993	Test Code: SW8021	Units: µg/L	Analysis Date 9/2/2004 9:16:33 AM	Prep Date
Client ID:		Run ID: PIDFID_040902A	SeqNo: 302242			
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		19.27	0	20	0	96.4 74 118 0

Sample ID	MB-6386	Batch ID: 6386	Test Code: SW7470	Units: mg/L	Analysis Date 8/26/2004	Prep Date 8/26/2004
Client ID:		Run ID: MI-LA254_040826A	SeqNo: 299615			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Mercury		ND	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

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0408226
 Project: Annual Monitoring Wells 2004

Sample ID	MB	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date	9/2/2004 9:18:23 AM	Prep Date				
Client ID:		Run ID:	ICP_040902A		SeqNo:	302018					
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	0.0006063	0.006									J
Copper	ND	0.006									
Iron	ND	0.02									
Lead	ND	0.005									
Magnesium	ND	1									
Manganese	ND	0.002									
Potassium	ND	1									
Selenium	ND	0.05									
Silver	ND	0.005									
Sodium	0.02767	1									J
Zinc	ND	0.005									

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: 0408226
 Project: Annual Monitoring Wells 2004

Sample ID	MB	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date	9/2/2004 1:24:01 PM	Prep Date				
Client ID:		Run ID: ICP_040902A	SeqNo: 302140								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02	0	0	0	0	0	0	0	0	
Barium	ND	0.002	0	0	0	0	0	0	0	0	
Cadmium	ND	0.002	0	0	0	0	0	0	0	0	
Calcium	0.03633	1	0	0	0	0	0	0	0	0	J
Chromium	ND	0.006	0	0	0	0	0	0	0	0	
Copper	ND	0.006	0	0	0	0	0	0	0	0	
Iron	0.01301	0.02	0	0	0	0	0	0	0	0	J
Lead	ND	0.005	0	0	0	0	0	0	0	0	
Magnesium	0.04931	1	0	0	0	0	0	0	0	0	J
Manganese	ND	0.002	0	0	0	0	0	0	0	0	
Potassium	0.1193	1	0	0	0	0	0	0	0	0	J
Selenium	0.005536	0.05	0	0	0	0	0	0	0	0	J
Silver	ND	0.005	0	0	0	0	0	0	0	0	
Sodium	0.08972	1	0	0	0	0	0	0	0	0	J
Uranium	ND	0.1	0	0	0	0	0	0	0	0	
Zinc	ND	0.005	0	0	0	0	0	0	0	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: 0408226
 Project: Annual Monitoring Wells 2004

Sample ID	MB	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date 9/9/2004 8:32:04 AM	Prep Date					
Client ID:		Run ID: ICP_040908C			SeqNo: 303602						
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	0.09611	1									J
Chromium	ND	0.006									
Copper	ND	0.006									
Iron	0.01003	0.02									J
Lead	ND	0.005									
Magnesium	0.09658	1									J
Manganese	ND	0.002									
Potassium	0.1253	1									J
Selenium	0.006229	0.05									J
Silver	ND	0.005									
Sodium	0.1369	1									J
Uranium	ND	0.1									
Zinc	ND	0.005									

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: 0408226
 Project: Annual Monitoring Wells 2004

Sample ID	MB	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 12:44:23 PM	Prep Date				
Client ID:		Run ID: ICP_040908C			SeqNo: 303623						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02	0	0	0	0	0	0			
Barium	ND	0.002	0	0	0	0	0	0			
Cadmium	ND	0.002	0	0	0	0	0	0			
Calcium	0.08793	1	0	0	0	0	0	0			J
Chromium	0.001086	0.006	0	0	0	0	0	0			J
Copper	ND	0.006	0	0	0	0	0	0			
Iron	ND	0.02	0	0	0	0	0	0			
Lead	ND	0.005	0	0	0	0	0	0			
Magnesium	0.09918	1	0	0	0	0	0	0			J
Manganese	ND	0.002	0	0	0	0	0	0			
Potassium	0.1819	1	0	0	0	0	0	0			J
Selenium	ND	0.05	0	0	0	0	0	0			
Silver	ND	0.005	0	0	0	0	0	0			
Sodium	0.3373	1	0	0	0	0	0	0			J
Uranium	ND	0.1	0	0	0	0	0	0			
Zinc	ND	0.005	0	0	0	0	0	0			

Sample ID	MB-6392	Batch ID: 6392	Test Code: SW6010A	Units: mg/L	Analysis Date	9/1/2004 11:56:26 AM	Prep Date	8/30/2004			
Client ID:			Run ID: ICP_040901B		SeqNo:	301687					
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	0.001958	0.005									J
Selenium	ND	0.05									
Silver	ND	0.005									

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: 0408226
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT Method Blank

Sample ID	MB-6378	Batch ID: 6378	Test Code: E160.1	Units: mg/L	Analysis Date	8/25/2004	Prep Date	8/25/2004
Client ID:			Run ID: WC_040825E		SeqNo:	300595		
Analyte		Result	PQL	SPK value	%REC	LowLimit	HighLimit	RPD Ref Val
Total Dissolved Solids		ND		50				
					%RPD	RPDLimit		Qual

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: 10-Sep-04

CLIENT: San Juan Refining

Work Order: 0408226

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0408226-01B DUP	Batch ID: R12956	Test Code: E310.1	Units: mg/L CaCO3	Analysis Date	8/31/2004	Prep Date				
Client ID:	MW#44		Run ID: WC_040831C		SeqNo:	301044					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	450	4	0	0	0	0	0	450	0	15	
Carbonate	ND	4	0	0	0	0	0	0	0	15	
Bicarbonate	450	4	0	0	0	0	0	450	0	15	

Sample ID	0408226-01E DUP	Batch ID: R12957	Test Code:	Units: mg CO2/L	Analysis Date	8/31/2004	Prep Date				
Client ID:	MW#44		Run ID:	WC_040831D	SeqNo:	301055					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Carbon Dioxide	401	1	0	0	0	0	0	401	0	20	

Sample ID	0408226-06B DUP	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date	9/2/2004 2:31:06 PM	Prep Date				
Client ID: MW#21			Run ID: ICP_040902A		SeqNo: 302081						
analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
arsenic	0.007459	0.02	0	0	0	0	0	0.01215	0	20	J
barium	0.02793	0.002	0	0	0	0	0	0.02763	1.10	20	
cadmium	ND	0.002	0	0	0	0	0	0	0	20	
chromium	ND	0.006	0	0	0	0	0	0	0	20	
copper	ND	0.006	0	0	0	0	0	0	0	20	
iron	2.924	0.02	0	0	0	0	0	2.874	1.70	20	
lead	ND	0.005	0	0	0	0	0	0.003025	0	20	
manganese	1.424	0.002	0	0	0	0	0	1.432	0.594	20	
selenium	ND	0.05	0	0	0	0	0	0	0	20	
silver	ND	0.005	0	0	0	0	0	0	0	20	
zinc	0.02429	0.005	0	0	0	0	0	0.02779	13.4	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

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CLIENT: San Juan Refining
 Work Order: 0408226
 Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0408226-06B DUP	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date	9/2/2004 3:15:51 PM	Prep Date				
Client ID:	MW#21		Run ID: ICP_040902A		SeqNo:	302092					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	462.7	10	0	0	0	0	0	452.6	2.22	20	
Magnesium	98.78	10	0	0	0	0	0	96.63	2.20	20	
Potassium	7.27	10	0	0	0	0	0	7.334	0	20	J
Sodium	608.9	10	0	0	0	0	0	595.8	2.18	20	

Sample ID	0408226-01C DUP	Batch ID: 6392	Test Code: SW6010A	Units: mg/L	Analysis Date	9/1/2004 3:08:22 PM	Prep Date	8/30/2004			
Client ID:	MW#44		Run ID: ICP_040901B		SeqNo:	301728					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.01249	0.02	0	0	0	0	0	0.01214	0	30	J
Barium	0.08263	0.02	0	0	0	0	0	0.0839	1.52	30	
Cadmium	ND	0.002	0	0	0	0	0	0	0	30	
Chromium	0.09849	0.006	0	0	0	0	0	0.09978	1.30	30	
Lead	0.03487	0.005	0	0	0	0	0	0.03557	2.01	30	
Selenium	ND	0.05	0	0	0	0	0	0	0	30	
Silver	ND	0.005	0	0	0	0	0	0	0	30	

Sample ID	0408226-06B DUP	Batch ID: 6378	Test Code: E160.1	Units: mg/L	Analysis Date	8/25/2004	Prep Date	8/25/2004			
Client ID:	MW#21		Run ID: WC_040825E		SeqNo:	300617					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	3382	50	0	0	0	0	0	3399	0.501	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: 10-Sep-04

CLIENT: San Juan Refining

Work Order: 0408226

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0408226-04a ms	Batch ID: R12975	Test Code: SW8021	Units: µg/L	Analysis Date	9/2/2004 2:35:38 AM	Prep Date				
Client ID:	MW#1	Run ID:	PIDFID_040901A		SeqNo:	301675					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	38.71	2.5	40	2.17	91.4	65	132	0			
Benzene	19.54	0.5	20	0	97.7	77	122	0			
Toluene	20.04	0.5	20	0	100	81	115	0			
Ethylbenzene	20.34	0.5	20	0	102	84	117	0			
Xylenes, Total	59.25	0.5	60	0	98.8	84	116	0			
Surr: 4-Bromofluorobenzene	23.35	0	24	0	97.3	74	118	0			

Sample ID	0408226-04a msd	Batch ID: R12975	Test Code: SW8021	Units: µg/L	Analysis Date	9/2/2004 3:05:52 AM	Prep Date				
Client ID:	MW#1	Run ID:	PIDFID_040901A	SeqNo:	301683						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	38.07	2.5	40	2.17	89.7	65	132	38.71	1.68	28	
Benzene	18.97	0.5	20	0	94.9	77	122	19.54	2.97	27	
Toluene	19.45	0.5	20	0	97.2	81	115	20.04	2.97	19	
Ethylbenzene	19.28	0.5	20	0	96.4	84	117	20.34	5.37	10	
Xylenes, Total	58.62	0.5	60	0	97.7	84	116	59.25	1.07	13	
Surr: 4-Bromofluorobenzene	23.19	0	24	0	96.6	74	118	23.35	0.669	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

Sample Matrix Spike

CLIENT: San Juan Refining

Work Order: 0408226

Project: Annual Monitoring Wells 2004

Sample ID	0408226-06B MS	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date	9/2/2004 2:38:16 PM	Prep Date				
Client ID:	MW#21		Run ID: ICP_040902A		SeqNo:	302083					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5842	0.02	0.5	0.01215	114	75	125	0			
Barium	0.4929	0.002	0.5	0.02763	93.1	75	125	0			
Cadmium	0.4935	0.002	0.5	0	98.7	75	125	0			
Chromium	0.4728	0.006	0.5	0	94.6	75	125	0			
Copper	0.5268	0.006	0.5	0	105	75	125	0			
Iron	3.284	0.02	0.5	2.874	81.9	75	125	0			
Lead	0.4469	0.005	0.5	0.003025	88.8	75	125	0			
Manganese	1.848	0.002	0.5	1.432	83.1	75	125	0			
Selenium	0.5925	0.05	0.5	0	119	75	125	0			
Silver	0.5826	0.005	0.5	0	117	75	125	0			
Zinc	0.4958	0.005	0.5	0.02779	93.6	75	125	0			

Sample ID	0408226-06B MSD	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date	9/2/2004 2:42:32 PM	Prep Date				
Client ID:	MW#21		Run ID: ICP_040902A		SeqNo:	302084					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5567	0.02	0.5	0.01215	109	75	125	0.5842	4.83	20	S
Barium	0.4813	0.002	0.5	0.02763	90.7	75	125	0.4929	2.39	20	
Cadmium	0.4848	0.002	0.5	0	97.0	75	125	0.4935	1.79	20	
Chromium	0.4618	0.006	0.5	0	92.4	75	125	0.4728	2.35	20	
Copper	0.5093	0.006	0.5	0	102	75	125	0.5268	3.38	20	
Iron	3.243	0.02	0.5	2.874	73.8	75	125	3.284	1.24	20	
Lead	0.4422	0.005	0.5	0.003025	87.8	75	125	0.4469	1.05	20	
Manganese	1.837	0.002	0.5	1.432	80.9	75	125	1.848	0.612	20	
Selenium	0.5633	0.05	0.5	0	113	75	125	0.5925	5.06	20	
Silver	0.5178	0.005	0.5	0	104	75	125	0.5826	11.8	20	
Zinc	0.4815	0.005	0.5	0.02779	90.7	75	125	0.4958	2.93	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: 10-Sep-04

CLIENT: San Juan Refining

Work Order: 0408226

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R12867	Test Code: E300	Run ID: LC_040824A	Units: mg/L	Analysis Date	8/24/2004 10:50:27 AM	Prep Date			
Client ID:						SeqNo:	298903				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4652	0.1	0.5	0	93.0	90	110	0			
Chloride	4.87	0.1	5	0	97.4	90	110	0			
Nitrogen, Nitrite (As N)	0.9544	0.1	1	0	95.4	90	110	0			
Bromide	2.336	0.1	2.5	0	93.4	90	110	0			
Nitrogen, Nitrate (As N)	2.442	0.1	2.5	0	97.7	90	110	0			
Phosphorus, Orthophosphate (As P)	4.52	0.5	5	0	90.4	90	110	0			
Sulfate	9.807	0.5	10	0	98.1	90	110	0			

Sample ID	LCS	Batch ID: R12884	Test Code: E300	Units: mg/L	Analysis Date	8/25/2004 10:52:52 AM	Prep Date				
Client ID:			Run ID: LC_040825A		SeqNo:	299318					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4899	0.1	0.5	0	98.0	90	110	0			
Chloride	5.057	0.1	5	0	101	90	110	0			
Nitrogen, Nitrite (As N)	0.9843	0.1	1	0	98.4	90	110	0			
Bromide	2.431	0.1	2.5	0	97.2	90	110	0			
Nitrogen, Nitrate (As N)	2.499	0.1	2.5	0	100	90	110	0			
Phosphorus, Orthophosphate (As P)	4.713	0.5	5	0	94.3	90	110	0			
Sulfate	10.05	0.5	10	0	100	90	110	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: 0408226
 Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R12925	Test Code: E300	Units: mg/L		Analysis Date	8/26/2004 10:24:07 AM	Prep Date			
Client ID:		Run ID:	LC_040826A			SeqNo:	300275				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4628	0.1	0.5	0	92.6	90	110	0			
Chloride	5.088	0.1	5	0	102	90	110	0			
Nitrogen, Nitrite (As N)	1.016	0.1	1	0	102	90	110	0			
Bromide	2.396	0.1	2.5	0	95.8	90	110	0			
Nitrogen, Nitrate (As N)	2.484	0.1	2.5	0	99.4	90	110	0			
Phosphorus, Orthophosphate (As P)	4.79	0.5	5	0	95.8	90	110	0			
Sulfate	10.16	0.5	10	0	102	90	110	0			

Sample ID	BTEX Ics 100ng	Batch ID: R12975	Test Code: SW8021	Units: µg/L	Analysis Date	9/1/2004 11:03:20 PM	Prep Date				
Client ID:		Run ID:	PIDFID_040901A		SeqNo:	301739					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total	39.32	2.5	40	0	98.3	54.9	142	0			
	20.22	0.5	20	0	101	81.3	121	0			
	20.34	0.5	20	0	102	84.9	118	0			
	20.47	0.5	20	0	102	53.8	149	0			
	61.21	0.5	60	0	102	83.1	122	0			

Sample ID	BTEX Std 100ng	Batch ID: R12993	Test Code: SW8021	Units: µg/L	Analysis Date	9/2/2004 8:25:32 PM	Prep Date				
Client ID:			Run ID: PIDFID_040902A		SeqNo: 302305						
analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
methyl tert-butyl ether (MTBE)	36	2.5	40	0	90.0	54.9	142	0			
	20.12	0.5	20	0	101	81.3	121	0			
	20.15	0.5	20	0	101	84.9	118	0			
	19.68	0.5	20	0	98.4	53.8	149	0			
	60.78	0.5	60	0	101	83.1	122	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: 0408226
Project: Annual Monitoring Wells 2004

Sample ID	LCS-6386	Batch ID	6386	Test Code	SW7470	Units	mg/L	Analysis Date	8/26/2004	Prep Date	8/26/2004
Client ID:		Run ID:	MI-LA254_040826A					SeqNo:	299616		
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val
Mercury		0.005053		0.0002	0.005	0		101	80	120	0

Sample ID	LCSD-6386	Batch ID	6386	Test Code	SW7470	Units	mg/L	Analysis Date	8/26/2004	Prep Date	8/26/2004
Client ID:		Run ID:	MI-LA254_040826A					SeqNo:	299629		
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val
Mercury		0.005041		0.0002	0.005	0		101	80	120	0.005053

Sample ID	LCS	Batch ID	R12991	Test Code	SW6010A	Units	mg/L	Analysis Date	9/2/2004 9:20:53 AM	Prep Date	
Client ID:		Run ID:	ICP_040902A					SeqNo:	302019		
Analyte		Result		PQL	SPK value	SPK Ref Val		%REC	LowLimit	HighLimit	RPD Ref Val

Arsenic	0.5059	0.02	0.5	0	0	0	101	80	120	0	0
Barium	0.4783	0.002	0.5	0	0	0	95.7	80	120	0	0
Cadmium	0.4873	0.002	0.5	0	0	0	97.5	80	120	0	0
Calcium	50.36	1	50.5	0	0	0	99.7	80	120	0	0
Chromium	0.4839	0.006	0.5	0.0006063	0	0	96.7	80	120	0	0
Copper	0.4781	0.006	0.5	0	0	0	95.6	80	120	0	0
Iron	0.505	0.02	0.5	0	0	0	101	80	120	0	0
Lead	0.4754	0.005	0.5	0	0	0	95.1	80	120	0	0
Magnesium	51.34	1	50.5	0	0	0	102	80	120	0	0
Manganese	0.4691	0.002	0.5	0	0	0	93.8	80	120	0	0
Potassium	50.97	1	55	0	0	0	92.7	80	120	0	0
Selenium	0.4991	0.05	0.5	0	0	0	99.8	80	120	0	0
Silver	0.4704	0.005	0.5	0	0	0	94.1	80	120	0	0
Sodium	48.27	1	50.5	0.02767	0	0	95.5	80	120	0	0
Zinc	0.4737	0.005	0.5	0	0	0	94.7	80	120	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

CLIENT: San Juan Refining
Work Order: 0408226
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID	LCSD	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date 9/2/2004 9:24:05 AM	Prep Date					
Client ID:		Run ID: ICP_040902A			SeqNo: 302020						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5087	0.02	0.5	0	102	80	120	0.5059	0.552	20	
Barium	0.4853	0.002	0.5	0	97.1	80	120	0.4783	1.46	20	
Cadmium	0.4945	0.002	0.5	0	98.9	80	120	0.4873	1.47	20	
Calcium	51.79	1	50.5	0	103	80	120	50.36	2.81	20	
Chromium	0.4928	0.006	0.5	0.0006063	98.4	80	120	0.4839	1.83	20	
Copper	0.483	0.006	0.5	0	96.6	80	120	0.4781	1.00	20	
Iron	0.4868	0.02	0.5	0	97.4	80	120	0.505	3.67	20	
Lead	0.4828	0.005	0.5	0	96.6	80	120	0.4754	1.54	20	
Magnesium	52.84	1	50.5	0	105	80	120	51.34	2.88	20	
Manganese	0.4759	0.002	0.5	0	95.2	80	120	0.4691	1.46	20	
Potassium	52.28	1	55	0	95.1	80	120	50.97	2.53	20	
Selenium	0.5035	0.05	0.5	0	101	80	120	0.4991	0.870	20	
Silver	0.4782	0.005	0.5	0	95.6	80	120	0.4704	1.63	20	
Sodium	50.13	1	50.5	0.02767	99.2	80	120	48.27	3.79	20	
Zinc	0.4828	0.005	0.5	0	96.6	80	120	0.4737	1.89	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: 0408226

Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date	9/2/2004 1:31:55 PM	Prep Date				
Client ID:		Run ID: ICP_040902A			SeqNo:	302142					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.492	0.02	0.5	0	98.4	80	120	0			
Barium	0.4874	0.002	0.5	0	97.5	80	120	0			
Cadmium	0.499	0.002	0.5	0	99.8	80	120	0			
Calcium	47.55	1	50.5	0	94.2	80	120	0			
Chromium	0.4938	0.006	0.5	0.0006063	98.6	80	120	0			
Copper	0.4588	0.006	0.5	0	91.8	80	120	0			
Iron	0.5257	0.02	0.5	0	105	80	120	0			
Lead	0.4856	0.005	0.5	0	97.1	80	120	0			
Magnesium	49.45	1	50.5	0	97.9	80	120	0			
Manganese	0.4771	0.002	0.5	0	95.4	80	120	0			
Potassium	50.85	1	55	0	92.5	80	120	0			
Selenium	0.475	0.05	0.5	0	95.0	80	120	0			
Silver	0.5469	0.005	0.5	0	109	80	120	0			
Sodium	46.84	1	50.5	0.02767	92.7	80	120	0			
Zinc	0.4976	0.005	0.5	0	99.5	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: 0408226
 Project: Annual Monitoring Wells 2004

Sample ID	LCSD	Batch ID: R12991	Test Code: SW6010A	Units: mg/L	Analysis Date 9/2/2004 1:35:09 PM				Prep Date		
Client ID:		Run ID: ICP_040902A	SeqNo: 302143								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4949	0.02	0.5	0	99.0	80	120	0.492	0.596	20	
Barium	0.4846	0.002	0.5	0	96.9	80	120	0.4874	0.574	20	
Cadmium	0.4959	0.002	0.5	0	99.2	80	120	0.499	0.631	20	
Calcium	48.98	1	50.5	0	97.0	80	120	47.55	2.95	20	
Chromium	0.4896	0.006	0.5	0.0006063	97.8	80	120	0.4938	0.850	20	
Copper	0.4585	0.006	0.5	0	91.7	80	120	0.4588	0.0606	20	
Iron	0.5146	0.02	0.5	0	103	80	120	0.5257	2.13	20	
Lead	0.4812	0.005	0.5	0	96.2	80	120	0.4856	0.906	20	
Magnesium	50.71	1	50.5	0	100	80	120	49.45	2.52	20	
Manganese	0.4744	0.002	0.5	0	94.9	80	120	0.4771	0.560	20	
Potassium	52.25	1	55	0	95.0	80	120	50.85	2.70	20	
Selenium	0.4768	0.05	0.5	0	95.4	80	120	0.475	0.368	20	
Silver	0.5006	0.005	0.5	0	100	80	120	0.5469	8.84	20	
Sodium	48.48	1	50.5	0.02767	95.9	80	120	46.84	3.44	20	
Zinc	0.4939	0.005	0.5	0	98.8	80	120	0.4976	0.735	20	

Sample ID	LCS U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 2:33:31 PM	Prep Date				
Client ID:		Run ID: ICP_040908C	SeqNo: 303581								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.717	0.1	5	0	94.3	80	120	0			

Sample ID	LCSD U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 2:36:22 PM	Prep Date				
Client ID:		Run ID: ICP_040908C	SeqNo: 303582								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.683	0.1	5	0	93.7	80	120	4.717	0.716	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: 0408226
 Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/9/2004 8:34:57 AM	Prep Date				
Client ID:		Run ID: ICP_040908C	SeqNo: 303603								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4789	0.02	0.5	0	95.8	80	120	0			
Barium	0.4512	0.002	0.5	0	90.2	80	120	0			
Cadmium	0.459	0.002	0.5	0	91.8	80	120	0			
Calcium	49.03	1	50.5	0.09611	96.9	80	120	0			
Chromium	0.4592	0.006	0.5	0	91.8	80	120	0			
Copper	0.4481	0.006	0.5	0	89.6	80	120	0			
Iron	0.4625	0.02	0.5	0.01003	90.5	80	120	0			
Lead	0.4595	0.005	0.5	0	91.9	80	120	0			
Magnesium	49.88	1	50.5	0.09658	98.6	80	120	0			
Manganese	0.4378	0.002	0.5	0	87.6	80	120	0			
Potassium	49.89	1	55	0.1253	90.5	80	120	0			
Selenium	0.4595	0.05	0.5	0.006229	90.7	80	120	0			
Silver	0.4407	0.005	0.5	0	88.1	80	120	0			
Sodium	47.06	1	50.5	0.1369	92.9	80	120	0			
Zinc	0.4588	0.005	0.5	0	91.8	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
 J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

CLIENT: San Juan Refining
Work Order: 0408226
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID	LCSD	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date 9/9/2004 8:38:09 AM		Prep Date				
Client ID:		Run ID:	ICP_040908C		SeqNo:	303604					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4782	0.02	0.5	0	95.6	80	120	0.4789	0.149	20	
Barium	0.46	0.002	0.5	0	92.0	80	120	0.4512	1.94	20	
Cadmium	0.4677	0.002	0.5	0	93.5	80	120	0.459	1.87	20	
Calcium	50.11	1	50.5	0.09611	99.0	80	120	49.03	2.17	20	
Chromium	0.4683	0.006	0.5	0	93.7	80	120	0.4592	1.95	20	
Copper	0.4569	0.006	0.5	0	91.4	80	120	0.4481	1.96	20	
Iron	0.5014	0.02	0.5	0.01003	98.3	80	120	0.4625	8.07	20	
Lead	0.47	0.005	0.5	0	94.0	80	120	0.4595	2.26	20	
Magnesium	50.87	1	50.5	0.09658	101	80	120	49.88	1.97	20	
Manganese	0.4461	0.002	0.5	0	89.2	80	120	0.4378	1.87	20	
Potassium	50.53	1	55	0.1253	91.6	80	120	49.89	1.28	20	
Selenium	0.4623	0.05	0.5	0.006229	91.2	80	120	0.4595	0.593	20	
Silver	0.4407	0.005	0.5	0	88.1	80	120	0.4407	0.0127	20	
Sodium	47.68	1	50.5	0.1369	94.1	80	120	47.06	1.31	20	
Zinc	0.4676	0.005	0.5	0	93.5	80	120	0.4588	1.89	20	

Sample ID	LCS U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/9/2004 8:40:59 AM	Prep Date				
Client ID:		Run ID:	ICP_040908C		SeqNo:	303605					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.577	0.1	5	0	91.5	80	120	0			

Sample ID	LCSD U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/9/2004 8:43:30 AM	Prep Date				
Client ID:		Run ID:	ICP_040908C		SeqNo:	303606					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.579	0.1	5	0	91.6	80	120	4.577	0.0583	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: 0408226

Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 12:47:14 PM	Prep Date				
Client ID:		Run ID:	ICP_040908C		SeqNo:	303624					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.477	0.02	0.5	0	95.4	80	120	0			
Barium	0.482	0.002	0.5	0	96.4	80	120	0			
Cadmium	0.4797	0.002	0.5	0	95.9	80	120	0			
Calcium	50.38	1	50.5	0.08793	99.6	80	120	0			
Chromium	0.4861	0.006	0.5	0.001086	97.0	80	120	0			
Copper	0.472	0.006	0.5	0	94.4	80	120	0			
Iron	0.5087	0.02	0.5	0	102	80	120	0			
Lead	0.4666	0.005	0.5	0	93.3	80	120	0			
Magnesium	51.34	1	50.5	0.09918	101	80	120	0			
Manganese	0.4598	0.002	0.5	0	92.0	80	120	0			
Potassium	52.53	1	55	0.1819	95.2	80	120	0			
Selenium	0.4545	0.05	0.5	0	90.9	80	120	0			
Silver	0.4735	0.005	0.5	0	94.7	80	120	0			
Sodium	49.75	1	50.5	0.3373	97.9	80	120	0			
Zinc	0.4779	0.005	0.5	0	95.6	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: 04082226

Project: Annual Monitoring Wells 2004

Sample ID	LCSD	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 12:50:25 PM	Prep Date				
Client ID:			Run ID: ICP_040908C		SeqNo: 303625						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4844	0.02	0.5	0	96.9	80	120	0.477	1.53	20	
Barium	0.4923	0.002	0.5	0	98.5	80	120	0.482	2.13	20	
Cadmium	0.4864	0.002	0.5	0	97.3	80	120	0.4797	1.39	20	
Calcium	51.92	1	50.5	0.08793	103	80	120	50.38	3.01	20	
Chromium	0.4961	0.006	0.5	0.001086	99.0	80	120	0.4861	2.05	20	
Copper	0.4825	0.006	0.5	0	96.5	80	120	0.472	2.19	20	
Iron	0.5073	0.02	0.5	0	101	80	120	0.5087	0.270	20	
Lead	0.4804	0.005	0.5	0	96.1	80	120	0.4666	2.92	20	
Magnesium	52.45	1	50.5	0.09918	104	80	120	51.34	2.14	20	
Manganese	0.4689	0.002	0.5	0	93.8	80	120	0.4598	1.95	20	
Potassium	54.39	1	55	0.1819	98.6	80	120	52.53	3.49	20	
Selenium	0.4711	0.05	0.5	0	94.2	80	120	0.4545	3.58	20	
Silver	0.4807	0.005	0.5	0	96.1	80	120	0.4735	1.51	20	
Sodium	50.04	1	50.5	0.3373	98.4	80	120	49.75	0.569	20	
Zinc	0.4861	0.005	0.5	0	97.2	80	120	0.4779	1.69	20	

Sample ID	LCS-6392	Batch ID: 6392	Test Code: SW6010A	Units: mg/L	Analysis Date	9/1/2004 11:59:28 AM	Prep Date	8/30/2004			
Client ID:		Run ID: ICP_040901B	SeqNo: 301688								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5751	0.02	0.5	0	115	80	120	0			
Barium	0.5367	0.02	0.5	0	107	80	120	0			
Cadmium	0.5315	0.002	0.5	0	106	80	120	0			
Chromium	0.5429	0.006	0.5	0	109	80	120	0			
Lead	0.5389	0.005	0.5	0.001958	107	80	120	0			
Selenium	0.5392	0.05	0.5	0	108	80	120	0			
Silver	0.5321	0.005	0.5	0	106	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
/0

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
Work Order: 0408226
Project: Annual Monitoring Wells 2004

Sample ID	LCSD-6392	Batch ID: 6392	Test Code: SW6010A	Units: mg/L	Analysis Date	9/1/2004 12:02:04 PM	Prep Date	8/30/2004			
Client ID:			Run ID: ICP_040901B		SeqNo:	301689					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5623	0.02	0.5	0	112	80	120	0.5751	2.26	20	
Barium	0.5294	0.02	0.5	0	106	80	120	0.5367	1.37	20	
Cadmium	0.525	0.002	0.5	0	105	80	120	0.5315	1.24	20	
Chromium	0.5368	0.006	0.5	0	107	80	120	0.5429	1.14	20	
Lead	0.5308	0.005	0.5	0.001958	106	80	120	0.5389	1.51	20	
Selenium	0.5133	0.05	0.5	0	103	80	120	0.5392	4.92	20	
Silver	0.5249	0.005	0.5	0	105	80	120	0.5321	1.36	20	

Sample ID	LCS-6378	Batch ID: 6378	Test Code: E160.1	Units: mg/L	Analysis Date	8/25/2004	Prep Date	8/25/2004			
Client ID:			Run ID: WC_040825E		SeqNo:	300596					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1074	50	1000	0	107	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:

8/24/2004

Work Order Number 0408226

Received by

AMG

Checklist completed by

Asenzales 08/24/04
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 ☐	
1 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 _____

CHAIN-OF-CUSTODY RECORD

Client: San Juan Refining

Address: # 50 ER 4990

Bloomfield, NM 87413

Phone #: 505-632-4161

Fax #: 505-632-3911

Date

Sample I.D. No.

Matrix

Time

Number/Volume

Preservative

HgCl₂ HNO₃

HEAL No.

0408226

Sampler: Cindy Hurtado/Daniel Hernandez

Sample Temperature: 50°

2-VOA X

1-125

1-500

1-125

1-250

1-500

2-VOA X

1-125

1-500

1-125

1-250

1-500

2-VOA X

1-125

1-500

1-125

1-250

1-500

2-VOA X

1-125

1-500

1-125

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1-500

2-VOA X

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2-VOA X

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1-500

2-VOA X

1-125

1-500

1-125

1-250

1-500

2-VOA X

1-125

1-500

1-125

1-250

1-500

COVER LETTER

September 22, 2004

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

RE: Annual Monitoring Wells 2004

Order No.: 0408260

Dear Cindy Hurtado:

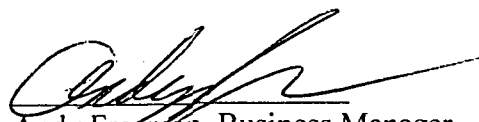
Hall Environmental Analysis Laboratory received 3 samples on 8/27/2004 for the analyses presented in the following report.

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: 22-Sep-04

CLIENT: San Juan Refining

Client Sample ID: RW#3

Lab Order: 0408260

Collection Date: 8/26/2004 1:30:00 PM

Project: Annual Monitoring Wells 2004

Lab ID: 0408260-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	ND	0.50		mg/L	5	9/20/2004 3:15:57 PM
Chloride	170	0.50		mg/L	5	9/20/2004 3:15:57 PM
Bromide	2.0	0.50		mg/L	5	9/20/2004 3:15:57 PM
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	9/1/2004 8:00:22 PM
Sulfate	340	2.5		mg/L	5	9/20/2004 3:15:57 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	9/1/2004 8:00:22 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	1200	4.0		mg/L CaCO ₃	2	8/31/2004
Carbonate	20	4.0		mg/L CaCO ₃	2	8/31/2004
Bicarbonate	1200	4.0		mg/L CaCO ₃	2	8/31/2004
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	100		µg/L	40	9/2/2004 9:56:26 PM
Benzene	330	20		µg/L	40	9/2/2004 9:56:26 PM
Toluene	ND	20		µg/L	40	9/2/2004 9:56:26 PM
Ethylbenzene	ND	20		µg/L	40	9/2/2004 9:56:26 PM
Xylenes, Total	1400	20		µg/L	40	9/2/2004 9:56:26 PM
Surr: 4-Bromofluorobenzene	106	74-118		%REC	40	9/2/2004 9:56:26 PM
TOTAL CARBON DIOXIDE CALCULATION						
						Analyst: CMC
Total Carbon Dioxide	1100	1.0		mg CO ₂ /L	1	8/31/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
						Analyst: CMC
Specific Conductance	2800	0.010		µmhos/cm	1	9/1/2002
EPA METHOD 7470: MERCURY						
						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	9/1/2004
EPA METHOD 6010C: DISSOLVED METALS						
						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/8/2004 1:28:05 PM
Barium	0.12	0.0020		mg/L	1	9/8/2004 1:28:05 PM
Cadmium	ND	0.0020		mg/L	1	9/8/2004 1:28:05 PM
Calcium	85	1.0		mg/L	1	9/8/2004 1:28:05 PM
Chromium	ND	0.0060		mg/L	1	9/8/2004 1:28:05 PM
Copper	ND	0.0060		mg/L	1	9/8/2004 1:28:05 PM
Iron	0.48	0.020		mg/L	1	9/8/2004 1:28:05 PM
Lead	ND	0.0050		mg/L	1	9/8/2004 1:28:05 PM
Magnesium	21	1.0		mg/L	1	9/8/2004 1:28:05 PM
Manganese	1.1	0.0020		mg/L	1	9/8/2004 1:28:05 PM
Potassium	3.4	1.0		mg/L	1	9/8/2004 1:28:05 PM
Selenium	ND	0.050		mg/L	1	9/8/2004 1:28:05 PM
Silver	ND	0.0050		mg/L	1	9/8/2004 1:28:05 PM
Sodium	620	1.0		mg/L	1	9/8/2004 1:28:05 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: 22-Sep-04

CLIENT: San Juan Refining

Client Sample ID: RW#3

Lab Order: 0408260

Collection Date: 8/26/2004 1:30:00 PM

Project: Annual Monitoring Wells 2004

Lab ID: 0408260-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	600	10		mg/L	10	9/9/2004 9:25:16 AM
Uranium	ND	0.10		mg/L	1	9/8/2004 1:28:05 PM
Zinc	0.036	0.0050		mg/L	1	9/8/2004 1:28:05 PM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/1/2004 1:02:34 PM
Barium	0.17	0.020		mg/L	1	9/1/2004 1:02:34 PM
Cadmium	ND	0.0020		mg/L	1	9/1/2004 1:02:34 PM
Chromium	ND	0.0060		mg/L	1	9/1/2004 1:02:34 PM
Lead	0.0068	0.0050		mg/L	1	9/1/2004 1:02:34 PM
Selenium	ND	0.050		mg/L	1	9/1/2004 1:02:34 PM
Silver	ND	0.0050		mg/L	1	9/1/2004 1:02:34 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	2000	50		mg/L	1	8/31/2004

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: 22-Sep-04

CLIENT: San Juan Refining

Client Sample ID: P#6

Lab Order: 0408260

Collection Date: 8/26/2004 10:15:00 AM

Project: Annual Monitoring Wells 2004

Lab ID: 0408260-02

Matrix: PRODUCT

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
DRO BY 8015B						Analyst: JMP
Diesel Range Organics (DRO)	4.4	0.97		wt%	10	9/7/2004 8:10:59 PM
Motor Oil Range Organics (MRO)	ND	49		wt%	10	9/7/2004 8:10:59 PM
Surr: DNOP	96.7	74-125		%REC	10	9/7/2004 8:10:59 PM
GRO BY 8015B						Analyst: NSB
Gasoline Range Organics (GRO)	82	0.049		wt%	1	8/31/2004 11:58:13 PM
Surr: BFB	92.6	74.5-122		%REC	1	8/31/2004 11:58:13 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: 22-Sep-04

CLIENT: San Juan Refining

Client Sample ID: TRIP BLANK

Lab Order: 0408260

Collection Date:

Project: Annual Monitoring Wells 2004

Lab ID: 0408260-03

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	9/2/2004 4:06:28 AM
Benzene	ND	0.50		µg/L	1	9/2/2004 4:06:28 AM
Toluene	ND	0.50		µg/L	1	9/2/2004 4:06:28 AM
Ethylbenzene	ND	0.50		µg/L	1	9/2/2004 4:06:28 AM
Xylenes, Total	ND	0.50		µg/L	1	9/2/2004 4:06:28 AM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	1	9/2/2004 4:06:28 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: 22-Sep-04

CLIENT: San Juan Refining

Work Order: 0408260

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R12978	Test Code: E300	Units: mg/L	Analysis Date	9/1/2004 12:09:52 PM	Prep Date				
Client ID:		Run ID: LC_040901A			SeqNo:	301778					
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									
Bromide	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID	MBLK	Batch ID: R12978	Test Code: E300	Units: mg/L	Analysis Date	9/1/2004 10:14:49 PM	Prep Date				
Client ID:		Run ID: LC_040901A			SeqNo:	301798					
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									
Bromide	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

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: 0408260
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MBLK	Batch ID: R13176	Test Code: E300	Units: mg/L	Analysis Date	9/20/2004 12:13:54 PM	Prep Date				
Client ID:		Run ID:	LC_040920A		SeqNo:	306492					
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									
Bromide	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID	MB-6432	Batch ID: 6432	Test Code: SW8015	Units: wt%	Analysis Date	9/7/2004 7:05:30 PM	Prep Date	9/3/2004			
Client ID:			Run ID: FID(17A)_040907A		SeqNo:	303273					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	0.5									
Motor Oil Range Organics (MRO)	ND	5									
Surr: DNOP	0.08535	0	0.1	0	85.4	74	125	0			

Sample ID	LCS 6404	Batch ID: 6404	Test Code: SW8015	Units: wt%	Analysis Date	8/31/2004 9:26:49 PM	Prep Date	8/31/2004			
Client ID:		Run ID: PIDFID_040831A	SeqNo: 301814								
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	3165	0	4000	0	79.1	74.5	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

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining

Work Order: 0408260

Project: Annual Monitoring Wells 2004

Sample ID	Reagent Blank 5m	Batch ID: R12975	Test Code: SW8021	Units: µg/L	Analysis Date 9/1/2004 8:49:22 AM	Prep Date					
Client ID:			Run ID: PIDFID_040901A		SeqNo: 301620						
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	19.24	0	20	0	96.2	74	118	0			

Sample ID	Reagent Blank 5m	Batch ID: R12993	Test Code: SW8021	Units: µg/L	Analysis Date 9/2/2004 9:16:33 AM	Prep Date					
Client ID:			Run ID: PIDFID_040902A		SeqNo: 302242						
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	19.27	0	20	0	96.4	74	118	0			

Sample ID MB-6409	Batch ID: 6409	Test Code: SW7470	Units: mg/L	Analysis Date 9/1/2004	Prep Date 9/1/2004						
Client ID:		Run ID: MI-LA254_040901A		SeqNo: 301561							
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.0001283	0.0002									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

CLIENT: San Juan Refining
Work Order: 0408260
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MB	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/9/2004 8:32:04 AM	Prep Date				
Client ID:		Run ID: ICP_040908C			SeqNo:	303602					
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	0.09611	1									J
Chromium	ND	0.006									
Copper	ND	0.006									
Iron	0.01003	0.02									J
Lead	ND	0.005									
Magnesium	0.09658	1									J
Manganese	ND	0.002									
Potassium	0.1253	1									J
Selenium	0.006229	0.05									J
Silver	ND	0.005									
Sodium	0.1369	1									J
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: 0408260
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MB	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 12:44:23 PM	Prep Date				
Client ID:		Run ID: ICP_040908C	SeqNo: 303623								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02	0	0	0	0	0	0			
Barium	ND	0.002	0	0	0	0	0	0			
Cadmium	ND	0.002	0	0	0	0	0	0			
Calcium	0.08793	1	0	0	0	0	0	0			J
Chromium	0.001086	0.006	0	0	0	0	0	0			J
Copper	ND	0.006	0	0	0	0	0	0			
Iron	ND	0.02	0	0	0	0	0	0			
Lead	ND	0.005	0	0	0	0	0	0			
Magnesium	0.09918	1	0	0	0	0	0	0			J
Manganese	ND	0.002	0	0	0	0	0	0			
Potassium	0.1819	1	0	0	0	0	0	0			J
Selenium	ND	0.05	0	0	0	0	0	0			
Silver	ND	0.005	0	0	0	0	0	0			
Sodium	0.3373	1	0	0	0	0	0	0			J
Uranium	ND	0.1	0	0	0	0	0	0			
Zinc	ND	0.005	0	0	0	0	0	0			

Sample ID	MB-6392	Batch ID: 6392	Test Code: SW6010A	Units: mg/L	Analysis Date	9/1/2004 11:56:26 AM	Prep Date	8/30/2004			
Client ID:			Run ID: ICP_040901B		SeqNo:	301687					
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	0.001958	0.005									J
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

CLIENT: San Juan Refining
Work Order: 0408260
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT Method Blank

Sample ID	MB-6405	Batch ID:	6405	Test Code:	E160.1	Units:	mg/L	Analysis Date	8/31/2004	Prep Date	8/31/2004		
Client ID:		Run ID:	WC_040831E					SeqNo:	302562				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids		ND											

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: 22-Sep-04

CLIENT: San Juan Refining

Work Order: 0408260

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID 0408260-01B DUP		Batch ID: R12978	Test Code: E300	Units: mg/L		Analysis Date 9/1/2004 8:17:10 PM		Prep Date	
Client ID: RW#3		Run ID: LC_040901A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 301791
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Phosphorus, Orthophosphate (As P)	ND	2.5	0	0	0	0	0	1.013	0 20 H
Nitrate (As N)+Nitrite (As N)	ND	0.5	0	0	0	0	0	0	0 20
Sample ID 0408260-01B DUP		Batch ID: R12973	Test Code: E120.1	Units: µmhos/cm		Analysis Date 9/1/2002		Prep Date	
Client ID: RW#3		Run ID: WC_020901A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	SeqNo: 301615
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Specific Conductance	2790	0.01	0	0	0	0	0	2810	0.714 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: 22-Sep-04

CLIENT: San Juan Refining

Work Order: 0408260

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0408260-01B MS	Batch ID: R12978	Test Code: E300	Units: mg/L	Analysis Date	9/1/2004 8:33:58 PM	Prep Date				
Client ID: RW#3			Run ID: LC_040901A		SeqNo:	301792					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P)	21.45	2.5	25	1.013	81.8	80	120	0			H
Nitrate (As N)+Nitrite (As N)	16.38	0.5	17.5	0	93.6	80	120	0			

Sample ID	0408260-01B MSD	Batch ID: R12978	Test Code: E300	Units: mg/L	Analysis Date	9/1/2004 8:50:47 PM	Prep Date				
Client ID: RW#3			Run ID: LC_040901A		SeqNo:	301793					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P)	21.52	2.5	25	1.013	82.0	80	120	21.45	0.323	20	H
Nitrate (As N)+Nitrite (As N)	16.55	0.5	17.5	0	94.6	80	120	16.38	1.05	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: 22-Sep-04

CLIENT: San Juan Refining

Work Order: 0408260

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R12978	Test Code: E300	Units: mg/L	Analysis Date	9/1/2004 12:26:41 PM	Prep Date				
Client ID:		Run ID:	LC_040901A		SeqNo:	301779					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.452	0.1	0.5	0	90.4	90	110	0			
Chloride	4.902	0.1	5	0	98.0	90	110	0			
Bromide	2.342	0.1	2.5	0	93.7	90	110	0			
Phosphorus, Orthophosphate (As P)	4.495	0.5	5	0	89.9	90	110	0			S
Sulfate	9.714	0.5	10	0	97.1	90	110	0			
Nitrate (As N)+Nitrile (As N)	3.34	0.1	3.5	0	95.4	90	110	0			

Sample ID	LCS	Batch ID: R12978	Test Code: E300	Units: mg/L	Analysis Date	9/1/2004 10:31:38 PM	Prep Date				
Client ID:		Run ID:	LC_040901A		SeqNo:	301799					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4733	0.1	0.5	0	94.7	90	110	0			
Chloride	4.979	0.1	5	0	99.6	90	110	0			
Bromide	2.359	0.1	2.5	0	94.4	90	110	0			
Phosphorus, Orthophosphate (As P)	4.832	0.5	5	0	96.6	90	110	0			
Sulfate	10.14	0.5	10	0	101	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.422	0.1	3.5	0	97.8	90	110	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: 0408260
Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R13176	Test Code: E300	Units: mg/L	Analysis Date	9/20/2004 12:30:43 PM	Prep Date				
Client ID:		Run ID: LC_040920A			SeqNo: 306493						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4683	0.1	0.5	0	93.7	90	110	0			
Chloride	5.136	0.1	5	0	103	90	110	0			
Bromide	2.253	0.1	2.5	0	90.1	90	110	0			
Phosphorus, Orthophosphate (As P)	4.803	0.5	5	0	96.1	90	110	0			
Sulfate	9.656	0.5	10	0	96.6	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.556	0.1	3.5	0	102	90	110	0			

Sample ID	LCS-6432	Batch ID: 6432	Test Code: SW8015	Units: wt%	Analysis Date 9/7/2004 7:38:22 PM			Prep Date 9/3/2004			
Client ID:		Run ID: FID(17A)_040907A			SeqNo: 303274						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	0.3956	0.1	0.5	0	79.1	78	121	0			

Sample ID	BTEX lcs 100ng	Batch ID: R12975	Test Code: SW8021	Units: µg/L	Analysis Date	9/1/2004 11:03:20 PM	Prep Date				
Client ID:		Run ID:	PIDFID_040901A		SeqNo:	301739					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	39.32	2.5	40	0	98.3	54.9	142	0			
Benzene	20.22	0.5	20	0	101	81.3	121	0			
Toluene	20.34	0.5	20	0	102	84.9	118	0			
Ethylbenzene	20.47	0.5	20	0	102	53.8	149	0			
Xylenes, Total	61.21	0.5	60	0	102	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

CLIENT: San Juan Refining

Work Order: 0408260

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	BTEX Std 100ng	Batch ID: R12993	Test Code: SW8021	Units: µg/L	Analysis Date 9/2/2004 8:25:32 PM	Prep Date					
Client ID:		Run ID:	PIDFID_040902A		SeqNo: 302305						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	36	2.5	40	0	90.0	54.9	142	0			
Benzene	20.12	0.5	20	0	101	81.3	121	0			
Toluene	20.15	0.5	20	0	101	84.9	118	0			
Ethylbenzene	19.68	0.5	20	0	98.4	53.8	149	0			
Xylenes, Total	60.78	0.5	60	0	101	83.1	122	0			

Sample ID	LCS-6409	Batch ID: 6409	Test Code: SW7470		Units: mg/L	Analysis Date 9/1/2004		Prep Date 9/1/2004			
Client ID:			Run ID:	MI-LA254_040901A		SeqNo: 301562					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005088	0.0002	0.005	0.0001283	99.2	75.2	134	0			

Sample ID	LCSD-6409	Batch ID: 6409	Test Code: SW7470	Units: mg/L	Analysis Date	9/1/2004	Prep Date	9/1/2004			
Client ID:		Run ID:	MI-LA254_040901A		SeqNo:	301586					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005395	0.0002	0.005	0.0001283	105	75.2	134	0.005088	5.85	0	

Sample ID	LCS U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date 9/8/2004 2:33:31 PM	Prep Date					
Client ID:		Run ID: ICP_040908C			SeqNo: 303581						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.717	0.1	5	0	94.3	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

3

CLIENT: San Juan Refining

Work Order: 0408260

Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 2:36:22 PM	Prep Date				
Client ID:		Run ID: ICP_040908C			SeqNo:	303582					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.683	0.1	5	0	93.7	80	120	4.717	0.716	20	

Sample ID	LCS	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/9/2004 8:34:57 AM	Prep Date				
Client ID:		Run ID: ICP_040908C			SeqNo: 303603						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4789	0.02	0.5	0	95.8	80	120	0			
Barium	0.4512	0.002	0.5	0	90.2	80	120	0			
Cadmium	0.459	0.002	0.5	0	91.8	80	120	0			
Calcium	49.03	1	50.5	0.09611	96.9	80	120	0			
Chromium	0.4592	0.006	0.5	0	91.8	80	120	0			
Copper	0.4481	0.006	0.5	0	89.6	80	120	0			
Iron	0.4625	0.02	0.5	0.01003	90.5	80	120	0			
Lead	0.4595	0.005	0.5	0	91.9	80	120	0			
Magnesium	49.88	1	50.5	0.09658	98.6	80	120	0			
Manganese	0.4378	0.002	0.5	0	87.6	80	120	0			
Potassium	49.89	1	55	0.1253	90.5	80	120	0			
Selenium	0.4595	0.05	0.5	0.006229	90.7	80	120	0			
Silver	0.4407	0.005	0.5	0	88.1	80	120	0			
Sodium	47.06	1	50.5	0.1369	92.9	80	120	0			
Zinc	0.4588	0.005	0.5	0	91.8	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

CLIENT: San Juan Refining
Work Order: 0408260
Project: Annual Monitoring Wells 2004

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

Sample ID	LCSD	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date 9/9/2004 8:38:09 AM		Prep Date				
Client ID:		Run ID: ICP_040908C	SeqNo: 303604								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4782	0.02	0.5	0	95.6	80	120	0.4789	0.149	20	
Barium	0.46	0.002	0.5	0	92.0	80	120	0.4512	1.94	20	
Cadmium	0.4677	0.002	0.5	0	93.5	80	120	0.459	1.87	20	
Calcium	50.11	1	50.5	0.09611	99.0	80	120	49.03	2.17	20	
Chromium	0.4683	0.006	0.5	0	93.7	80	120	0.4592	1.95	20	
Copper	0.4569	0.006	0.5	0	91.4	80	120	0.4481	1.96	20	
Iron	0.5014	0.02	0.5	0.01003	98.3	80	120	0.4625	8.07	20	
Lead	0.47	0.005	0.5	0	94.0	80	120	0.4595	2.26	20	
Magnesium	50.87	1	50.5	0.09658	101	80	120	49.88	1.97	20	
Manganese	0.4461	0.002	0.5	0	89.2	80	120	0.4378	1.87	20	
Potassium	50.53	1	55	0.1253	91.6	80	120	49.89	1.28	20	
Selenium	0.4623	0.05	0.5	0.006229	91.2	80	120	0.4595	0.593	20	
Silver	0.4407	0.005	0.5	0	88.1	80	120	0.4407	0.0127	20	
Sodium	47.68	1	50.5	0.1369	94.1	80	120	47.06	1.31	20	
Zinc	0.4676	0.005	0.5	0	93.5	80	120	0.4588	1.89	20	

Sample ID	LCS U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/9/2004 8:40:59 AM	Prep Date				
Client ID:		Run ID: ICP_040908C	SeqNo: 303605								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.577	0.1	5	0	91.5	80	120	0			

Sample ID	LCSD U SN	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/9/2004 8:43:30 AM	Prep Date				
Client ID:		Run ID: ICP_040908C	SeqNo: 303606								
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	4.579	0.1	5	0	91.6	80	120	4.577	0.0583	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: 0408260
 Project: Annual Monitoring Wells 2004

Sample ID	LCS	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date	9/8/2004 12:47:14 PM	Prep Date				
Client ID:		Run ID: ICP_040908C			SeqNo: 303624						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.477	0.02	0.5	0	95.4	80	120	0			
Barium	0.482	0.002	0.5	0	96.4	80	120	0			
Cadmium	0.4797	0.002	0.5	0	95.9	80	120	0			
Calcium	50.38	1	50.5	0.08793	99.6	80	120	0			
Chromium	0.4861	0.006	0.5	0.001086	97.0	80	120	0			
Copper	0.472	0.006	0.5	0	94.4	80	120	0			
Iron	0.5087	0.02	0.5	0	102	80	120	0			
Lead	0.4666	0.005	0.5	0	93.3	80	120	0			
Magnesium	51.34	1	50.5	0.09918	101	80	120	0			
Manganese	0.4598	0.002	0.5	0	92.0	80	120	0			
Potassium	52.53	1	55	0.1819	95.2	80	120	0			
Selenium	0.4545	0.05	0.5	0	90.9	80	120	0			
Silver	0.4735	0.005	0.5	0	94.7	80	120	0			
Sodium	49.75	1	50.5	0.3373	97.9	80	120	0			
Zinc	0.4779	0.005	0.5	0	95.6	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
 6

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0408260
 Project: Annual Monitoring Wells 2004

Sample ID	LCSD	Batch ID: R13045	Test Code: SW6010A	Units: mg/L	Analysis Date 9/8/2004 12:50:25 PM	Prep Date					
Client ID:			Run ID: ICP_040908C		SeqNo: 303625						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4844	0.02	0.5	0	96.9	80	120	0.477	1.53	20	
Barium	0.4923	0.002	0.5	0	98.5	80	120	0.482	2.13	20	
Cadmium	0.4864	0.002	0.5	0	97.3	80	120	0.4797	1.39	20	
Calcium	51.92	1	50.5	0.08793	103	80	120	50.38	3.01	20	
Chromium	0.4961	0.006	0.5	0.001086	99.0	80	120	0.4861	2.05	20	
Copper	0.4825	0.006	0.5	0	96.5	80	120	0.472	2.19	20	
Iron	0.5073	0.02	0.5	0	101	80	120	0.5087	0.270	20	
Lead	0.4804	0.005	0.5	0	96.1	80	120	0.4666	2.92	20	
Magnesium	52.45	1	50.5	0.09918	104	80	120	51.34	2.14	20	
Manganese	0.4689	0.002	0.5	0	93.8	80	120	0.4598	1.95	20	
Potassium	54.39	1	55	0.1819	98.6	80	120	52.53	3.49	20	
Selenium	0.4711	0.05	0.5	0	94.2	80	120	0.4545	3.58	20	
Silver	0.4807	0.005	0.5	0	96.1	80	120	0.4735	1.51	20	
Sodium	50.04	1	50.5	0.3373	98.4	80	120	49.75	0.569	20	
Zinc	0.4861	0.005	0.5	0	97.2	80	120	0.4779	1.69	20	

Sample ID	LCS-6392	Batch ID: 6392	Test Code: SW6010A	Units: mg/L	Analysis Date 9/1/2004 11:59:28 AM	Prep Date 8/30/2004					
Client ID:			Run ID: ICP_040901B		SeqNo: 301688						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5751	0.02	0.5	0	115	80	120	0			
Barium	0.5367	0.02	0.5	0	107	80	120	0			
Cadmium	0.5315	0.002	0.5	0	106	80	120	0			
Chromium	0.5429	0.006	0.5	0	109	80	120	0			
Lead	0.5389	0.005	0.5	0.001958	107	80	120	0			
Selenium	0.5392	0.05	0.5	0	108	80	120	0			
Silver	0.5321	0.005	0.5	0	106	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: 0408260
 Project: Annual Monitoring Wells 2004

Sample ID	LCSD-6392	Batch ID: 6392	Test Code: SW6010A	Units: mg/L	Analysis Date	9/1/2004 12:02:04 PM	Prep Date	8/30/2004			
Client ID:			Run ID:	ICP_040901B	SeqNo:	301689					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5623	0.02	0.5	0	112	80	120	0.5751	2.26	20	
Barium	0.5294	0.02	0.5	0	106	80	120	0.5367	1.37	20	
Cadmium	0.525	0.002	0.5	0	105	80	120	0.5315	1.24	20	
Chromium	0.5368	0.006	0.5	0	107	80	120	0.5429	1.14	20	
Lead	0.5308	0.005	0.5	0.001958	106	80	120	0.5389	1.51	20	
Selenium	0.5133	0.05	0.5	0	103	80	120	0.5392	4.92	20	
Silver	0.5249	0.005	0.5	0	105	80	120	0.5321	1.36	20	

Sample ID	LCS-6405	Batch ID: 6405	Test Code: E160.1	Units: mg/L	Analysis Date 8/31/2004		Prep Date 8/31/2004				
Client ID:			Run ID: WC_040831E		SeqNo: 302563						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	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:

Work Order Number 0408260

Received by AMF

Checklist completed by

Bonzales 08/27/04
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?

9°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

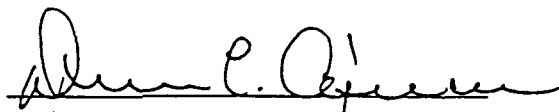
Client:	Giant	Project #:	96012-028
Sample ID:	011	Date Reported:	08-19-04
Laboratory Number:	30067	Date Sampled:	08-16-04
Chain of Custody No:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	08-19-04
Preservative:	Cool	Date Analyzed:	08-19-04
Condition:	Cool and Intact	Analysis Requested: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

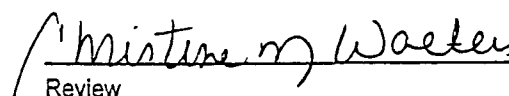
Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	ND	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	ND	0.2

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

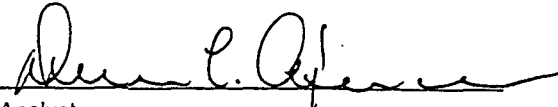
ND - Parameter not detected at the stated detection limit.

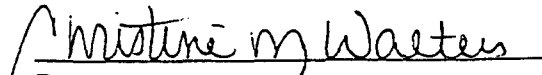
Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	4-bromochlorobenzene	98 %

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 Up Stream of Plant.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Giant
Sample ID: 011
Laboratory Number: 30067
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

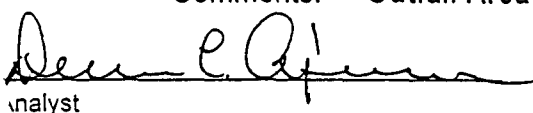
Parameter	Analytical Result	Units	Units
pH	7.87	s.u.	
Conductivity @ 25° C	391	umhos/cm	
Total Dissolved Solids @ 180C	242	mg/L	
Total Dissolved Solids (Calc)	255	mg/L	
SAR	1.4	ratio	
Total Alkalinity as CaCO3	86.0	mg/L	
Total Hardness as CaCO3	123	mg/L	
Bicarbonate as HCO3	86.0	mg/L	1.41 meq/L
Carbonate 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

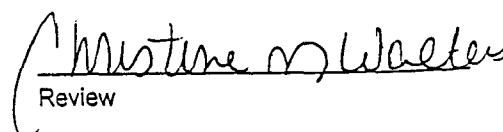
Cation/Anion Difference

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

ENVIRONMENTAL 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

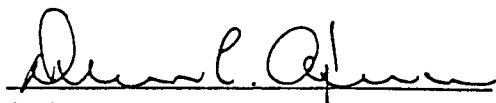
ND - Parameter not detected at the stated detection limit.

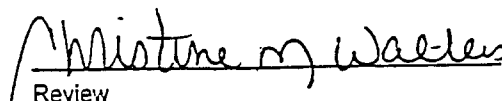
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

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

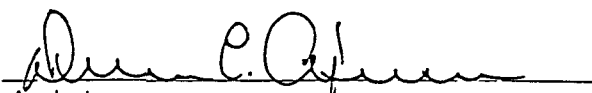
Duplicate Conc. (mg/L)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

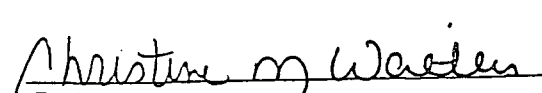
Spike Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	0.3	250	250	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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

TECHNICAL 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	3.2935E-002	3.2995E-002	0.02%	ND	0.2
o-Xylene	3.3335E-002	3.3433E-002	0.30%	ND	0.1

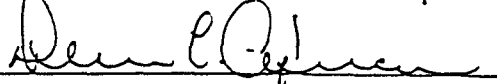
Duplicate Conc. (ug/L)	Sample	Duplicate	%Diff.	Accept Limit
Methyl-t-butyl Ether	ND	ND	0.0%	0 - 30%
Benzene	6.3	6.4	1.6%	0 - 30%
Toluene	85.4	86.8	1.6%	0 - 30%
Ethylbenzene	29.0	28.7	1.0%	0 - 30%
p,m-Xylene	95.8	95.9	0.1%	0 - 30%
o-Xylene	14.9	14.7	1.3%	0 - 30%

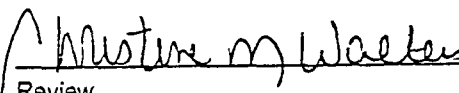
Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Methyl-t-butyl Ether	ND	50.0	50.0	100.0%	80 - 120
Benzene	6.3	50.0	56.2	99.8%	39 - 150
Toluene	85.4	50.0	135	99.4%	46 - 148
Ethylbenzene	29.0	50.0	78.9	99.9%	32 - 160
p,m-Xylene	95.8	100	195	99.8%	46 - 148
o-Xylene	14.9	50.0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

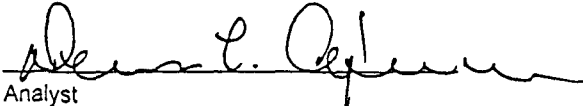
Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.001	0.500	99.8%	80% - 120%
Barium	0.500	0.027	0.527	100.0%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	ND	0.500	100.0%	80% - 120%
Lead	0.500	ND	0.499	99.8%	80% - 120%
Mercury	0.050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

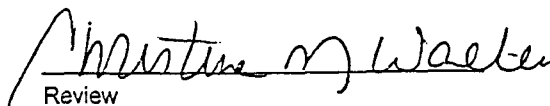
ND - Parameter not detected at the stated detection limit.

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			
Client			outfall area											
Sampler:			Client No.											
Morgan Killion			96612-028											
Sample No./ Identification	Sample Date	Sample Time	Lab Number	Sample Matrix	No. of Containers	General Chemistry	TPH	DOIS-5015	BTX (MTBE)	DO1	WQCC Act/			
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 container below soil container	
005	11	08:55	30061	Soil	1	X							5. of MW #42	
006	11	08:40	30062	Soil	1	X							Al. of MW #47	
007	11	14:40	30063	Soil	1	X							N. of MW #45	
008	11	12:50	30064	Soil	1	X							Oral MW #47	
009	11	11:20	30065	H ₂ O	2	X							Oral MW #45	
010	11	10:40	30066	H ₂ O	2	X								
Relinquished by: (Signature)			Date		Time		Received by: (Signature)		Date		Time			
Morgan Killion			8-14-04		15:30		Morgan Killion		8/14/04		15:30			
Relinquished by: (Signature)			8/14/04				Received by: (Signature)							
Relinquished by: (Signature)							Received by: (Signature)							

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 632-15

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

~~12757~~

1920/2

Juan reproduction 570-1

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

EPA METHOD 8015 Modified Nonhalogenated Volatile Organics Total Petroleum Hydrocarbons

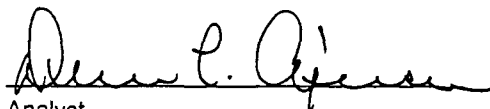
Client:	Giant	Project #:	96012-028
Sample ID:	010	Date Reported:	08-19-04
Laboratory Number:	30066	Date Sampled:	08-16-04
Chain of Custody No:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	08-19-04
Preservative:	Cool	Date Analyzed:	08-19-04
Condition:	Cool and Intact	Analysis Requested: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

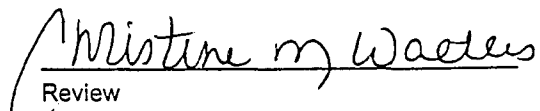
Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	0.2	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.2	0.2

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

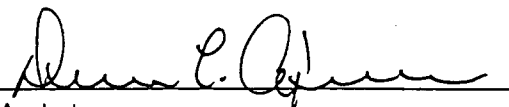
ND - Parameter not detected at the stated detection limit.

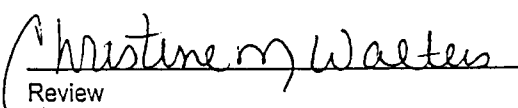
Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	4-bromochlorobenzene	98 %

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 #45.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

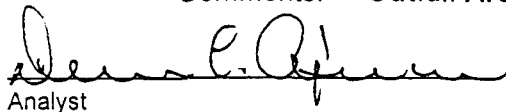
Client:	Giant	Project #:	96012-028
Sample ID:	010	Date Reported:	08-19-04
Laboratory Number:	30066	Date Sampled:	08-16-04
Chain of Custody:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	N/A
Preservative:	Cool	Date Analyzed:	08-17-04
Condition:	Cool & Intact		

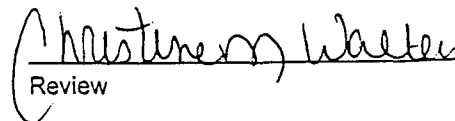
Parameter	Analytical Result	Units	Units
pH	7.75	s.u.	
Conductivity @ 25° C	398	umhos/cm	
Total Dissolved Solids @ 180C	244	mg/L	
Total Dissolved Solids (Calc)	254	mg/L	
SAR	1.4	ratio	
Total Alkalinity as CaCO3	89.2	mg/L	
Total Hardness as CaCO3	126	mg/L	
Bicarbonate as HCO3	89.2	mg/L	1.46 meq/L
Carbonate 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

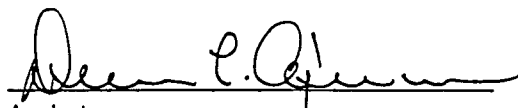
ND - Parameter not detected at the stated detection limit.

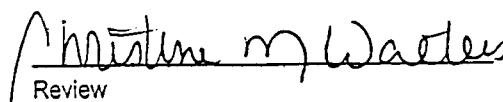
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

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

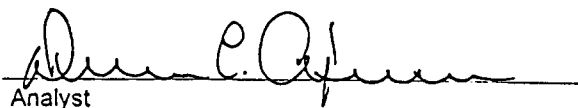
Duplicate Conc. (mg/L)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

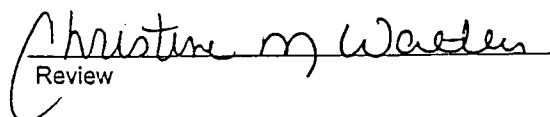
Spike Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	0.3	250	250	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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:	%Diff. Accept. Range 0 - 15%	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%

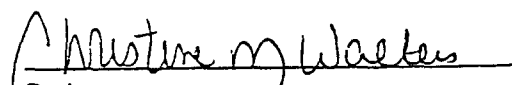
Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Methyl-t-butyl Ether	ND	50.0	50.0	100.0%	80 - 120
Benzene	6.3	50.0	56.2	99.8%	39 - 150
Toluene	85.4	50.0	135	99.4%	46 - 148
Ethylbenzene	29.0	50.0	78.9	99.9%	32 - 160
p,m-Xylene	95.8	100	195	99.8%	46 - 148
o-Xylene	14.9	50.0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

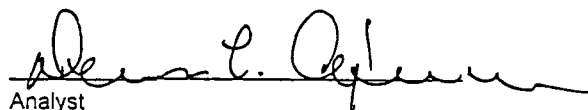
Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.001	0.500	99.8%	80% - 120%
Barium	0.500	0.027	0.527	100.0%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	ND	0.500	100.0%	80% - 120%
Lead	0.500	ND	0.499	99.8%	80% - 120%
Mercury	0.050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

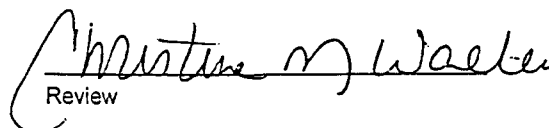
ND - Parameter not detected at the stated detection limit.

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 ckes			Remarks					
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 / MTBE	2021	WQCC / M
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	08:50	30060	Soil	1	X					Above Soil Contaminant
005	11	08:55	30061	Soil	1	X					Below Soil Contaminant
006	11/14/04	14:20	30062	Soil	1	X	X	X	X	X	SOFMW #47
007	11	14:40	30063	Soil	1	X	X	X	X	X	ALOFMW #47
008	11	12:50	30064	Soil	1	X	X	X	X	X	N. of MW #45
009	11	11:20	30065	H ₂ O	2	X	X	X	X	X	Drain MW #47
010	11/11/04	16:40	30066	H ₂ O	2	X	X	X	X	X	Drain MW #45
Relinquished by: (Signature) <i>Morgan K. 11.00</i>			Date	Time	Received by: (Signature) <i>M. Walter</i>	Date	Time				
Relinquished by: (Signature)			8/14/04	15:30	Received by: (Signature)	8/14/04	15:30				
Relinquished by: (Signature)											
Relinquished by: (Signature)											

ENVIROTECH INC.

5796 U.S. Highway 64
Farmington, New Mexico 87401
(505) 882-06

Sample Receipt		
Received Intact	Y	N
Cool - Ice/Blue Ice		

~~12757~~
Pg 20/2

Reproduction 578-129

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

**EPA METHOD 8015 Modified
Nonhalogenated Volatile Organics
Total Petroleum Hydrocarbons**

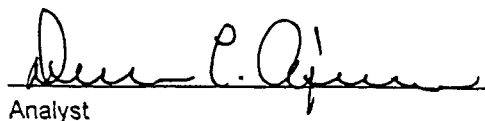
Client:	Giant	Project #:	96012-028
Sample ID:	009	Date Reported:	08-19-04
Laboratory Number:	30065	Date Sampled:	08-16-04
Chain of Custody No:	12756	Date Received:	08-16-04
Sample Matrix:	Water	Date Extracted:	08-19-04
Preservative:	Cool	Date Analyzed:	08-19-04
Condition:	Cool and Intact	Analysis Requested: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

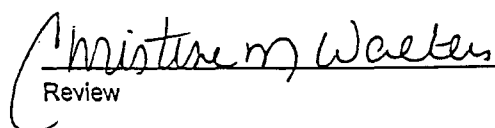
Parameter	Concentration (mg/L)	Det. Limit (mg/L)
Gasoline Range (C5 - C10)	0.3	0.2
Diesel Range (C10 - C28)	ND	0.1
Total Petroleum Hydrocarbons	0.3	0.2

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

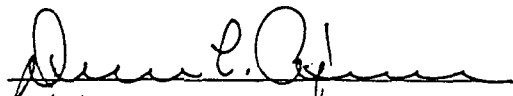
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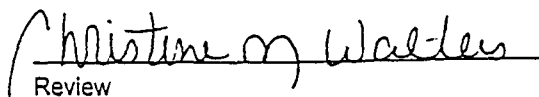
Surrogate Recoveries:	Parameter	Percent Recovery
	fluorobenzene	98 %
	1,4-difluorobenzene	98 %
	4-bromochlorobenzene	98 %

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 #47.


Analyst


Review

ENVIROTECH LABS

PRACTICAL SOLUTIONS FOR A BETTER TOMORROW

CATION / ANION ANALYSIS

Client: Giant
Sample ID: 009
Laboratory Number: 30065
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	7.48	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

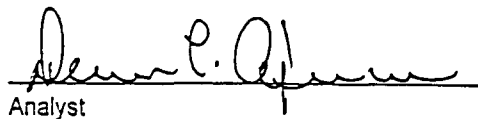
ND - Parameter not detected at the stated detection limit.

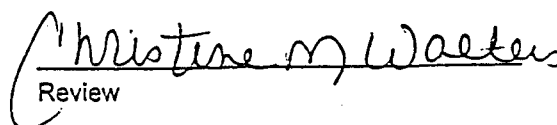
References: Method 3050B, Acid Digestion of Sediments, Sludges and Soils.
SW-846, USEPA, December 1996.

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

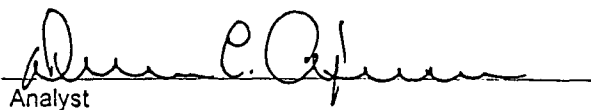
Duplicate Conc. (mg/L)	Sample	Duplicate	% Difference	Accept Range
Gasoline Range C5 - C10	0.3	0.3	0.0%	0 - 30%
Diesel Range C10 - C28	ND	ND	0.0%	0 - 30%

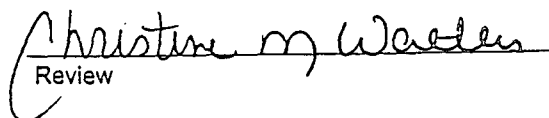
Spike Conc. (mg/L)	Sample	Spike Added	Spike Result	% Recovery	Accept Range
Gasoline Range C5 - C10	0.3	250	250	99.9%	75 - 125%
Diesel Range C10 - C28	ND	250	250	100.0%	75 - 125%

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	2.5460E-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%

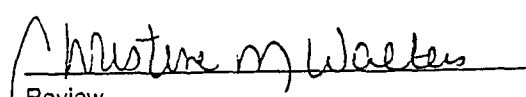
Spike Conc. (ug/L)	Sample	Amount Spiked	Spiked Sample	% Recovery	Accept Limits
Methyl-t-butyl Ether	ND	50.0	50.0	100.0%	80 - 120
Benzene	6.3	50.0	56.2	99.8%	39 - 150
Toluene	85.4	50.0	135	99.4%	46 - 148
Ethylbenzene	29.0	50.0	78.9	99.9%	32 - 160
p,m-Xylene	95.8	100	195	99.8%	46 - 148
o-Xylene	14.9	50.0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

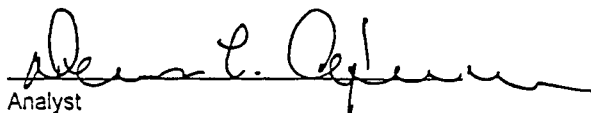
Spike Conc. (mg/L)	Spike Added	Sample	Spiked Sample	Percent Recovery	Acceptance Range
Arsenic	0.500	0.001	0.500	99.8%	80% - 120%
Barium	0.500	0.027	0.527	100.0%	80% - 120%
Cadmium	0.500	ND	0.500	100.0%	80% - 120%
Chromium	0.500	ND	0.500	100.0%	80% - 120%
Lead	0.500	ND	0.499	99.8%	80% - 120%
Mercury	0.050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

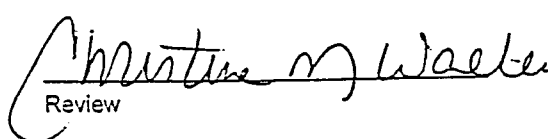
ND - Parameter not detected at the stated detection limit.

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					
Sampler:			Client No.			No. of Containers											
Sample Identification			Sample Date			Sample Time			Lab Number						Sample Matrix		
Morgan K. Hill			96612-028														
001	8-14-04	09:15	30057	56.1	1	X	General Chemistry	TPH	8015	8021	WQCC/41	Top of 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 Contaminant					
005	11	08:55	30061	Soil	1	X						Below Soil Contaminant					
006	11	08:40	30062	Soil	1	X						S. of MW #47					
007	11	14:40	30063	Soil	1	X						N. of MW #45					
008	11	12:50	30064	Soil	1	X						Oral MW #47					
009	11	11:20	30065	H ₂ O	2	X						Oral MW #45					
010	11	10:40	30066	H ₂ O	2	X											
Relinquished by: (Signature)			Date			Time			Received by: (Signature)			Date			Time		
Morgan K. Hill			8/14/04			15:30			M. Walter			8/14/04			15:30		
Relinquished by: (Signature)			Date			Time			Received by: (Signature)			Date			Time		
Relinquished by: (Signature)			Date			Time			Received by: (Signature)			Date			Time		

ENVIROTECH INC.

5796 U.S. Highway 64
Farmingington, New Mexico 87401
(505) 632 15

Sample Receipt

Y

N

N/A

Received Intact

Cool - Ice/Blue Ice

~~12757~~
Pg 20/2

Reproduction 570-125

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:

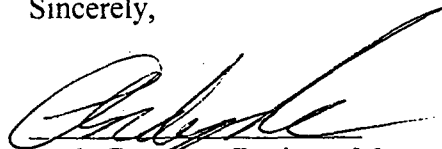
Hall Environmental Analysis Laboratory received 4 samples on 9/8/2004 for the analyses presented in the following report.

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

Client Sample ID: River Upstream

Lab Order: 0409062

Collection Date: 9/7/2004 10:50:00 AM

Project: River Sampling Sept 2004

Lab ID: 0409062-01

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

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

Client Sample ID: River Upstream

Lab Order: 0409062

Collection Date: 9/7/2004 10:50:00 AM

Project: River Sampling Sept 2004

Lab ID: 0409062-01

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

Analyst: CMC

Specific Conductance	310	0.010	µmhos/cm	1	9/10/2004

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 9:36:29 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

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

Client Sample ID: River Upstream

Lab Order: 0409062

Collection Date: 9/7/2004 10:50:00 AM

Project: River Sampling Sept 2004

Lab ID: 0409062-01

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

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
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

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: 0409062-02

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

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: 0409062-02

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

Analyst: CMC

Specific Conductance	310	0.010	µmhos/cm	1	9/10/2004

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 9:39:31 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

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

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						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	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						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

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

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
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

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

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
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						
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 9:42:25 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

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

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
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

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

* - Value exceeds Maximum Contaminant Level 14 / 32

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
J - Analyte detected below quantitation limitsS - 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
 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									
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: 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

Method Blank

Project: River Sampling Sept 2004

Sample ID	MB-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:	305227		
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPDLimit Qual
Mercury		0.00008115		0.0002							J

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	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									J
Barium	ND	0.02									
Cadmium	0.001101	0.002									
Chromium	ND	0.006									J
Lead	0.003158	0.005									
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
6

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 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

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 limitsS - 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 msd	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

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

Sample Matrix Spike Duplicate

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

Sample ID	0409062-01a.ms	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 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

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			

25 / 32

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

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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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 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-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
 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: 0409062
 Project: River Sampling Sept 2004

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:		Run ID: ICP_040915A	SeqNo: 305444								
Analyte	Result	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
 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: 0409062
 Project: River Sampling Sept 2004

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
NELAC USACE

Address:	#50 CR 4990	Project #:	
	Bloomfield, NM 87413	Project Manager:	
Phone #:	505-632-4161	Sampler:	Cindy Hurtado
Fax #:	505-632-3911	Sample Temperature:	for

Fax #: 505-632-3911

[illegible]

Date: 07-04	Time: 2:30pm	Relinquished By: (Signature) <i>Cindy Smith</i>	Received By: (Signature) <i>[Signature]</i>
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

4901 Hawkins NE, Suite D
Albuquerque, New Mexico 87109
Tel. 505.345.3975 Fax 505.345.4
www.hallenvironmental.com

[illegible]

Remarks:

Remarks:

Remarks:

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:

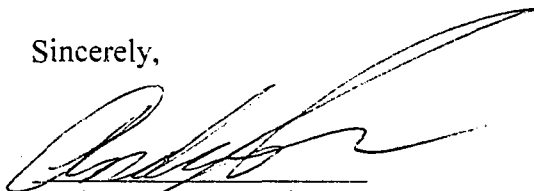
Hall Environmental Analysis Laboratory received 1 sample on 10/1/2004 for the analyses presented in the following report.

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 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: 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

Signature

Date

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

October 21, 2004

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

RE: River Sampling October 2004

Order No.: 0410074

Dear Cindy Hurtado:

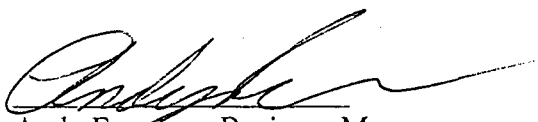
Hall Environmental Analysis Laboratory received 5 samples on 10/8/2004 for the analyses presented in the following report.

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: 21-Oct-04

CLIENT: San Juan Refining
Lab Order: 0410074
Project: River Sampling October 2004
Lab ID: 0410074-01

Client Sample ID: River N of MW#46
Collection Date: 10/7/2004 10:50:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.19	0.10		mg/L	1	10/9/2004 7:06:19 AM
Chloride	4.4	0.10		mg/L	1	10/9/2004 7:06:19 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	10/9/2004 7:06:19 AM
Bromide	ND	0.10		mg/L	1	10/9/2004 7:06:19 AM
Nitrogen, Nitrate (As N)	0.13	0.10		mg/L	1	10/9/2004 7:06:19 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	10/9/2004 7:06:19 AM
Sulfate	90	2.5		mg/L	5	10/12/2004 2:59:22 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	110	4.0		mg/L CaCO ₃	2	10/12/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	10/12/2004
Bicarbonate	110	4.0		mg/L CaCO ₃	2	10/12/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/14/2004 11:50:04 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/14/2004 11:50:04 PM
Surr: DNOP	103	58-140		%REC	1	10/14/2004 11:50:04 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/11/2004 6:42:53 PM
Surr: BFB	96.7	74-118		%REC	1	10/11/2004 6:42:53 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	10/11/2004 6:42:53 PM
Benzene	ND	0.50		µg/L	1	10/11/2004 6:42:53 PM
Toluene	ND	0.50		µg/L	1	10/11/2004 6:42:53 PM
Ethylbenzene	ND	0.50		µg/L	1	10/11/2004 6:42:53 PM
Xylenes, Total	ND	0.50		µg/L	1	10/11/2004 6:42:53 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	10/11/2004 6:42:53 PM
EPA METHOD 8270C: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	33		µg/L	1	10/13/2004
Acenaphthylene	ND	33		µg/L	1	10/13/2004
Aniline	ND	33		µg/L	1	10/13/2004
Anthracene	ND	33		µg/L	1	10/13/2004
Azobenzene	ND	33		µg/L	1	10/13/2004
Benzo(a)anthracene	ND	50		µg/L	1	10/13/2004
Benzo(a)pyrene	ND	33		µg/L	1	10/13/2004
Benzo(b)fluoranthene	ND	33		µg/L	1	10/13/2004
Benzo(g,h,i)perylene	ND	33		µg/L	1	10/13/2004
Benzo(k)fluoranthene	ND	33		µg/L	1	10/13/2004
Benzoic acid	ND	170		µg/L	1	10/13/2004
Benzyl alcohol	ND	67		µg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining
Lab Order: 0410074
Project: River Sampling October 2004
Lab ID: 0410074-01

Client Sample ID: River N of MW#46
Collection Date: 10/7/2004 10:50:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethoxy)methane	ND	33		µg/L	1	10/13/2004
Bis(2-chloroethyl)ether	ND	50		µg/L	1	10/13/2004
Bis(2-chloroisopropyl)ether	ND	50		µg/L	1	10/13/2004
Bis(2-ethylhexyl)phthalate	ND	50		µg/L	1	10/13/2004
4-Bromophenyl phenyl ether	ND	33		µg/L	1	10/13/2004
Butyl benzyl phthalate	ND	50		µg/L	1	10/13/2004
Carbazole	ND	33		µg/L	1	10/13/2004
4-Chloro-3-methylphenol	ND	67		µg/L	1	10/13/2004
4-Chloroaniline	ND	67		µg/L	1	10/13/2004
2-Chloronaphthalene	ND	33		µg/L	1	10/13/2004
2-Chlorophenol	ND	33		µg/L	1	10/13/2004
4-Chlorophenyl phenyl ether	ND	50		µg/L	1	10/13/2004
Chrysene	ND	50		µg/L	1	10/13/2004
Di-n-butyl phthalate	ND	33		µg/L	1	10/13/2004
Di-n-octyl phthalate	ND	50		µg/L	1	10/13/2004
Dibenz(a,h)anthracene	ND	33		µg/L	1	10/13/2004
Dibenzofuran	ND	33		µg/L	1	10/13/2004
1,2-Dichlorobenzene	ND	33		µg/L	1	10/13/2004
1,3-Dichlorobenzene	ND	33		µg/L	1	10/13/2004
1,4-Dichlorobenzene	ND	33		µg/L	1	10/13/2004
3,3'-Dichlorobenzidine	ND	50		µg/L	1	10/13/2004
Diethyl phthalate	ND	33		µg/L	1	10/13/2004
Dimethyl phthalate	ND	33		µg/L	1	10/13/2004
2,4-Dichlorophenol	ND	33		µg/L	1	10/13/2004
2,4-Dimethylphenol	ND	33		µg/L	1	10/13/2004
4,6-Dinitro-2-methylphenol	ND	170		µg/L	1	10/13/2004
2,4-Dinitrophenol	ND	170		µg/L	1	10/13/2004
2,4-Dinitrotoluene	ND	33		µg/L	1	10/13/2004
2,6-Dinitrotoluene	ND	33		µg/L	1	10/13/2004
Fluoranthene	ND	33		µg/L	1	10/13/2004
Fluorene	ND	33		µg/L	1	10/13/2004
Hexachlorobenzene	ND	33		µg/L	1	10/13/2004
Hexachlorobutadiene	ND	33		µg/L	1	10/13/2004
Hexachlorocyclopentadiene	ND	33		µg/L	1	10/13/2004
Hexachloroethane	ND	33		µg/L	1	10/13/2004
Indeno(1,2,3-cd)pyrene	ND	33		µg/L	1	10/13/2004
Isophorone	ND	33		µg/L	1	10/13/2004
2-Methylnaphthalene	ND	33		µg/L	1	10/13/2004
2-Methylphenol	ND	50		µg/L	1	10/13/2004
3+4-Methylphenol	ND	33		µg/L	1	10/13/2004
N-Nitrosodi-n-propylamine	ND	33		µg/L	1	10/13/2004
N-Nitrosodimethylamine	ND	33		µg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW#46

Lab Order: 0410074

Collection Date: 10/7/2004 10:50:00 AM

Project: River Sampling October 2004

Lab ID: 0410074-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	33		µg/L	1	10/13/2004
Naphthalene	ND	33		µg/L	1	10/13/2004
2-Nitroaniline	ND	170		µg/L	1	10/13/2004
3-Nitroaniline	ND	170		µg/L	1	10/13/2004
4-Nitroaniline	ND	67		µg/L	1	10/13/2004
Nitrobenzene	ND	33		µg/L	1	10/13/2004
2-Nitrophenol	ND	50		µg/L	1	10/13/2004
4-Nitrophenol	ND	170		µg/L	1	10/13/2004
Pentachlorophenol	ND	170		µg/L	1	10/13/2004
Phenanthrene	ND	33		µg/L	1	10/13/2004
Phenol	ND	33		µg/L	1	10/13/2004
Pyrene	ND	50		µg/L	1	10/13/2004
Pyridine	ND	100		µg/L	1	10/13/2004
1,2,4-Trichlorobenzene	ND	33		µg/L	1	10/13/2004
2,4,5-Trichlorophenol	ND	33		µg/L	1	10/13/2004
2,4,6-Trichlorophenol	ND	50		µg/L	1	10/13/2004
Surr: 2,4,6-Tribromophenol	66.6	16.6-116		%REC	1	10/13/2004
Surr: 2-Fluorobiphenyl	101	37-110		%REC	1	10/13/2004
Surr: 2-Fluorophenol	82.0	9.54-126		%REC	1	10/13/2004
Surr: 4-Terphenyl-d14	87.1	47.9-143		%REC	1	10/13/2004
Surr: Nitrobenzene-d5	105	38-106		%REC	1	10/13/2004
Surr: Phenol-d6	69.5	10.7-102		%REC	1	10/13/2004

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: CMC

Specific Conductance	370	0.010	µmhos/cm	1	10/11/2004

EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury	ND	0.00020	mg/L	1	10/14/2004

EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020	mg/L	1	10/11/2004 12:42:28 PM
Barium	0.063	0.0020	mg/L	1	10/11/2004 12:42:28 PM
Cadmium	ND	0.0020	mg/L	1	10/11/2004 12:42:28 PM
Calcium	46	1.0	mg/L	1	10/11/2004 12:42:28 PM
Chromium	ND	0.0060	mg/L	1	10/11/2004 12:42:28 PM
Iron	0.36	0.020	mg/L	1	10/11/2004 12:42:28 PM
Lead	ND	0.0050	mg/L	1	10/11/2004 12:42:28 PM
Magnesium	8.1	1.0	mg/L	1	10/11/2004 12:42:28 PM
Manganese	0.0084	0.0020	mg/L	1	10/11/2004 12:42:28 PM
Potassium	2.2	1.0	mg/L	1	10/11/2004 12:42:28 PM
Selenium	ND	0.050	mg/L	1	10/11/2004 12:42:28 PM
Silver	ND	0.0050	mg/L	1	10/11/2004 12:42:28 PM
Sodium	31	1.0	mg/L	1	10/11/2004 12:42:28 PM
Uranium	ND	0.10	mg/L	1	10/13/2004 8:30:28 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: 21-Oct-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW#46

Lab Order: 0410074

Collection Date: 10/7/2004 10:50:00 AM

Project: River Sampling October 2004

Lab ID: 0410074-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	10/15/2004 12:42:22 PM
Barium	0.074	0.020		mg/L	1	10/15/2004 12:42:22 PM
Cadmium	ND	0.0020		mg/L	1	10/15/2004 12:42:22 PM
Chromium	ND	0.0060		mg/L	1	10/15/2004 12:42:22 PM
Lead	ND	0.0050		mg/L	1	10/15/2004 12:42:22 PM
Selenium	ND	0.050		mg/L	1	10/15/2004 12:42:22 PM
Silver	ND	0.0050		mg/L	1	10/15/2004 12:42:22 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	300	50		mg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining
Lab Order: 0410074
Project: River Sampling October 2004
Lab ID: 0410074-02

Client Sample ID: River N of MW #45
Collection Date: 10/7/2004 11:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						
						Analyst: MAP
Fluoride	0.21	0.10		mg/L	1	10/9/2004 7:23:07 AM
Chloride	4.2	0.10		mg/L	1	10/9/2004 7:23:07 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	10/9/2004 7:23:07 AM
Bromide	ND	0.10		mg/L	1	10/9/2004 7:23:07 AM
Nitrogen, Nitrate (As N)	0.13	0.10		mg/L	1	10/9/2004 7:23:07 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	10/9/2004 7:23:07 AM
Sulfate	88	2.5		mg/L	5	10/12/2004 3:16:10 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: CMC
Alkalinity, Total (As CaCO3)	100	4.0		mg/L CaCO3	2	10/12/2004
Carbonate	ND	4.0		mg/L CaCO3	2	10/12/2004
Bicarbonate	100	4.0		mg/L CaCO3	2	10/12/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/15/2004 12:19:21 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/15/2004 12:19:21 AM
Surr: DNOP	107	58-140		%REC	1	10/15/2004 12:19:21 AM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/11/2004 7:12:45 PM
Surr: BFB	92.9	74-118		%REC	1	10/11/2004 7:12:45 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	10/11/2004 7:12:45 PM
Benzene	ND	0.50		µg/L	1	10/11/2004 7:12:45 PM
Toluene	ND	0.50		µg/L	1	10/11/2004 7:12:45 PM
Ethylbenzene	ND	0.50		µg/L	1	10/11/2004 7:12:45 PM
Xylenes, Total	ND	0.50		µg/L	1	10/11/2004 7:12:45 PM
Surr: 4-Bromofluorobenzene	103	74-118		%REC	1	10/11/2004 7:12:45 PM
EPA METHOD 8270C: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	10/13/2004
Acenaphthylene	ND	10		µg/L	1	10/13/2004
Aniline	ND	10		µg/L	1	10/13/2004
Anthracene	ND	10		µg/L	1	10/13/2004
Azobenzene	ND	10		µg/L	1	10/13/2004
Benz(a)anthracene	ND	15		µg/L	1	10/13/2004
Benzo(a)pyrene	ND	10		µg/L	1	10/13/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	10/13/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	10/13/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	10/13/2004
Benzoic acid	ND	50		µg/L	1	10/13/2004
Benzyl alcohol	ND	20		µg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW #45

Lab Order: 0410074

Collection Date: 10/7/2004 11:15:00 AM

Project: River Sampling October 2004

Lab ID: 0410074-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	10/13/2004
Bis(2-chloroethyl)ether	ND	15		µg/L	1	10/13/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	10/13/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	10/13/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	10/13/2004
Butyl benzyl phthalate	ND	15		µg/L	1	10/13/2004
Carbazole	ND	10		µg/L	1	10/13/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	10/13/2004
4-Chloroaniline	ND	20		µg/L	1	10/13/2004
2-Chloronaphthalene	ND	10		µg/L	1	10/13/2004
2-Chlorophenol	ND	10		µg/L	1	10/13/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	10/13/2004
Chrysene	ND	15		µg/L	1	10/13/2004
Di-n-butyl phthalate	ND	10		µg/L	1	10/13/2004
Di-n-octyl phthalate	ND	15		µg/L	1	10/13/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	10/13/2004
Dibenzofuran	ND	10		µg/L	1	10/13/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	10/13/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	10/13/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	10/13/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	10/13/2004
Diethyl phthalate	ND	10		µg/L	1	10/13/2004
Dimethyl phthalate	ND	10		µg/L	1	10/13/2004
2,4-Dichlorophenol	ND	10		µg/L	1	10/13/2004
2,4-Dimethylphenol	ND	10		µg/L	1	10/13/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	10/13/2004
2,4-Dinitrophenol	ND	50		µg/L	1	10/13/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	10/13/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	10/13/2004
Fluoranthene	ND	10		µg/L	1	10/13/2004
Fluorene	ND	10		µg/L	1	10/13/2004
Hexachlorobenzene	ND	10		µg/L	1	10/13/2004
Hexachlorobutadiene	ND	10		µg/L	1	10/13/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	10/13/2004
Hexachloroethane	ND	10		µg/L	1	10/13/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	10/13/2004
Isophorone	ND	10		µg/L	1	10/13/2004
2-Methylnaphthalene	ND	10		µg/L	1	10/13/2004
2-Methylphenol	ND	15		µg/L	1	10/13/2004
3+4-Methylphenol	ND	10		µg/L	1	10/13/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/13/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining

Client Sample ID: River N of MW #45

Lab Order: 0410074

Collection Date: 10/7/2004 11:15:00 AM

Project: River Sampling October 2004

Lab ID: 0410074-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	10/13/2004
Naphthalene	ND	10		µg/L	1	10/13/2004
2-Nitroaniline	ND	50		µg/L	1	10/13/2004
3-Nitroaniline	ND	50		µg/L	1	10/13/2004
4-Nitroaniline	ND	20		µg/L	1	10/13/2004
Nitrobenzene	ND	10		µg/L	1	10/13/2004
2-Nitrophenol	ND	15		µg/L	1	10/13/2004
4-Nitrophenol	ND	50		µg/L	1	10/13/2004
Pentachlorophenol	ND	50		µg/L	1	10/13/2004
Phenanthrene	ND	10		µg/L	1	10/13/2004
Phenol	ND	10		µg/L	1	10/13/2004
Pyrene	ND	15		µg/L	1	10/13/2004
Pyridine	ND	30		µg/L	1	10/13/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	10/13/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/13/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	10/13/2004
Surr: 2,4,6-Tribromophenol	93.8	16.6-116		%REC	1	10/13/2004
Surr: 2-Fluorobiphenyl	91.8	37-110		%REC	1	10/13/2004
Surr: 2-Fluorophenol	76.7	9.54-126		%REC	1	10/13/2004
Surr: 4-Terphenyl-d14	84.8	47.9-143		%REC	1	10/13/2004
Surr: Nitrobenzene-d5	92.2	38-106		%REC	1	10/13/2004
Surr: Phenol-d6	53.3	10.7-102		%REC	1	10/13/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	360	0.010		µmhos/cm	1	10/11/2004
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	10/14/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	10/11/2004 12:45:03 PM
Barium	0.063	0.0020		mg/L	1	10/11/2004 12:45:03 PM
Cadmium	ND	0.0020		mg/L	1	10/11/2004 12:45:03 PM
Calcium	44	1.0		mg/L	1	10/11/2004 12:45:03 PM
Chromium	ND	0.0060		mg/L	1	10/11/2004 12:45:03 PM
Iron	0.11	0.020		mg/L	1	10/11/2004 12:45:03 PM
Lead	ND	0.0050		mg/L	1	10/11/2004 12:45:03 PM
Magnesium	7.8	1.0		mg/L	1	10/11/2004 12:45:03 PM
Manganese	0.0074	0.0020		mg/L	1	10/11/2004 12:45:03 PM
Potassium	2.1	1.0		mg/L	1	10/11/2004 12:45:03 PM
Selenium	ND	0.050		mg/L	1	10/11/2004 12:45:03 PM
Silver	ND	0.0050		mg/L	1	10/11/2004 12:45:03 PM
Sodium	28	1.0		mg/L	1	10/11/2004 12:45:03 PM
Uranium	ND	0.10		mg/L	1	10/13/2004 8:32:16 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: 21-Oct-04

CLIENT: San Juan Refining
Lab Order: 0410074
Project: River Sampling October 2004
Lab ID: 0410074-02

Client Sample ID: River N of MW #45
Collection Date: 10/7/2004 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	10/15/2004 12:52:05 PM
Barium	0.072	0.020		mg/L	1	10/15/2004 12:52:05 PM
Cadmium	ND	0.0020		mg/L	1	10/15/2004 12:52:05 PM
Chromium	ND	0.0060		mg/L	1	10/15/2004 12:52:05 PM
Lead	ND	0.0050		mg/L	1	10/15/2004 12:52:05 PM
Selenium	ND	0.050		mg/L	1	10/15/2004 12:52:05 PM
Silver	ND	0.0050		mg/L	1	10/15/2004 12:52:05 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	260	50		mg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining
Lab Order: 0410074
Project: River Sampling October 2004
Lab ID: 0410074-03

Client Sample ID: River Upstream
Collection Date: 10/7/2004 11:45:00 AM
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	10/9/2004 7:39:55 AM
Chloride	4.3	0.10		mg/L	1	10/9/2004 7:39:55 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	10/9/2004 7:39:55 AM
Bromide	ND	0.10		mg/L	1	10/9/2004 7:39:55 AM
Nitrogen, Nitrate (As N)	0.16	0.10		mg/L	1	10/9/2004 7:39:55 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	10/9/2004 7:39:55 AM
Sulfate	86	2.5		mg/L	5	10/12/2004 3:32:59 PM
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO ₃)	110	4.0		mg/L CaCO ₃	2	10/12/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	10/12/2004
Bicarbonate	110	4.0		mg/L CaCO ₃	2	10/12/2004
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	10/15/2004 12:48:40 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/15/2004 12:48:40 AM
Surr: DNOP	102	58-140		%REC	1	10/15/2004 12:48:40 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/11/2004 7:42:41 PM
Surr: BFB	92.1	74-118		%REC	1	10/11/2004 7:42:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	10/11/2004 7:42:41 PM
Benzene	ND	0.50		µg/L	1	10/11/2004 7:42:41 PM
Toluene	ND	0.50		µg/L	1	10/11/2004 7:42:41 PM
Ethylbenzene	ND	0.50		µg/L	1	10/11/2004 7:42:41 PM
Xylenes, Total	ND	0.50		µg/L	1	10/11/2004 7:42:41 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	10/11/2004 7:42:41 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	10/13/2004
Acenaphthylene	ND	10		µg/L	1	10/13/2004
Aniline	ND	10		µg/L	1	10/13/2004
Anthracene	ND	10		µg/L	1	10/13/2004
Azobenzene	ND	10		µg/L	1	10/13/2004
Benz(a)anthracene	ND	15		µg/L	1	10/13/2004
Benzo(a)pyrene	ND	10		µg/L	1	10/13/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	10/13/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	10/13/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	10/13/2004
Benzoic acid	ND	50		µg/L	1	10/13/2004
Benzyl alcohol	ND	20		µg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining

Client Sample ID: River Upstream

Lab Order: 0410074

Collection Date: 10/7/2004 11:45:00 AM

Project: River Sampling October 2004

Lab ID: 0410074-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	10/13/2004
Bis(2-chloroethyl)ether	ND	15		µg/L	1	10/13/2004
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	10/13/2004
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	10/13/2004
4-Bromophenyl phenyl ether	ND	10		µg/L	1	10/13/2004
Butyl benzyl phthalate	ND	15		µg/L	1	10/13/2004
Carbazole	ND	10		µg/L	1	10/13/2004
4-Chloro-3-methylphenol	ND	20		µg/L	1	10/13/2004
4-Chloroaniline	ND	20		µg/L	1	10/13/2004
2-Chloronaphthalene	ND	10		µg/L	1	10/13/2004
2-Chlorophenol	ND	10		µg/L	1	10/13/2004
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	10/13/2004
Chrysene	ND	15		µg/L	1	10/13/2004
Di-n-butyl phthalate	ND	10		µg/L	1	10/13/2004
Di-n-octyl phthalate	ND	15		µg/L	1	10/13/2004
Dibenz(a,h)anthracene	ND	10		µg/L	1	10/13/2004
Dibenzofuran	ND	10		µg/L	1	10/13/2004
1,2-Dichlorobenzene	ND	10		µg/L	1	10/13/2004
1,3-Dichlorobenzene	ND	10		µg/L	1	10/13/2004
1,4-Dichlorobenzene	ND	10		µg/L	1	10/13/2004
3,3'-Dichlorobenzidine	ND	15		µg/L	1	10/13/2004
Diethyl phthalate	ND	10		µg/L	1	10/13/2004
Dimethyl phthalate	ND	10		µg/L	1	10/13/2004
2,4-Dichlorophenol	ND	10		µg/L	1	10/13/2004
2,4-Dimethylphenol	ND	10		µg/L	1	10/13/2004
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	10/13/2004
2,4-Dinitrophenol	ND	50		µg/L	1	10/13/2004
2,4-Dinitrotoluene	ND	10		µg/L	1	10/13/2004
2,6-Dinitrotoluene	ND	10		µg/L	1	10/13/2004
Fluoranthene	ND	10		µg/L	1	10/13/2004
Fluorene	ND	10		µg/L	1	10/13/2004
Hexachlorobenzene	ND	10		µg/L	1	10/13/2004
Hexachlorobutadiene	ND	10		µg/L	1	10/13/2004
Hexachlorocyclopentadiene	ND	10		µg/L	1	10/13/2004
Hexachloroethane	ND	10		µg/L	1	10/13/2004
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	10/13/2004
Isophorone	ND	10		µg/L	1	10/13/2004
2-Methylnaphthalene	ND	10		µg/L	1	10/13/2004
2-Methylphenol	ND	15		µg/L	1	10/13/2004
3+4-Methylphenol	ND	10		µg/L	1	10/13/2004
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	10/13/2004
N-Nitrosodimethylamine	ND	10		µg/L	1	10/13/2004

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: 21-Oct-04

CLIENT: San Juan Refining

Client Sample ID: River Upstream

Lab Order: 0410074

Collection Date: 10/7/2004 11:45:00 AM

Project: River Sampling October 2004

Lab ID: 0410074-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	10/13/2004
Naphthalene	ND	10		µg/L	1	10/13/2004
2-Nitroaniline	ND	50		µg/L	1	10/13/2004
3-Nitroaniline	ND	50		µg/L	1	10/13/2004
4-Nitroaniline	ND	20		µg/L	1	10/13/2004
Nitrobenzene	ND	10		µg/L	1	10/13/2004
2-Nitrophenol	ND	15		µg/L	1	10/13/2004
4-Nitrophenol	ND	50		µg/L	1	10/13/2004
Pentachlorophenol	ND	50		µg/L	1	10/13/2004
Phenanthrene	ND	10		µg/L	1	10/13/2004
Phenol	ND	10		µg/L	1	10/13/2004
Pyrene	ND	15		µg/L	1	10/13/2004
Pyridine	ND	30		µg/L	1	10/13/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	10/13/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	10/13/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	10/13/2004
Surr: 2,4,6-Tribromophenol	79.5	16.6-116		%REC	1	10/13/2004
Surr: 2-Fluorobiphenyl	77.7	37-110		%REC	1	10/13/2004
Surr: 2-Fluorophenol	66.9	9.54-126		%REC	1	10/13/2004
Surr: 4-Terphenyl-d14	83.4	47.9-143		%REC	1	10/13/2004
Surr: Nitrobenzene-d5	76.6	38-106		%REC	1	10/13/2004
Surr: Phenol-d6	45.6	10.7-102		%REC	1	10/13/2004

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: CMC

Specific Conductance	360	0.010	µmhos/cm	1	10/11/2004

EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury	ND	0.00020	mg/L	1	10/14/2004

EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020	mg/L	1	10/11/2004 12:47:29 PM
Barium	0.065	0.0020	mg/L	1	10/11/2004 12:47:29 PM
Cadmium	ND	0.0020	mg/L	1	10/11/2004 12:47:29 PM
Calcium	45	1.0	mg/L	1	10/11/2004 12:47:29 PM
Chromium	ND	0.0060	mg/L	1	10/11/2004 12:47:29 PM
Iron	0.058	0.020	mg/L	1	10/11/2004 12:47:29 PM
Lead	ND	0.0050	mg/L	1	10/11/2004 12:47:29 PM
Magnesium	8.1	1.0	mg/L	1	10/11/2004 12:47:29 PM
Manganese	0.0081	0.0020	mg/L	1	10/11/2004 12:47:29 PM
Potassium	2.2	1.0	mg/L	1	10/11/2004 12:47:29 PM
Selenium	ND	0.050	mg/L	1	10/11/2004 12:47:29 PM
Silver	ND	0.0050	mg/L	1	10/11/2004 12:47:29 PM
Sodium	28	1.0	mg/L	1	10/11/2004 12:47:29 PM
Uranium	ND	0.10	mg/L	1	10/13/2004 8:34:46 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: 21-Oct-04

CLIENT: San Juan Refining
Lab Order: 0410074
Project: River Sampling October 2004
Lab ID: 0410074-03

Client Sample ID: River Upstream
Collection Date: 10/7/2004 11:45:00 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	10/15/2004 12:54:35 PM
Barium	0.083	0.020		mg/L	1	10/15/2004 12:54:35 PM
Cadmium	ND	0.0020		mg/L	1	10/15/2004 12:54:35 PM
Chromium	ND	0.0060		mg/L	1	10/15/2004 12:54:35 PM
Lead	ND	0.0050		mg/L	1	10/15/2004 12:54:35 PM
Selenium	ND	0.050		mg/L	1	10/15/2004 12:54:35 PM
Silver	ND	0.0050		mg/L	1	10/15/2004 12:54:35 PM
EPA METHOD 160.1: TDS						Analyst: JEB
Total Dissolved Solids	260	50		mg/L	1	10/13/2004

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 12 / 38

Hall Environmental Analysis Laboratory

Date: 21-Oct-04

CLIENT: San Juan Refining
 Lab Order: 0410074
 Project: River Sampling October 2004
 Lab ID: 0410074-04

Client Sample ID: River Downstream
 Collection Date: 10/7/2004 2:00:00 PM

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	10/15/2004 1:18:01 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/15/2004 1:18:01 AM
Surr: DNOP	101	58-140		%REC	1	10/15/2004 1:18:01 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/11/2004 8:12:33 PM
Surr: BFB	83.8	74-118		%REC	1	10/11/2004 8:12:33 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	10/11/2004 8:12:33 PM
Benzene	ND	0.50		µg/L	1	10/11/2004 8:12:33 PM
Toluene	ND	0.50		µg/L	1	10/11/2004 8:12:33 PM
Ethylbenzene	ND	0.50		µg/L	1	10/11/2004 8:12:33 PM
Xylenes, Total	ND	0.50		µg/L	1	10/11/2004 8:12:33 PM
Surr: 4-Bromofluorobenzene	101	74-118		%REC	1	10/11/2004 8:12:33 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: 21-Oct-04

CLIENT: San Juan Refining
 Lab Order: 0410074
 Project: River Sampling October 2004
 Lab ID: 0410074-05

Client Sample ID: Trip Blank
 Collection Date:

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	10/15/2004 1:47:17 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	10/15/2004 1:47:17 AM
Surr: DNOP	97.7	58-140		%REC	1	10/15/2004 1:47:17 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	10/11/2004 8:42:25 PM
Surr: BFB	89.3	74-118		%REC	1	10/11/2004 8:42:25 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	10/11/2004 8:42:25 PM
Benzene	ND	0.50		µg/L	1	10/11/2004 8:42:25 PM
Toluene	ND	0.50		µg/L	1	10/11/2004 8:42:25 PM
Ethylbenzene	ND	0.50		µg/L	1	10/11/2004 8:42:25 PM
Xylenes, Total	ND	0.50		µg/L	1	10/11/2004 8:42:25 PM
Surr: 4-Bromofluorobenzene	102	74-118		%REC	1	10/11/2004 8:42:25 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: 21-Oct-04

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R13415	Test Code: E300	Units: mg/L	Analysis Date	10/8/2004 7:20:13 PM	Prep Date				
Client ID:			Run ID: LC_041008A		SeqNo: 311896						
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: R13415	Test Code: E300	Units: mg/L	Analysis Date	10/9/2004 2:03:42 AM	Prep Date				
Client ID:			Run ID: LC_041008A		SeqNo:	311920					
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 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: 0410074
Project: River Sampling October 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MBLK	Batch ID: R13434	Test Code: E300	Units: mg/L	Analysis Date	10/12/2004 10:38:21 A	Prep Date				
Client ID:			Run ID: LC_041012B		SeqNo:	312344					
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: R13434	Test Code: E300	Units: mg/L	Analysis Date	10/12/2004 5:47:23 PM	Prep Date				
Client ID:			Run ID: LC_041012B		SeqNo: 312369						
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-6643	Batch ID:	6643	Test Code:	SW8015	Units:	mg/L	Analysis Date	10/14/2004 10:21:11 P	Prep Date	10/11/2004
Client ID:		Run ID:	FID(17A) 2_041014A	SeqNo:	313184						
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	1.18	0	1	0	118	58	140	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: 0410074
Project: River Sampling October 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R13423	Test Code: SW8015	Units: mg/L	Analysis Date	10/11/2004 8:07:25 AM	Prep Date					
Client ID:			Run ID: PIDFID_041011A		SeqNo:	312120						
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		20.16	0	20	0	101	74	118	0			

Sample ID	Reagent Blank 5m	Batch ID: R13423	Test Code: SW8021	Units: µg/L	Analysis Date	10/11/2004 11:14:04 A	Prep Date					
Client ID:			Run ID: PIDFID_041011A		SeqNo:	312119						
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		19.46	0	20	0	97.3	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: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Method Blank

Sample ID	mb-6641	Batch ID: 6641	Test Code: SW8270A	Units: µg/L	Analysis Date	10/13/2004	Prep Date	10/11/2004			
Client ID:			Run ID: ELMO_041013A		SeqNo:	312856					
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: 0410074
 Project: River Sampling October 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: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MB	Batch ID: R13421	Test Code: SW6010A	Units: mg/L	Analysis Date	10/11/2004 12:27:00 P	Prep Date				
Client ID:			Run ID: ICP_041011B		SeqNo: 312088						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.01097	0.02									J
Barium	ND	0.002									
Cadmium	ND	0.002									
Calcium	0.0195	1									J
Chromium	ND	0.006									
Iron	ND	0.02									
Lead	ND	0.005									
Magnesium	0.01813	1									J
Manganese	ND	0.002									
Potassium	ND	1									
Selenium	ND	0.05									
Silver	ND	0.005									
Sodium	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: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MB	Batch ID: R13438	Test Code: SW6010A	Units: mg/L	Analysis Date	10/13/2004 8:21:59 AM	Prep Date				
Client ID:		Run ID: ICP_041013A			SeqNo:	312481					
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	0.2726	1									J
Chromium	ND	0.006									
Iron	ND	0.02									
Lead	ND	0.005									
Magnesium	0.2592	1									J
Manganese	0.0006082	0.002									J
Potassium	0.254	1									J
Selenium	ND	0.05									
Silver	ND	0.005									
Sodium	0.2849	1									J
Uranium	ND	0.1									

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

CLIENT: San Juan Refining
Work Order: 0410074
Project: River Sampling October 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MBLK	Batch ID: R13438	Test Code: SW6010A	Units: mg/L	Analysis Date	10/13/2004 8:28:38 AM	Prep Date					
Client ID:		Run ID:	ICP_041013A		SeqNo:	312484						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic		ND	0.02									J
Barium		0.001298	0.002									J
Cadmium		0.001618	0.002									J
Calcium		0.1722	1									J
Chromium		0.001698	0.006									J
Copper		ND	0.02									
Lead		0.001803	0.005									J
Magnesium		0.1529	1									J
Manganese		0.00155	0.002									J
Potassium		0.1605	1									J
Selenium		ND	0.05									
Silver		0.001751	0.005									J
Sodium		0.185	1									J
Uranium		0.01742	0.1									J

Sample ID	MB-6659	Batch ID: 6659	Test Code: SW6010A	Units: mg/L	Analysis Date	10/15/2004 12:18:05 P	Prep Date	10/14/2004				
Client ID:			Run ID: ICP_041015B		SeqNo:	313388						
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									
Silver		ND	0.005									

Qualifiers: ND - Not Detected at the Reporting Limit
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QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0410074
 Project: River Sampling October 2004

Sample ID	MB-6653	Batch ID:	6653	Test Code:	E160.1	Units:	mg/L	Analysis Date	10/13/2004	Prep Date	10/13/2004
Client ID:		Run ID:	WC_041013C					SeqNo:	313516		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit
Total Dissolved Solids		ND		50							

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

Hall Environmental Analysis Laboratory

Date: 21-Oct-04

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID 0410074-03D DUP		Batch ID: 6659	Test Code: SW6010A		Units: mg/L		Analysis Date 10/15/2004 12:56:50 P		Prep Date 10/14/2004		
Client ID: River Upstream			Run ID: ICP_041015B				SeqNo: 313401				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02	0	0	0	0	0	0	0	30	
Barium	0.08257	0.02	0	0	0	0	0	0.08347	1.08	30	
Cadmium	ND	0.002	0	0	0	0	0	0	0	30	
Chromium	ND	0.006	0	0	0	0	0	0	0	30	
Lead	0.00256	0.005	0	0	0	0	0	0.004505	0	30	J
Selenium	0.01179	0.05	0	0	0	0	0	0	0	30	J
Silver	ND	0.005	0	0	0	0	0	0	0	30	

Qualifiers:

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 J - Analyte detected below quantitation limits

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 R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

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Hall Environmental Analysis Laboratory

Date: 21-Oct-04

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0410074-03a ms	Batch ID: R13423	Test Code: SW8015	Units: mg/L	Analysis Date	10/11/2004 10:12:02 P	Prep Date				
Client ID:	River Upstream	Run ID:	PIDFID_041011A	SeqNo:	312130						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4896	0.05	0.5	0	97.9	80.3	116	0			
Surr: BFB	24.65	0	25	0	98.6	74	118	0			

Sample ID	0410074-03a msd	Batch ID: R13423	Test Code: SW8015	Units: mg/L	Analysis Date	10/11/2004 10:41:59 P	Prep Date				
Client ID:	River Upstream	Run ID:	PIDFID_041011A	SeqNo:	312185						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4972	0.05	0.5	0	99.4	80.3	116	0.4896	1.54	8.39	
Surr: BFB	24.68	0	25	0	98.7	74	118	24.65	0.110	0	

Sample ID	0410074-02a ms	Batch ID: R13423	Test Code: SW8021	Units: µg/L	Analysis Date	10/11/2004 9:12:20 PM	Prep Date				
Client ID:	River N of MW #4	Run ID:	PIDFID_041011A	SeqNo:	312221						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	34.34	2.5	40	0	85.9	65	132	0			
Benzene	19.04	0.5	20	0	95.2	77	122	0			
Toluene	19.79	0.5	20	0	99.0	81	115	0			
Ethylbenzene	19.25	0.5	20	0	96.2	84	117	0			
Xylenes, Total	58.4	0.5	60	0	97.3	84	116	0			
Surr: 4-Bromofluorobenzene	23.87	0	24	0	99.5	74	118	0			

Qualifiers: ND - Not Detected at the Reporting Limit
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QC SUMMARY REPORT

Sample Matrix Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0410074
 Project: River Sampling October 2004

Sample ID	0410074-02a msd	Batch ID: R13423	Test Code: SW8021	Units: µg/L	Analysis Date	10/11/2004 9:42:13 PM	Prep Date				
Client ID:	River N of MW #4		Run ID:	PIDFID_041011A	SeqNo:	312222					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	32.24	2.5	40	0	80.6	65	132	34.34	6.30	28	
Benzene	19.23	0.5	20	0	96.2	77	122	19.04	1.02	27	
Toluene	19.84	0.5	20	0	99.2	81	115	19.79	0.242	19	
Ethylbenzene	19.62	0.5	20	0	98.1	84	117	19.25	1.93	10	
Xylenes, Total	59.49	0.5	60	0	99.1	84	116	58.4	1.84	13	
Surr: 4-Bromofluorobenzene	23.82	0	24	0	99.3	74	118	23.87	0.215	0	

Sample ID	0410074-03D MS	Batch ID: 6659	Test Code: SW6010A	Units: mg/L	Analysis Date	10/15/2004 12:59:06 P	Prep Date	10/14/2004			
Client ID:	River Upstream	Run ID:	ICP_041015B	SeqNo:	313402						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4842	0.02	0.5	0	96.8	75	125	0			
Barium	0.5437	0.02	0.5	0.08347	92.0	75	125	0			
Cadmium	0.4641	0.002	0.5	0	92.8	75	125	0			
Chromium	0.464	0.006	0.5	0	92.8	75	125	0			
Lead	0.4711	0.005	0.5	0.004505	93.3	75	125	0			
Selenium	0.4685	0.05	0.5	0	93.7	75	125	0			
Silver	0.4983	0.005	0.5	0	99.7	75	125	0			

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

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID	0410074-03D MSD	Batch ID: 6659	Test Code: SW6010A	Units: mg/L	Analysis Date	10/15/2004 1:01:26 PM	Prep Date	10/14/2004			
Client ID:	River Upstream		Run ID: ICP_041015B		SeqNo: 313403						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4981	0.02	0.5	0	99.6	75	125	0.4842	2.83	20	
Barium	0.5527	0.02	0.5	0.08347	93.8	75	125	0.5437	1.64	20	
Cadmium	0.4755	0.002	0.5	0	95.1	75	125	0.4641	2.42	20	
Chromium	0.4749	0.006	0.5	0	95.0	75	125	0.464	2.30	20	
Lead	0.4843	0.005	0.5	0.004505	96.0	75	125	0.4711	2.76	20	
Selenium	0.4818	0.05	0.5	0	96.4	75	125	0.4685	2.79	20	
Silver	0.5088	0.005	0.5	0	102	75	125	0.4983	2.09	20	

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Hall Environmental Analysis Laboratory

Date: 21-Oct-04

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13415	Test Code: E300	Units: mg/L	Analysis Date	10/8/2004 7:37:02 PM	Prep Date				
Client ID:		Run ID:	LC_041008A		SeqNo:	311897					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.455	0.1	0.5	0	91.0	90	110	0			
Chloride	4.769	0.1	5	0	95.4	90	110	0			
Nitrogen, Nitrite (As N)	0.9029	0.1	1	0	90.3	90	110	0			
Bromide	2.436	0.1	2.5	0	97.5	90	110	0			
Nitrogen, Nitrate (As N)	2.387	0.1	2.5	0	95.5	90	110	0			
Phosphorus, Orthophosphate (As P)	4.766	0.5	5	0	95.3	90	110	0			
Sulfate	9.567	0.5	10	0	95.7	90	110	0			

Sample ID	LCS	Batch ID: R13415	Test Code: E300	Units: mg/L	Analysis Date	10/9/2004 2:20:30 AM	Prep Date				
Client ID:		Run ID: LC_041008A			SeqNo: 311921						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4837	0.1	0.5	0	96.7	90	110	0			
Chloride	4.888	0.1	5	0	97.8	90	110	0			
Nitrogen, Nitrite (As N)	0.9225	0.1	1	0	92.3	90	110	0			
Bromide	2.354	0.1	2.5	0	94.2	90	110	0			
Nitrogen, Nitrate (As N)	2.41	0.1	2.5	0	96.4	90	110	0			
Phosphorus, Orthophosphate (As P)	4.786	0.5	5	0	95.7	90	110	0			
Sulfate	9.67	0.5	10	0	96.7	90	110	0			

Qualifiers:

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B - Analyte detected in the associated Method Blank

/

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13434	Test Code: E300	Units: mg/L	Analysis Date	10/12/2004 10:55:08 A	Prep Date				
Client ID:		Run ID: LC_041012B			SeqNo: 312345						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4509	0.1	0.5	0	90.2	90	110	0			
Chloride	4.648	0.1	5	0	93.0	90	110	0			
Nitrogen, Nitrite (As N)	0.9318	0.1	1	0	93.2	90	110	0			
Bromide	2.28	0.1	2.5	0	91.2	90	110	0			
Nitrogen, Nitrate (As N)	2.358	0.1	2.5	0	94.3	90	110	0			
Phosphorus, Orthophosphate (As P)	4.73	0.5	5	0	94.6	90	110	0			
Sulfate	9.265	0.5	10	0	92.7	90	110	0			

Sample ID	LCS	Batch ID: R13434	Test Code: E300	Units: mg/L	Analysis Date	10/12/2004 6:04:11 PM	Prep Date				
Client ID:		Run ID: LC_041012B			SeqNo: 312370						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4787	0.1	0.5	0	95.7	90	110	0			
Chloride	4.545	0.1	5	0	90.9	90	110	0			
Nitrogen, Nitrite (As N)	0.8907	0.1	1	0	89.1	90	110	0			S
Bromide	2.277	0.1	2.5	0	91.1	90	110	0			
Nitrogen, Nitrate (As N)	2.371	0.1	2.5	0	94.8	90	110	0			
Phosphorus, Orthophosphate (As P)	4.603	0.5	5	0	92.1	90	110	0			
Sulfate	9.231	0.5	10	0	92.3	90	110	0			

Sample ID	LCS-6643	Batch ID: 6643	Test Code: SW8015	Units: mg/L	Analysis Date	10/14/2004 10:50:41 P	Prep Date	10/11/2004			
Client ID:		Run ID: FID(17A) 2_041014A			SeqNo: 313185						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.253	1	5	0	125	81.2	149	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: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD-6643	Batch ID	6643	Test Code	SW8015	Units	mg/L	Analysis Date	10/14/2004 11:20:45 P	Prep Date	10/11/2004		
Client ID:		Run ID:	FID(17A) 2_041014A					SeqNo:	313186				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.597		1	5	0	112	81.2	149	6.253	11.1	23	

Sample ID	GRO std 2.5ug	Batch ID	R13423	Test Code	SW8015	Units	mg/L	Analysis Date	10/12/2004 12:11:26 A	Prep Date			
Client ID:		Run ID:	PIDFID_041011A					SeqNo:	312186				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.4688		0.05	0.5	0	93.8	80.3	116	0			

Sample ID	BTEX Ics 100ng	Batch ID	R13423	Test Code	SW8021	Units	µg/L	Analysis Date	10/11/2004 5:13:14 PM	Prep Date			
Client ID:		Run ID:	PIDFID_041011A					SeqNo:	312223				
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)		36.75		2.5	40	0	91.9	54.9	142	0			
Benzene		18.73		0.5	20	0	93.6	81.3	121	0			
Toluene		19.7		0.5	20	0	98.5	84.9	118	0			
Ethylbenzene		19.41		0.5	20	0	97.1	53.8	149	0			
Xylenes, Total		59.22		0.5	60	0	98.7	83.1	122	0			

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

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	Ics-6641	Batch ID: 6641	Test Code: SW8270A	Units: µg/L	Analysis Date	10/13/2004	Prep Date	10/11/2004			
Client ID:			Run ID: ELMO_041013A		SeqNo:	312857					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	96.9	10	100	0	96.9	11	123	0			
4-Chloro-3-methylphenol	231.8	20	200	0	116	15.4	119	0			
2-Chlorophenol	216.8	10	200	0	108	12.2	122	0			
1,4-Dichlorobenzene	91.32	10	100	0	91.3	16.9	100	0			
2,4-Dinitrotoluene	108.3	10	100	0	108	13	138	0			
N-Nitrosodi-n-propylamine	92.44	10	100	0	92.4	9.93	122	0			
4-Nitrophenol	223.3	50	200	0	112	20.5	118	0			
Pentachlorophenol	214.9	50	200	0	107	-0.355	114	0			
Phenol	213.1	10	200	0	107	7.53	126	0			
Pyrene	104.4	15	100	0	104	12.6	140	0			
2,2,4-Trichlorobenzene	100.3	10	100	0	100	17.4	101	0			

Sample ID	LCS-6661	Batch ID: 6661	Test Code: SW7470	Units: mg/L	Analysis Date 10/14/2004			Prep Date 10/14/2004			
Client ID:			Run ID: MI-LA254_041014A		SeqNo: 312981						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004776	0.0002	0.005	0	95.5	75.2	134	0			

Sample ID	LCSD-6661	Batch ID: 6661	Test Code: SW7470	Units: mg/L	Analysis Date 10/14/2004			Prep Date 10/14/2004			
Client ID:			Run ID: MI-LA254_041014A		SeqNo: 312996						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005189	0.0002	0.005	0	104	75.2	134	0.004776	8.29	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: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13421	Test Code: SW6010A	Units: mg/L	Analysis Date	10/11/2004 12:29:26 P	Prep Date				
Client ID:		Run ID:	ICP_041011B		SeqNo:	312089					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4537	0.02	0.5	0.01097	88.5	80	120	0			
Barium	0.4564	0.002	0.5	0	91.3	80	120	0			
Cadmium	0.4579	0.002	0.5	0	91.6	80	120	0			
Calcium	49.43	1	50.5	0.0195	97.8	80	120	0			
Chromium	0.4605	0.006	0.5	0	92.1	80	120	0			
Iron	0.4607	0.02	0.5	0	92.1	80	120	0			
Lead	0.4567	0.005	0.5	0	91.3	80	120	0			
Magnesium	50.61	1	50.5	0.01813	100	80	120	0			
Manganese	0.4447	0.002	0.5	0	88.9	80	120	0			
Potassium	52.03	1	55	0	94.6	80	120	0			
Selenium	0.4254	0.05	0.5	0	85.1	80	120	0			
Silver	0.5116	0.005	0.5	0	102	80	120	0			
Sodium	48.86	1	50.5	0	96.8	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

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCSD	Batch ID: R13421	Test Code: SW6010A	Units: mg/L	Analysis Date	10/11/2004 12:31:50 P	Prep Date				
Client ID:			Run ID: ICP_041011B		SeqNo: 312090						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4628	0.02	0.5	0.01097	90.4	80	120	0.4537	2.00	20	
Barium	0.4678	0.002	0.5	0	93.6	80	120	0.4564	2.48	20	
Cadmium	0.4729	0.002	0.5	0	94.6	80	120	0.4579	3.22	20	
Calcium	49.98	1	50.5	0.0195	98.9	80	120	49.43	1.11	20	
Chromium	0.4745	0.006	0.5	0	94.9	80	120	0.4605	2.99	20	
Iron	0.4656	0.02	0.5	0	93.1	80	120	0.4607	1.07	20	
Lead	0.4849	0.005	0.5	0	97.0	80	120	0.4567	6.00	20	
Magnesium	50.87	1	50.5	0.01813	101	80	120	50.61	0.499	20	
Manganese	0.4548	0.002	0.5	0	91.0	80	120	0.4447	2.24	20	
Potassium	52.33	1	55	0	95.2	80	120	52.03	0.582	20	
Selenium	0.4517	0.05	0.5	0	90.3	80	120	0.4254	6.00	20	
Silver	0.5102	0.005	0.5	0	102	80	120	0.5116	0.272	20	
Sodium	48.96	1	50.5	0	96.9	80	120	48.86	0.201	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

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS U	Batch ID: R13438	Test Code: SW6010A	Units: mg/L	Analysis Date	10/13/2004 8:24:25 AM	Prep Date				
Client ID:		Run ID: ICP_041013A			SeqNo: 312482						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5031	0.02	0.5	0	101	80	120	0			
Barium	0.4833	0.002	0.5	0	96.7	80	120	0			
Cadmium	0.5002	0.002	0.5	0	100	80	120	0			
Calcium	49.1	1	50.5	0	97.2	80	120	0			
Chromium	0.4881	0.006	0.5	0	97.6	80	120	0			
Iron	0.4887	0.02	0.5	0	97.7	80	120	0			
Lead	0.5016	0.005	0.5	0	100	80	120	0			
Magnesium	49.79	1	50.5	0	98.6	80	120	0			
Manganese	0.4756	0.002	0.5	0	95.1	80	120	0			
Potassium	50.32	1	55	0	91.5	80	120	0			
Selenium	0.498	0.05	0.5	0	99.6	80	120	0			
Silver	0.5806	0.005	0.5	0	116	80	120	0			
Sodium	55.79	1	50.5	0	110	80	120	0			
Uranium	4.624	0.1	5	0	92.5	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

CLIENT: San Juan Refining
Work Order: 0410074
Project: River Sampling October 2004

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID	LCSD U	Batch ID: R13438	Test Code: SW6010A	Units: mg/L	Analysis Date	10/13/2004 8:26:12 AM	Prep Date				
Client ID:			Run ID: ICP_041013A		SeqNo: 312483						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5393	0.02	0.5	0	108	80	120	0.5031	6.95	20	
Barium	0.5192	0.002	0.5	0	104	80	120	0.4833	7.16	20	
Cadmium	0.534	0.002	0.5	0	107	80	120	0.5002	6.54	20	
Calcium	50.62	1	50.5	0	100	80	120	49.1	3.06	20	
Chromium	0.5223	0.006	0.5	0	104	80	120	0.4881	6.77	20	
Iron	0.523	0.02	0.5	0	105	80	120	0.4887	6.79	20	
Lead	0.5386	0.005	0.5	0	108	80	120	0.5016	7.12	20	
Magnesium	51.33	1	50.5	0	102	80	120	49.79	3.03	20	
Manganese	0.5106	0.002	0.5	0	102	80	120	0.4756	7.10	20	
Potassium	52.16	1	55	0	94.8	80	120	50.32	3.60	20	
Selenium	0.5187	0.05	0.5	0	104	80	120	0.498	4.07	20	
Silver	0.5691	0.005	0.5	0	114	80	120	0.5806	2.01	20	
Sodium	57.46	1	50.5	0	114	80	120	55.79	2.95	20	
Uranium	4.726	0.1	5	0	94.5	80	120	4.624	2.17	20	

Sample ID	LCS-6659	Batch ID: 6659	Test Code: SW6010A	Units: mg/L	Analysis Date	10/15/2004 12:20:32 P	Prep Date	10/14/2004			
Client ID:			Run ID: ICP_041015B		SeqNo:	313389					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4804	0.02	0.5	0	96.1	80	120	0			
Barium	0.4729	0.02	0.5	0	94.6	80	120	0			
Cadmium	0.4594	0.002	0.5	0	91.9	80	120	0			
Chromium	0.462	0.006	0.5	0	92.4	80	120	0			
Lead	0.4652	0.005	0.5	0	93.0	80	120	0			
Selenium	0.4535	0.05	0.5	0	90.7	80	120	0			
Silver	0.5018	0.005	0.5	0	100	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

CLIENT: San Juan Refining

Work Order: 0410074

Project: River Sampling October 2004

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	LCS-6659	Batch ID: 6659	Test Code: SW6010A	Units: mg/L	Analysis Date	10/15/2004 12:22:07 P	Prep Date	10/14/2004
Client ID:								
	Run ID:	ICP_041015B	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Arsenic	0.4927		0.02	0.5	0	98.5	80	120
Barium	0.4782		0.02	0.5	0	95.6	80	120
Cadmium	0.4763		0.002	0.5	0	95.3	80	120
Chromium	0.4803		0.006	0.5	0	96.1	80	120
Lead	0.485		0.005	0.5	0	97.0	80	120
Selenium	0.4745		0.05	0.5	0	94.9	80	120
Silver	0.511		0.005	0.5	0	102	80	120
						%RPD	RPDLimit	Qual
						2.53	20	20
						1.11	20	20
						3.61	20	20
						3.89	20	20
						4.18	20	20
						4.52	20	20
						1.82	20	20

Sample ID	LCS-6653	Batch ID: 6653	Test Code: E160.1	Units: mg/L	Analysis Date	10/13/2004	Prep Date	10/13/2004
Client ID:								
	Run ID:	WC_041013C	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit
Analyte	Result							
Total Dissolved Solids	1016		50	1000	0	102	80	120
								0
						%RPD	RPDLimit	Qual

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:

10/8/2004

Work Order Number 0410074

Received by AT

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?

4°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: River Not MG#46 1 ltr. Amber broken upon Receipt + 1 x 40ml River DownStream not marked on COC for TPH, confirmed w/ C. Hustado 4/20/03 in all - 10/11/04

Corrective Action

Poured off 1 ltr. HDPE into 1 ltr. Amber

AT 10/8/04

Accreditation Applr
NELAC ☐ USACE

Other:

October-2004

Project #:

Project Manager:

Sampler: Cindy Mustado / Randy Schmidt
Sample temperature: 42

Fax #: 505-632-3911

Date: 10-07-04	Time: 2:00pm	Relinquished By: (Signature) <i>Cindy P. W. T. do</i>	Received By: (Signature) <i>[Signature]</i>
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 1526

Received By: (Signature) *[Signature]* 12/18/04

Received By: (Signature) *[Signature]* 1526

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

[illegible]

Remarks:

USACE

Accreditation Applie

USACE

USACE

CHAIN-OF-CUSTODY RECORD

Client: SAN JUAN Refining

Project Name: River Sampling —
October - 2004

Address: #50 CR 499D

Bloomfield, NM

57413

Phone #: 505-632-4161

Fax #: 505-632-3911

Sampler: Emily Huntado/Randy Schwartz
Sample Temperature: 44° F

Sample Temperature:

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative		HEAL No.
					HgCl ₂	HNO ₃	
07-04	1115A	H ₂ O	River No. of MW #45	2-vol	X		04/0574-2
				2-VOL	X		
				1-500ml		X	
				1-125ml		X	
				1-125ml			H ₂ SO ₄
				1-liter			
				1-liter			Amber

Date:	Time:	Relinquished By: (Signature)

Relinquished By: (Signature) *[Signature]*

Received By: (Signature)

10/8/04

Date: _____

Time:

Relinquished By: (Signature)

Received By: (Signature)

1526

HALL ENVIRONMENTAL ANALYSIS LABORATORY

4901 Hawkins NE, Suite D

Albuquerque, New Mexico 87109

Tel. 505.345.3975 Fax 505.345.4107

www.hallenvironmental.com

ANALYSIS REQUEST

[illegible]

Remarks:

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Project Name: River Sampling -
October - 2004

Project #:

Project Manager:

Sampler: Cindy Hurtado / Randy

Sample Temperature:

[illegible]

Remarks:

5

Remarks:

ANALYSIS REQUEST

[illegible]

Remarks:



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,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager



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
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

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 1 / 40

Page 1 of 14

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

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 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
* - 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
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
* - 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 #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
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
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
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 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

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
Lab Order: 0411071
Project: River Sampling November 2004
Lab ID: 0411071-03

Client Sample ID: River-N of MW #46
Collection Date: 11/3/2004 1:30:00 PM
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
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 #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
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 12:05:32 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
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 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

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 13 / 40

Hall Environmental Analysis Laboratory

Date: 29-Nov-04

CLIENT: San Juan Refining
Lab Order: 0411071
Project: River Sampling November 2004
Lab ID: 0411071-05

Client Sample ID: Trip Blank
Collection Date:

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
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 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	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: 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

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

QC SUMMARY REPORT
 Method Blank

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
 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: 0411071
Project: River Sampling November 2004

QC SUMMARY REPORT
 Method Blank

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	Test Code: SW8270C	Units: µg/L	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

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

QC SUMMARY REPORT
 Method Blank

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
Indano(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

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

Compound	ND	50	100	200	0	91.2	16.6	115	0
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	182.5	0		200	0	91.2	16.6	115	0
Surr: 2-Fluorobiphenyl	86.24	0		100	0	86.2	37	95.7	0
Surr: 2-Fluorophenol	171.2	0		200	0	85.6	9.54	89.8	0
Surr: 4-Terphenyl-d14	99.04	0		100	0	99.0	51.2	125	0
Surr: Nitrobenzene-d5	83.98	0		100	0	84.0	38	106	0
Surr: Phenol-d6	118.5	0		200	0	59.3	10.7	63.4	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	

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

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

QC SUMMARY REPORT
 Method Blank

Sample ID	mb-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:	322336						
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
 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

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

QC SUMMARY REPORT
 Method Blank

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

CLIENT: San Juan Refining

Work Order: 0411071

Project: River Sampling November 2004

[illegible][illegible]

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 <td>R - RPD outside accepted recovery limits <td>Q</td> </td>	R - RPD outside accepted recovery limits <td>Q</td>	Q

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 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

10

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 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									J
Manganese	0.0001535	0.002									
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		SeqNo: 318774						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND		0.02								J
Barium	ND		0.02								
Cadmium	0.0008085		0.002								
Chromium	ND		0.006								
Lead	ND		0.005								
Selenium	ND		0.05								
Silver	ND		0.005								

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: 0411071
Project: River Sampling November 2004

QC SUMMARY REPORT

Method Blank

Sample ID MB-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 LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Total Dissolved Solids	ND		50		

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	12

Hall Environmental Analysis Laboratory

Date: 23-Nov-04

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	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	/

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

Hall Environmental Analysis Laboratory

Date: 23-Nov-04

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
 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

I

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 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: 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			
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:			Run 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
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 - generic

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			
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	
1,2,4-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

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 - generic

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

Sample ID	LCS-8819	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-8819	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 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: 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	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Arsenic	0.5243	0.02	0.5	0	0	105	80	120	0.4772	9.40	20	
Barium	0.504	0.002	0.5	0	0	101	80	120	0.4847	3.90	20	
Cadmium	0.5301	0.002	0.5	0	0	106	80	120	0.49	7.87	20	
Calcium	49.32	1	50.5	0	0	97.7	80	120	46.15	6.63	20	
Chromium	0.5279	0.006	0.5	0	0	106	80	120	0.4868	8.10	20	
Copper	0.5057	0.006	0.5	0	0	101	80	120	0.4853	4.11	20	
Iron	0.531	0.02	0.5	0	0	106	80	120	0.5126	3.52	20	
Lead	0.5282	0.005	0.5	0	0	106	80	120	0.4886	7.79	20	
Magnesium	50.61	1	50.5	0	0	100	80	120	47.29	6.79	20	
Manganese	0.5115	0.002	0.5	0.000152	0	102	80	120	0.4904	4.21	20	
Potassium	52.83	1	55	0	0	96.1	80	120	49.17	7.18	20	
Selenium	0.4902	0.05	0.5	0	0	98.0	80	120	0.4562	7.18	20	
Silver	0.521	0.005	0.5	0	0	104	80	120	0.5039	3.35	20	
Sodium	57.72	1	50.5	0	0	114	80	120	53.91	6.82	20	
Uranium	5.008	0.1	5	0	0	100	80	120	4.83	3.62	20	
Zinc	0.5067	0.005	0.5	0	0	101	80	120	0.5822	13.9	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

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

QC SUMMARY REPORT
Laboratory Control Spike - generic

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
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

8

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 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
 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-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

Wall 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 ☐

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

Accreditation Applied:

USACE

Other:

Project Name: River Sampling —
November 2004

Project #:

Project Manager:

Sampler: Cindy Hurtado

Sample Temperature:

Number/Volume	Preservative	HEAL No.

HEAL No.

Preservative

$$\text{HCl}_3 \quad | \quad \text{HNO}_3$$
 $\text{Cl}_2, \text{HNO}_3$

Number/Volume

3-V0A	X	3

005-1	X	3
	X	3

5211-125	XF head	3

1-125	H ₂ SO ₄	3

1-26	11	3

1-Liter	Amber	3

Remarks:

Remarks:	Completed 11/04/20
Remarks:	1613

1613

ANALYSIS REQUEST

[illegible]

Remarks:

COVER LETTER

December 23, 2004

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

RE: River Sampling December 2004

Order No.: 0412087

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 4 samples on 12/8/2004 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: 23-Dec-04

CLIENT: San Juan Refining
Project: River Sampling December 2004
Lab Order: 0412087

CASE NARRATIVE

Method 8270C: Acid surrogate recoveries are low due to the presence of organic matter in the samples.

Hall Environmental Analysis Laboratory

Date: 23-Dec-04

CLIENT: San Juan Refining
Lab Order: 0412087
Project: River Sampling December 2004
Lab ID: 0412087-01

Client Sample ID: River-Upstream
Collection Date: 12/7/2004 11:00:00 AM
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	12/9/2004 10:31:49 AM
Chloride	4.4	0.10		mg/L	1	12/9/2004 10:31:49 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/9/2004 10:31:49 AM
Bromide	ND	0.10		mg/L	1	12/9/2004 10:31:49 AM
Nitrogen, Nitrate (As N)	0.16	0.10		mg/L	1	12/9/2004 10:31:49 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	12/9/2004 10:31:49 AM
Sulfate	100	2.5		mg/L	5	12/9/2004 1:42:33 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO3)	92	4.0		mg/L CaCO3	2	12/20/2004
Carbonate	ND	4.0		mg/L CaCO3	2	12/20/2004
Bicarbonate	92	4.0		mg/L CaCO3	2	12/20/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	12/13/2004 7:27:15 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/13/2004 7:27:15 PM
Surr: DNOP	78.5	58-140		%REC	1	12/13/2004 7:27:15 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/10/2004 12:50:26 PM
Surr: BFB	101	78.3-120		%REC	1	12/10/2004 12:50:26 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/10/2004 12:50:26 PM
Benzene	ND	0.50		µg/L	1	12/10/2004 12:50:26 PM
Toluene	ND	0.50		µg/L	1	12/10/2004 12:50:26 PM
Ethylbenzene	ND	0.50		µg/L	1	12/10/2004 12:50:26 PM
Xylenes, Total	ND	0.50		µg/L	1	12/10/2004 12:50:26 PM
Surr: 4-Bromofluorobenzene	97.7	83.3-121		%REC	1	12/10/2004 12:50:26 PM
EPA METHOD 8270C: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	12/20/2004
Acenaphthylene	ND	10		µg/L	1	12/20/2004
Aniline	ND	10		µg/L	1	12/20/2004
Anthracene	ND	10		µg/L	1	12/20/2004
Azobenzene	ND	10		µg/L	1	12/20/2004
Benz(a)anthracene	ND	15		µg/L	1	12/20/2004
Benzo(a)pyrene	ND	10		µg/L	1	12/20/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/20/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzoic acid	ND	50		µg/L	1	12/20/2004
Benzyl alcohol	ND	20		µg/L	1	12/20/2004

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

Hall Environmental Analysis Laboratory

Date: 23-Dec-04

CLIENT: San Juan Refining
Lab Order: 0412087
Project: River Sampling December 2004
Lab ID: 0412087-01

Client Sample ID: River-Upstream
Collection Date: 12/7/2004 11:00:00 AM
Matrix: AQUEOUS

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

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: 23-Dec-04

CLIENT: San Juan Refining
Lab Order: 0412087
Project: River Sampling December 2004
Lab ID: 0412087-01

Client Sample ID: River-Upstream
Collection Date: 12/7/2004 11:00:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	12/20/2004
Naphthalene	ND	10		µg/L	1	12/20/2004
2-Nitroaniline	ND	50		µg/L	1	12/20/2004
3-Nitroaniline	ND	50		µg/L	1	12/20/2004
4-Nitroaniline	ND	20		µg/L	1	12/20/2004
Nitrobenzene	ND	10		µg/L	1	12/20/2004
2-Nitrophenol	ND	15		µg/L	1	12/20/2004
4-Nitrophenol	ND	50		µg/L	1	12/20/2004
Pentachlorophenol	ND	50		µg/L	1	12/20/2004
Phenanthrene	ND	10		µg/L	1	12/20/2004
Phenol	ND	10		µg/L	1	12/20/2004
Pyrene	ND	15		µg/L	1	12/20/2004
Pyridine	ND	30		µg/L	1	12/20/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/20/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/20/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	12/20/2004
Surr: 2,4,6-Tribromophenol	2.49	16.6-115	S	%REC	1	12/20/2004
Surr: 2-Fluorobiphenyl	83.8	37-95.7		%REC	1	12/20/2004
Surr: 2-Fluorophenol	6.58	9.54-89.8	S	%REC	1	12/20/2004
Surr: 4-Terphenyl-d14	105	47.9-115		%REC	1	12/20/2004
Surr: Nitrobenzene-d5	85.1	38-106		%REC	1	12/20/2004
Surr: Phenol-d6	31.4	10.7-63.4		%REC	1	12/20/2004
EPA 120.1: SPECIFIC CONDUCTANCE						
Specific Conductance	400	0.010		µmhos/cm	1	12/21/2004
EPA METHOD 7470: MERCURY						
Mercury	ND	0.00020		mg/L	1	12/21/2004
EPA METHOD 6010C: DISSOLVED METALS						
Arsenic	ND	0.020		mg/L	1	12/17/2004 9:06:30 AM
Barium	0.068	0.0020		mg/L	1	12/17/2004 9:06:30 AM
Cadmium	ND	0.0020		mg/L	1	12/17/2004 9:06:30 AM
Calcium	43	1.0		mg/L	1	12/17/2004 9:06:30 AM
Chromium	ND	0.0060		mg/L	1	12/17/2004 9:06:30 AM
Copper	ND	0.0060		mg/L	1	12/17/2004 9:06:30 AM
Iron	ND	0.020		mg/L	1	12/17/2004 9:06:30 AM
Lead	ND	0.0050		mg/L	1	12/17/2004 9:06:30 AM
Magnesium	7.6	1.0		mg/L	1	12/17/2004 9:06:30 AM
Manganese	0.011	0.0020		mg/L	1	12/17/2004 9:06:30 AM
Potassium	2.0	1.0		mg/L	1	12/17/2004 9:06:30 AM
Selenium	ND	0.050		mg/L	1	12/17/2004 9:06:30 AM
Silver	ND	0.0050		mg/L	1	12/17/2004 9:06:30 AM
Sodium	29	1.0		mg/L	1	12/17/2004 9:06:30 AM

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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: River-Upstream

Lab Order: 0412087

Collection Date: 12/7/2004 11:00:00 AM

Project: River Sampling December 2004

Lab ID: 0412087-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Uranium	ND	0.10		mg/L	1	12/17/2004 9:06:30 AM
Zinc	0.024	0.0050		mg/L	1	12/17/2004 9:06:30 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	12/16/2004 9:31:16 AM
Barium	0.077	0.020		mg/L	1	12/16/2004 9:31:16 AM
Cadmium	ND	0.0020		mg/L	1	12/16/2004 9:31:16 AM
Chromium	ND	0.0060		mg/L	1	12/16/2004 9:31:16 AM
Copper	ND	0.0060		mg/L	1	12/16/2004 9:31:16 AM
Iron	0.19	0.020		mg/L	1	12/16/2004 9:31:16 AM
Lead	ND	0.0050		mg/L	1	12/16/2004 9:31:16 AM
Manganese	0.028	0.0020		mg/L	1	12/16/2004 9:31:16 AM
Selenium	ND	0.050		mg/L	1	12/16/2004 9:31:16 AM
Silver	ND	0.0050		mg/L	1	12/16/2004 9:31:16 AM
Uranium	ND	0.10		mg/L	1	12/16/2004 9:31:16 AM
Zinc	ND	0.050		mg/L	1	12/16/2004 9:31:16 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	280	50		mg/L	1	12/15/2004

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: 23-Dec-04

CLIENT: San Juan Refining
Lab Order: 0412087
Project: River Sampling December 2004
Lab ID: 0412087-02

Client Sample ID: N of MW#45
Collection Date: 12/7/2004 11:30:00 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	12/9/2004 10:48:37 AM
Chloride	4.5	0.10		mg/L	1	12/9/2004 10:48:37 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/9/2004 10:48:37 AM
Bromide	ND	0.10		mg/L	1	12/9/2004 10:48:37 AM
Nitrogen, Nitrate (As N)	0.16	0.10		mg/L	1	12/9/2004 10:48:37 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	12/9/2004 10:48:37 AM
Sulfate	110	2.5		mg/L	5	12/9/2004 1:59:22 PM
EPA METHOD 310.1: ALKALINITY						
						Analyst: MAP
Alkalinity, Total (As CaCO3)	100	4.0		mg/L CaCO3	2	12/20/2004
Carbonate	ND	4.0		mg/L CaCO3	2	12/20/2004
Bicarbonate	100	4.0		mg/L CaCO3	2	12/20/2004
EPA METHOD 8015B: DIESEL RANGE						
						Analyst: JMP
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	12/13/2004 7:56:52 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/13/2004 7:56:52 PM
Surr: DNOP	111	58-140		%REC	1	12/13/2004 7:56:52 PM
EPA METHOD 8015B: GASOLINE RANGE						
						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/10/2004 1:20:08 PM
Surr: BFB	105	78.3-120		%REC	1	12/10/2004 1:20:08 PM
EPA METHOD 8021B: VOLATILES						
						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/10/2004 1:20:08 PM
Benzene	ND	0.50		µg/L	1	12/10/2004 1:20:08 PM
Toluene	ND	0.50		µg/L	1	12/10/2004 1:20:08 PM
Ethylbenzene	ND	0.50		µg/L	1	12/10/2004 1:20:08 PM
Xylenes, Total	ND	0.50		µg/L	1	12/10/2004 1:20:08 PM
Surr: 4-Bromofluorobenzene	101	83.3-121		%REC	1	12/10/2004 1:20:08 PM
EPA METHOD 8270C: SEMIVOLATILES						
						Analyst: GAB
Acenaphthene	ND	10		µg/L	1	12/20/2004
Acenaphthylene	ND	10		µg/L	1	12/20/2004
Aniline	ND	10		µg/L	1	12/20/2004
Anthracene	ND	10		µg/L	1	12/20/2004
Azobenzene	ND	10		µg/L	1	12/20/2004
Benz(a)anthracene	ND	15		µg/L	1	12/20/2004
Benzo(a)pyrene	ND	10		µg/L	1	12/20/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/20/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzoic acid	ND	50		µg/L	1	12/20/2004
Benzyl alcohol	ND	20		µg/L	1	12/20/2004

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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: N of MW#45

Lab Order: 0412087

Collection Date: 12/7/2004 11:30:00 AM

Project: River Sampling December 2004

Lab ID: 0412087-02

Matrix: AQUEOUS

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

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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: N of MW#45

Lab Order: 0412087

Collection Date: 12/7/2004 11:30:00 AM

Project: River Sampling December 2004

Lab ID: 0412087-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	12/20/2004
Naphthalene	ND	10		µg/L	1	12/20/2004
2-Nitroaniline	ND	50		µg/L	1	12/20/2004
3-Nitroaniline	ND	50		µg/L	1	12/20/2004
4-Nitroaniline	ND	20		µg/L	1	12/20/2004
Nitrobenzene	ND	10		µg/L	1	12/20/2004
2-Nitrophenol	ND	15		µg/L	1	12/20/2004
4-Nitrophenol	ND	50		µg/L	1	12/20/2004
Pentachlorophenol	ND	50		µg/L	1	12/20/2004
Phenanthrene	ND	10		µg/L	1	12/20/2004
Phenol	ND	10		µg/L	1	12/20/2004
Pyrene	ND	15		µg/L	1	12/20/2004
Pyridine	ND	30		µg/L	1	12/20/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/20/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/20/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	12/20/2004
Surr: 2,4,6-Tribromophenol	2.41	16.6-115	S	%REC	1	12/20/2004
Surr: 2-Fluorobiphenyl	80.6	37-95.7		%REC	1	12/20/2004
Surr: 2-Fluorophenol	6.48	9.54-89.8	S	%REC	1	12/20/2004
Surr: 4-Terphenyl-d14	91.7	47.9-115		%REC	1	12/20/2004
Surr: Nitrobenzene-d5	86.6	38-106		%REC	1	12/20/2004
Surr: Phenol-d6	32.6	10.7-63.4		%REC	1	12/20/2004

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: MAP

Specific Conductance 410 0.010 µmhos/cm

1 12/21/2004

EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury ND 0.00020 mg/L

1 12/21/2004

EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020	mg/L	1	12/17/2004 9:09:30 AM
Barium	0.068	0.0020	mg/L	1	12/17/2004 9:09:30 AM
Cadmium	ND	0.0020	mg/L	1	12/17/2004 9:09:30 AM
Calcium	44	1.0	mg/L	1	12/17/2004 9:09:30 AM
Chromium	ND	0.0060	mg/L	1	12/17/2004 9:09:30 AM
Copper	ND	0.0060	mg/L	1	12/17/2004 9:09:30 AM
Iron	0.062	0.020	mg/L	1	12/17/2004 9:09:30 AM
Lead	ND	0.0050	mg/L	1	12/17/2004 9:09:30 AM
Magnesium	7.6	1.0	mg/L	1	12/17/2004 9:09:30 AM
Manganese	0.012	0.0020	mg/L	1	12/17/2004 9:09:30 AM
Potassium	2.0	1.0	mg/L	1	12/17/2004 9:09:30 AM
Selenium	ND	0.050	mg/L	1	12/17/2004 9:09:30 AM
Silver	ND	0.0050	mg/L	1	12/17/2004 9:09:30 AM
Sodium	30	1.0	mg/L	1	12/17/2004 9:09:30 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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: N of MW#45

Lab Order: 0412087

Collection Date: 12/7/2004 11:30:00 AM

Project: River Sampling December 2004

Lab ID: 0412087-02

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Uranium	ND	0.10		mg/L	1	12/17/2004 9:09:30 AM
Zinc	0.035	0.0050		mg/L	1	12/17/2004 9:09:30 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	12/16/2004 9:34:14 AM
Barium	0.080	0.020		mg/L	1	12/16/2004 9:34:14 AM
Cadmium	ND	0.0020		mg/L	1	12/16/2004 9:34:14 AM
Chromium	ND	0.0060		mg/L	1	12/16/2004 9:34:14 AM
Copper	ND	0.0060		mg/L	1	12/16/2004 9:34:14 AM
Iron	0.22	0.020		mg/L	1	12/16/2004 9:34:14 AM
Lead	ND	0.0050		mg/L	1	12/16/2004 9:34:14 AM
Manganese	0.033	0.0020		mg/L	1	12/16/2004 9:34:14 AM
Selenium	ND	0.050		mg/L	1	12/16/2004 9:34:14 AM
Silver	ND	0.0050		mg/L	1	12/16/2004 9:34:14 AM
Uranium	ND	0.10		mg/L	1	12/16/2004 9:34:14 AM
Zinc	ND	0.050		mg/L	1	12/16/2004 9:34:14 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	320	50		mg/L	1	12/15/2004

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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: N of MW#46

Lab Order: 0412087

Collection Date: 12/7/2004 1:30:00 PM

Project: River Sampling December 2004

Lab ID: 0412087-03

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	12/9/2004 11:05:23 AM
Chloride	4.6	0.10		mg/L	1	12/9/2004 11:05:23 AM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	12/9/2004 11:05:23 AM
Bromide	ND	0.10		mg/L	1	12/9/2004 11:05:23 AM
Nitrogen, Nitrate (As N)	0.19	0.10		mg/L	1	12/9/2004 11:05:23 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	12/9/2004 11:05:23 AM
Sulfate	110	2.5		mg/L	5	12/9/2004 2:16:10 PM
EPA METHOD 310.1: ALKALINITY Analyst: MAP						
Alkalinity, Total (As CaCO ₃)	100	4.0		mg/L CaCO ₃	2	12/20/2004
Carbonate	ND	4.0		mg/L CaCO ₃	2	12/20/2004
Bicarbonate	100	4.0		mg/L CaCO ₃	2	12/20/2004
EPA METHOD 8015B: DIESEL RANGE Analyst: JMP						
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	12/13/2004 8:27:14 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/13/2004 8:27:14 PM
Surr: DNOP	85.6	58-140		%REC	1	12/13/2004 8:27:14 PM
EPA METHOD 8015B: GASOLINE RANGE Analyst: NSB						
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/10/2004 1:49:49 PM
Surr: BFB	98.7	78.3-120		%REC	1	12/10/2004 1:49:49 PM
EPA METHOD 8021B: VOLATILES Analyst: NSB						
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/10/2004 1:49:49 PM
Benzene	ND	0.50		µg/L	1	12/10/2004 1:49:49 PM
Toluene	ND	0.50		µg/L	1	12/10/2004 1:49:49 PM
Ethylbenzene	ND	0.50		µg/L	1	12/10/2004 1:49:49 PM
Xylenes, Total	ND	0.50		µg/L	1	12/10/2004 1:49:49 PM
Surr: 4-Bromofluorobenzene	96.6	83.3-121		%REC	1	12/10/2004 1:49:49 PM
EPA METHOD 8270C: SEMIVOLATILES Analyst: GAB						
Acenaphthene	ND	10		µg/L	1	12/20/2004
Acenaphthylene	ND	10		µg/L	1	12/20/2004
Aniline	ND	10		µg/L	1	12/20/2004
Anthracene	ND	10		µg/L	1	12/20/2004
Azobenzene	ND	10		µg/L	1	12/20/2004
Benz(a)anthracene	ND	15		µg/L	1	12/20/2004
Benzo(a)pyrene	ND	10		µg/L	1	12/20/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/20/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzoic acid	ND	50		µg/L	1	12/20/2004
Benzyl alcohol	ND	20		µg/L	1	12/20/2004

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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: N of MW#46

Lab Order: 0412087

Collection Date: 12/7/2004 1:30:00 PM

Project: River Sampling December 2004

Lab ID: 0412087-03

Matrix: AQUEOUS

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

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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: N of MW#46

Lab Order: 0412087

Collection Date: 12/7/2004 1:30:00 PM

Project: River Sampling December 2004

Lab ID: 0412087-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
N-Nitrosodiphenylamine	ND	10		µg/L	1	12/20/2004
Naphthalene	ND	10		µg/L	1	12/20/2004
2-Nitroaniline	ND	50		µg/L	1	12/20/2004
3-Nitroaniline	ND	50		µg/L	1	12/20/2004
4-Nitroaniline	ND	20		µg/L	1	12/20/2004
Nitrobenzene	ND	10		µg/L	1	12/20/2004
2-Nitrophenol	ND	15		µg/L	1	12/20/2004
4-Nitrophenol	ND	50		µg/L	1	12/20/2004
Pentachlorophenol	ND	50		µg/L	1	12/20/2004
Phenanthrene	ND	10		µg/L	1	12/20/2004
Phenol	ND	10		µg/L	1	12/20/2004
Pyrene	ND	15		µg/L	1	12/20/2004
Pyridine	ND	30		µg/L	1	12/20/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/20/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/20/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	12/20/2004
Surr: 2,4,6-Tribromophenol	2.71	16.6-115	S	%REC	1	12/20/2004
Surr: 2-Fluorobiphenyl	82.8	37-95.7		%REC	1	12/20/2004
Surr: 2-Fluorophenol	5.68	9.54-89.8	S	%REC	1	12/20/2004
Surr: 4-Terphenyl-d14	100	47.9-115		%REC	1	12/20/2004
Surr: Nitrobenzene-d5	82.9	38-106		%REC	1	12/20/2004
Surr: Phenol-d6	31.6	10.7-63.4		%REC	1	12/20/2004

EPA 120.1: SPECIFIC CONDUCTANCE

Analyst: MAP

Specific Conductance	410	0.010	µmhos/cm	1	12/21/2004

EPA METHOD 7470: MERCURY

Analyst: CMC

Mercury	ND	0.00020	mg/L	1	12/21/2004

EPA METHOD 6010C: DISSOLVED METALS

Analyst: NMO

Arsenic	ND	0.020	mg/L	1	12/17/2004 9:12:30 AM
Barium	0.069	0.0020	mg/L	1	12/17/2004 9:12:30 AM
Cadmium	ND	0.0020	mg/L	1	12/17/2004 9:12:30 AM
Calcium	44	1.0	mg/L	1	12/17/2004 9:12:30 AM
Chromium	ND	0.0060	mg/L	1	12/17/2004 9:12:30 AM
Copper	ND	0.0060	mg/L	1	12/17/2004 9:12:30 AM
Iron	ND	0.020	mg/L	1	12/17/2004 9:12:30 AM
Lead	ND	0.0050	mg/L	1	12/17/2004 9:12:30 AM
Magnesium	7.7	1.0	mg/L	1	12/17/2004 9:12:30 AM
Manganese	0.010	0.0020	mg/L	1	12/17/2004 9:12:30 AM
Potassium	2.0	1.0	mg/L	1	12/17/2004 9:12:30 AM
Selenium	ND	0.050	mg/L	1	12/17/2004 9:12:30 AM
Silver	ND	0.0050	mg/L	1	12/17/2004 9:12:30 AM
Sodium	30	1.0	mg/L	1	12/17/2004 9:12:30 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: 23-Dec-04

CLIENT: San Juan Refining

Client Sample ID: N of MW#46

Lab Order: 0412087

Collection Date: 12/7/2004 1:30:00 PM

Project: River Sampling December 2004

Lab ID: 0412087-03

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Uranium	ND	0.10		mg/L	1	12/17/2004 9:12:30 AM
Zinc	0.012	0.0050		mg/L	1	12/17/2004 9:12:30 AM

EPA 6010C: TOTAL RECOVERABLE METALS

Analyst: NMO

Arsenic	ND	0.020		mg/L	1	12/16/2004 9:37:15 AM
Barium	0.087	0.020		mg/L	1	12/16/2004 9:37:15 AM
Cadmium	ND	0.0020		mg/L	1	12/16/2004 9:37:15 AM
Chromium	ND	0.0060		mg/L	1	12/16/2004 9:37:15 AM
Copper	ND	0.0060		mg/L	1	12/16/2004 9:37:15 AM
Iron	0.28	0.020		mg/L	1	12/16/2004 9:37:15 AM
Lead	ND	0.0050		mg/L	1	12/16/2004 9:37:15 AM
Manganese	0.046	0.0020		mg/L	1	12/16/2004 9:37:15 AM
Selenium	ND	0.050		mg/L	1	12/16/2004 9:37:15 AM
Silver	ND	0.0050		mg/L	1	12/16/2004 9:37:15 AM
Uranium	ND	0.10		mg/L	1	12/16/2004 9:37:15 AM
Zinc	ND	0.050		mg/L	1	12/16/2004 9:37:15 AM

EPA METHOD 160.1: TDS

Analyst: MAP

Total Dissolved Solids	300	50		mg/L	1	12/15/2004

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: 23-Dec-04

CLIENT: San Juan Refining
Lab Order: 0412087
Project: River Sampling December 2004
Lab ID: 0412087-04

Client Sample ID: Trip Blank

Collection Date:

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	12/13/2004 8:56:47 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/13/2004 8:56:47 PM
Surr: DNOP	116	58-140		%REC	1	12/13/2004 8:56:47 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/10/2004 2:19:34 PM
Surr: BFB	103	78.3-120		%REC	1	12/10/2004 2:19:34 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/10/2004 2:19:34 PM
Benzene	ND	0.50		µg/L	1	12/10/2004 2:19:34 PM
Toluene	ND	0.50		µg/L	1	12/10/2004 2:19:34 PM
Ethylbenzene	ND	0.50		µg/L	1	12/10/2004 2:19:34 PM
Xylenes, Total	ND	0.50		µg/L	1	12/10/2004 2:19:34 PM
Surr: 4-Bromofluorobenzene	97.4	83.3-121		%REC	1	12/10/2004 2:19:34 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: 23-Dec-04

CLIENT: San Juan Refining

Work Order: 0412087

Project: River Sampling December 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R13999	Test Code: E300	Units: mg/L	Analysis Date 12/9/2004 9:58:11 AM	Prep Date					
Client ID:		Run ID: LC_041209A			SeqNo: 325597						
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: R14084	Test Code: E310.1	Units: mg/L CaCO3	Analysis Date 12/20/2004	Prep Date					
Client ID:		Run ID: WC_041220A			SeqNo: 327418						
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									

Sample ID	MB-7054	Batch ID: 7054	Test Code: SW8015	Units: mg/L	Analysis Date	12/13/2004 5:27:20 PM	Prep Date	12/13/2004			
Client ID:			Run ID:	FID(17A) 2_041214A	SeqNo:	326266					
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	0.7425	0	1	0	74.3	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: 0412087
 Project: River Sampling December 2004

Sample ID	Reagent Blank 5m	Batch ID: R14011	Test Code: SW8015	Units: mg/L	Analysis Date	12/10/2004 9:17:35 AM	Prep Date				
Client ID:			Run ID: PIDFID_041210A		SeqNo: 325792						
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	19.63	0	20	0	98.2	78.3	120	0			

Sample ID	Reagent Blank 5m	Batch ID: R14011	Test Code: SW8021	Units: µg/L	Analysis Date	12/10/2004 9:17:35 AM	Prep Date				
Client ID:			Run ID:	PIDFID_041210A	SeqNo:	325791					
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	18.85	0	20	0	94.2	83.3	121	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: 0412087

Project: River Sampling December 2004

QC SUMMARY REPORT

Method Blank

Sample ID	mb-7051	Batch ID: 7051	Test Code: SW8270C	Units: µg/L	Analysis Date	12/20/2004	Prep Date	12/13/2004			
Client ID:			Run ID:	ELMO_041220A	SeqNo:	327616					
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
3

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining

Work Order: 0412087

Project: River Sampling December 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

CLIENT: San Juan Refining

Work Order: 0412087

Project: River Sampling December 2004

Compound	Concentration [mg/L]	Dose [g/kg bw/d]	Mortality [%]	Survival [%]	Body Weight Gain [g]	Food Intake [g]	Feces Output [g]
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	0	165.9					
Surr: 2-Fluorobiphenyl	0	81.66					
Surr: 2-Fluorophenol	0	136.7					
Surr: 4-Terphenyl-d14	0	103.3					
Surr: Nitrobenzene-d5	0	80					
Surr: Phenol-d6	0	102.6					

	Test Code:	Units:	Analysis Date	Prep Date
Potab ID: 7407	SW7470	mg/l	12/21/2004	12/21/2004

Client ID:

Run ID: MI-LA254_041221B

21B

SeqNo:

327858

Analyte

Result

PC

SPK value

SPK Ref Val

%REC

LowLimit

Limit RPD F

RPD Ref Val

%RPD

	%RPD	RPDLimit	C
1	1.0	1.0	0.0000
2	1.0	1.0	0.0000
3	1.0	1.0	0.0000
4	1.0	1.0	0.0000
5	1.0	1.0	0.0000
6	1.0	1.0	0.0000
7	1.0	1.0	0.0000
8	1.0	1.0	0.0000
9	1.0	1.0	0.0000
10	1.0	1.0	0.0000
11	1.0	1.0	0.0000
12	1.0	1.0	0.0000
13	1.0	1.0	0.0000
14	1.0	1.0	0.0000
15	1.0	1.0	0.0000
16	1.0	1.0	0.0000
17	1.0	1.0	0.0000
18	1.0	1.0	0.0000
19	1.0	1.0	0.0000
20	1.0	1.0	0.0000
21	1.0	1.0	0.0000
22	1.0	1.0	0.0000
23	1.0	1.0	0.0000
24	1.0	1.0	0.0000
25	1.0	1.0	0.0000
26	1.0	1.0	0.0000
27	1.0	1.0	0.0000
28	1.0	1.0	0.0000
29	1.0	1.0	0.0000
30	1.0	1.0	0.0000
31	1.0	1.0	0.0000
32	1.0	1.0	0.0000
33	1.0	1.0	0.0000
34	1.0	1.0	0.0000
35	1.0	1.0	0.0000
36	1.0	1.0	0.0000
37	1.0	1.0	0.0000
38	1.0	1.0	0.0000
39	1.0	1.0	0.0000
40	1.0	1.0	0.0000
41	1.0	1.0	0.0000
42	1.0	1.0	0.0000
43	1.0	1.0	0.0000
44	1.0	1.0	0.0000
45	1.0	1.0	0.0000
46	1.0	1.0	0.0000
47	1.0	1.0	0.0000
48	1.0	1.0	0.0000
49	1.0	1.0	0.0000
50	1.0	1.0	0.0000
51	1.0	1.0	0.0000
52	1.0	1.0	0.0000
53	1.0	1.0	0.0000
54	1.0	1.0	0.0000
55	1.0	1.0	0.0000
56	1.0	1.0	0.0000
57	1.0	1.0	0.0000
58	1.0	1.0	0.0000
59	1.0	1.0	0.0000
60	1.0	1.0	0.0000
61	1.0	1.0	0.0000
62	1.0	1.0	0.0000
63	1.0	1.0	0.0000
64	1.0	1.0	0.0000
65	1.0	1.0	0.0000
66	1.0	1.0	0.0000
67	1.0	1.0	0.0000
68	1.0	1.0	0.0000
69	1.0	1.0	0.0000
70	1.0	1.0	0.0000
71	1.0	1.0	0.0000
72	1.0	1.0	0.0000
73	1.0	1.0	0.0000
74	1.0	1.0	0.0000
75	1.0	1.0	0.0000
76	1.0	1.0	0.0000
77	1.0	1.0	0.0000
78	1.0	1.0	0.0000
79	1.0	1.0	0.0000
80	1.0	1.0	0.0000
81	1.0	1.0	0.0000
82	1.0	1.0	0.0000
83	1.0	1.0	0.0000
84	1.0	1.0	0.0000
85	1.0	1.0	0.0000
86	1.0	1.0	0.0000
87	1.0	1.0	0.0000
88	1.0	1.0	0.0000
89	1.0	1.0	0.0000
90	1.0	1.0	0.0000

Mercury

ND 0.0002

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

Method Blank

CLIENT: San Juan Refining

Work Order: 0412087

Project: River Sampling December 2004

Sample ID	MB	Batch ID: R14065	Test Code: SW6010A	Units: mg/L	Analysis Date 12/17/2004 8:07:09 AM				Prep Date		
Client ID:		Run ID:	ICP_041217A		SeqNo:	326947					
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	ND	0.002									
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: 0412087
Project: River Sampling December 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	MB-7069	Batch ID: 7069	Test Code: SW6010A	Units: mg/L	Analysis Date	12/16/2004 11:30:41 A	Prep Date	12/15/2004				
Client ID:			Run ID: ICP_041216A		SeqNo:	326705						
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									
Copper		ND	0.006									
Iron		ND	0.05									
Lead		ND	0.005									
Manganese		ND	0.002									
Selenium		ND	0.05									
Silver		ND	0.005									
Uranium		ND	0.1									
Zinc		ND	0.05									

Sample ID	MB-7069	Batch ID: 7069	Test Code: SW6010A	Units: mg/L	Analysis Date	12/16/2004 9:09:29 AM	Prep Date	12/15/2004				
Client ID:			Run ID: ICP_041216A		SeqNo:	326715						
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									
Copper		ND	0.006									
Iron		ND	0.05									
Manganese		ND	0.002									
Selenium		ND	0.05									
Silver		0.002113	0.005									
Uranium		ND	0.1									J
Zinc		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: 0412087

Project: River Sampling December 2004

Sample ID MB-7069	Batch ID: 7069	Test Code: SW6010A	Units: mg/L	Analysis Date 12/17/2004 4:08:01 PM	Prep Date 12/15/2004
Client ID:	Run ID: ICP_041217B	SeqNo: 327026			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.005			

Sample ID MB-7059	Batch ID: 7059	Test Code: E160.1	Units: mg/L	Analysis Date 12/15/2004	Prep Date 12/13/2004
Client ID:	Run ID: WC_041216A	SeqNo: 326800			
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	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	8

Hall Environmental Analysis Laboratory

Date: 23-Dec-04

CLIENT: San Juan Refining

Work Order: 0412087

Project: River Sampling December 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0412087-03C DUP	Batch ID: R13999	Test Code: E300	Units: mg/L	Analysis Date	12/9/2004 11:22:11 AM	Prep Date				
Client ID:	N of MW#46		Run ID: LC_041209A		SeqNo:	325602					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.1815	0.1	0	0	0	0	0	0.1925	5.87	20	
Chloride	4.535	0.1	0	0	0	0	0	4.599	1.39	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)	0.1852	0.1	0	0	0	0	0	0.1876	1.28	20	
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-Dec-04

CLIENT: San Juan Refining
 Work Order: 0412087
 Project: River Sampling December 2004

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0412087-03C MS	Batch ID: R13999	Test Code: E300	Units: mg/L	Analysis Date	12/9/2004 11:39:00 AM	Prep Date				
Client ID:	N of MW#46		Run ID: LC_041209A		SeqNo:	325603					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.7134	0.1	0.5	0.1925	104	80	120	0			
Chloride	9.151	0.1	5	4.599	91.0	80	120	0			
Nitrogen, Nitrite (As N)	0.9836	0.1	1	0	98.4	80	120	0			
Bromide	2.656	0.1	2.5	0	106	80	120	0			
Nitrogen, Nitrate (As N)	2.684	0.1	2.5	0.1876	99.9	80	120	0			
Phosphorus, Orthophosphate (As P)	5.066	0.5	5	0	101	80	120	0			

Sample ID	0412087-03C MSD	Batch ID: R13999	Test Code: E300	Units: mg/L	Analysis Date	12/9/2004 11:55:49 AM	Prep Date				
Client ID:	N of MW#46	Run ID:	LC_041209A	SeqNo:	325604						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.6997	0.1	0.5	0.1925	101	80	120	0.7134	1.94	20	
Chloride	9.099	0.1	5	4.599	90.0	80	120	9.151	0.571	20	
Nitrogen, Nitrite (As N)	0.9877	0.1	1	0	98.8	80	120	0.9836	0.422	20	
Bromide	2.581	0.1	2.5	0	103	80	120	2.656	2.84	20	
Nitrogen, Nitrate (As N)	2.651	0.1	2.5	0.1876	98.5	80	120	2.684	1.25	20	
Phosphorus, Orthophosphate (As P)	4.898	0.5	5	0	98.0	80	120	5.066	3.38	20	

Sample ID	0412087-02a ms	Batch ID: R14011	Test Code: SW8015	Units: mg/L	Analysis Date	12/10/2004 3:48:35 PM	Prep Date				
Client ID:	N of MW#45	Run ID:	PIDFID_041210A	SeqNo:	325851						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5188	0.05	0.5	0	104	82.6	114	0			
Surr: BFB	26.14	0	25	0	105	78.3	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
 /

CLIENT: San Juan Refining
Work Order: 0412087
Project: River Sampling December 2004

QC SUMMARY REPORT
 Sample Matrix Spike Duplicate

Sample ID 0412087-02a msd Batch ID: R14011 Test Code: SW8015 Units: mg/L Analysis Date 12/10/2004 4:18:24 PM Prep Date
 Client ID: N of MW#45 Run ID: PIDFID_041210A SeqNo: 325852

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4986	0.05	0.5	0	99.7	82.6	114	0.5188	3.97	8.39	
Surr: BFB	26.2	0	25	0	105	78.3	120	26.14	0.210	0	

Sample ID 0412087-01a ms Batch ID: R14011 Test Code: SW8021 Units: µg/L Analysis Date 12/10/2004 2:49:15 PM Prep Date
 Client ID: River-Upstream Run ID: PIDFID_041210A SeqNo: 325842

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	34.24	2.5	40	0	85.6	64.5	133	0			
Benzene	22.56	0.5	20	0	113	88.7	114	0			
Toluene	21.41	0.5	20	0	107	89.3	112	0			
Ethylbenzene	20.9	0.5	20	0	104	88.6	113	0			
Xylenes, Total	63.31	0.5	60	0	106	89.4	112	0			
Surr: 4-Bromofluorobenzene	24.22	0	24	0	101	83.3	121	0			

Sample ID 0412087-01a msd Batch ID: R14011 Test Code: SW8021 Units: µg/L Analysis Date 12/10/2004 3:18:55 PM Prep Date
 Client ID: River-Upstream Run ID: PIDFID_041210A SeqNo: 325843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	34.43	2.5	40	0	86.1	64.5	133	34.24	0.560	28	
Benzene	21.44	0.5	20	0	107	88.7	114	22.56	5.11	27	
Toluene	20.02	0.5	20	0	100	89.3	112	21.41	6.71	19	
Ethylbenzene	18.75	0.5	20	0	93.7	88.6	113	20.9	10.8	15	
Xylenes, Total	58.72	0.5	60	0	97.9	89.4	112	63.31	7.53	13	
Surr: 4-Bromofluorobenzene	23.89	0	24	0	99.5	83.3	121	24.22	1.38	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

Hall Environmental Analysis Laboratory

Date: 23-Dec-04

CLIENT: San Juan Refining

Work Order: 0412087

Project: River Sampling December 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R13999	Test Code: E300	Units: mg/L	Analysis Date 12/9/2004 10:15:00 AM	Prep Date					
Client ID:		Run ID: LC_041209A			SeqNo: 325598						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4557	0.1	0.5	0	91.1	90	110	0			
Chloride	4.656	0.1	5	0	93.1	90	110	0			
Nitrogen, Nitrite (As N)	0.9021	0.1	1	0	90.2	90	110	0			
Bromide	2.554	0.1	2.5	0	102	90	110	0			
Nitrogen, Nitrate (As N)	2.347	0.1	2.5	0	93.9	90	110	0			
Phosphorus, Orthophosphate (As P)	4.676	0.5	5	0	93.5	90	110	0			
Sulfate	9.557	0.5	10	0	95.6	90	110	0			

Sample ID	LCS-7054	Batch ID: 7054	Test Code: SW8015	Units: mg/L	Analysis Date	12/13/2004 6:27:06 PM	Prep Date	12/13/2004			
Client ID:		Run ID:	FID(17A) 2_041214A		SeqNo:	326268					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.292	1	5	0	126	81.2	149	0			

Sample ID	LCSD-7054	Batch ID: 7054	Test Code: SW8015	Units: mg/L	Analysis Date	12/13/2004 6:56:52 PM	Prep Date	12/13/2004			
Client ID:		Run ID:	FID(17A) 2_041214A		SeqNo:	326269					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.433	1	5	0	129	81.2	149	6.292	2.22	23	

Sample ID	GRO std 2.5ug	Batch ID: R14011	Test Code: SW8015	Units: mg/L	Analysis Date	12/10/2004 11:44:26 P	Prep Date				
Client ID:		Run ID:	PIDFID_041210A		SeqNo:	325853					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5378	0.05	0.5	0	108	82.6	114	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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CLIENT: San Juan Refining
Work Order: 0412087
Project: River Sampling December 2004

QC SUMMARY REPORT
 Laboratory Control Spike - generic

Sample ID	BTEX std 100ng	Batch ID: R14011	Test Code: SW8021	Units: µg/L	Analysis Date	12/10/2004 7:16:44 PM	Prep Date				
Client ID:		Run ID: PIDFID_041210A			SeqNo: 325844						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	41.26	2.5	40	0	103	64.5	133	0			
Benzene	20.85	0.5	20	0	104	88.7	114	0			
Toluene	20.74	0.5	20	0	104	89.3	112	0			
Ethylbenzene	20.01	0.5	20	0	100	88.6	113	0			
Xylenes, Total	60.51	0.5	60	0	101	89.4	112	0			

Sample ID	Ics-7051	Batch ID: 7051	Test Code: SW8270C	Units: µg/L	Analysis Date	12/20/2004	Prep Date	12/13/2004			
Client ID:			Run ID:	ELMO_041220A	SeqNo:	327617					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	88.82	10	100	0	88.8	11	123	0			
4-Chloro-3-methylphenol	184.5	20	200	0	92.3	15.4	119	0			
2-Chlorophenol	170.6	10	200	0	85.3	12.2	122	0			
1,4-Dichlorobenzene	73.24	10	100	0	73.2	16.9	100	0			
2,4-Dinitrotoluene	96.12	10	100	0	96.1	13	138	0			
N-Nitrosodi-n-propylamine	80.12	10	100	0	80.1	9.93	122	0			
4-Nitrophenol	71.12	50	200	0	35.6	-20.5	87.4	0			
Pentachlorophenol	178.6	50	200	0	89.3	-0.355	114	0			
Phenol	99.48	10	200	0	49.7	7.53	73.1	0			
Pyrene	95.36	15	100	0	95.4	12.6	140	0			
1,2,4-Trichlorobenzene	77.7	10	100	0	77.7	17.4	98.7	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: 0412087

Project: River Sampling December 2004

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

Sample ID	Icsd-7051	Batch ID: 7051	Test Code: SW8270C	Units: µg/L	Analysis Date	12/20/2004	Prep Date	12/13/2004			
Client ID:			Run ID:	ELMO_041220A	SeqNo:	327618					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	74.96	10	100	0	75.0	11	123	88.82	16.9	30.5	
4-Chloro-3-methylphenol	176	20	200	0	88.0	15.4	119	184.5	4.70	28.6	
2-Chlorophenol	170.7	10	200	0	85.4	12.2	122	170.6	0.0938	107	
1,4-Dichlorobenzene	72.46	10	100	0	72.5	16.9	100	73.24	1.07	62.1	
2,4-Dinitrotoluene	85.12	10	100	0	85.1	13	138	96.12	12.1	14.7	
N-Nitrosodi-n-propylamine	75.04	10	100	0	75.0	9.93	122	80.12	6.55	30.3	
4-Nitrophenol	91.7	50	200	0	45.9	12.5	87.4	71.12	25.3	36.3	
Pentachlorophenol	164.4	50	200	0	82.2	3.55	114	178.6	8.31	49	
Phenol	91.52	10	200	0	45.8	7.53	73.1	99.48	8.34	52.4	
Pyrene	89.96	15	100	0	90.0	12.6	140	95.36	5.83	16.3	
2,2,4-Trichlorobenzene	73.5	10	100	0	73.5	17.4	98.7	77.7	5.56	36.4	

Sample ID	LCS-7107	Batch ID: 7107	Test Code: SW7470	Units: mg/L	Analysis Date	12/21/2004	Prep Date	12/21/2004			
Client ID:			Run ID: MI-LA254_041221B		SeqNo: 327859						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004669	0.0002	0.005	0	93.4	75.2	134	0			

Sample ID	LCSD-7107	Batch ID: 7107	Test Code: SW7470	Units: mg/L	Analysis Date	12/21/2004	Prep Date	12/21/2004			
Client ID:			Run ID: MI-LA254_041221B		SeqNo: 327883						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.00461	0.0002	0.005	0	92.2	75.2	134	0.004669	1.27	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: 0412087

Project: River Sampling December 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R14065	Test Code: SW6010A	Units: mg/L	Analysis Date	12/17/2004 8:09:39 AM	Prep Date				
Client ID:		Run ID:	ICP_041217A		SeqNo:	326948					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4958	0.02	0.5	0	99.2	80	120	0			
Barium	0.4794	0.002	0.5	0	95.9	80	120	0			
Cadmium	0.4785	0.002	0.5	0	95.7	80	120	0			
Calcium	45.66	1	50.5	0	90.4	80	120	0			
Chromium	0.4804	0.006	0.5	0	96.1	80	120	0			
Copper	0.4783	0.006	0.5	0	95.7	80	120	0			
Iron	0.4516	0.02	0.5	0	90.3	80	120	0			
Lead	0.4901	0.005	0.5	0	98.0	80	120	0			
Magnesium	46.92	1	50.5	0	92.9	80	120	0			
Manganese	0.4581	0.002	0.5	0	91.6	80	120	0			
Potassium	48.12	1	55	0	87.5	80	120	0			
Selenium	0.4594	0.05	0.5	0	91.9	80	120	0			
Silver	0.5221	0.005	0.5	0	104	80	120	0			
Sodium	48.3	1	50.5	0	95.6	80	120	0			
Uranium	2.244	0.1	2.5	0	89.8	80	120	0			
Zinc	0.4815	0.005	0.5	0	96.3	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: 0412087
 Project: River Sampling December 2004

Sample ID	LCSD	Batch ID: R14065	Test Code: SW6010A	Units: mg/L	Analysis Date	12/17/2004 8:12:49 AM	Prep Date				
Client ID:		Run ID: ICP_041217A			SeqNo: 326949						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4867	0.02	0.5	0	97.3	80	120	0.4958	1.85	20	
Barium	0.4782	0.002	0.5	0	95.6	80	120	0.4794	0.241	20	
Cadmium	0.4751	0.002	0.5	0	95.0	80	120	0.4785	0.703	20	
Calcium	45.78	1	50.5	0	90.6	80	120	45.66	0.247	20	
Chromium	0.4776	0.006	0.5	0	95.5	80	120	0.4804	0.595	20	
Copper	0.4745	0.006	0.5	0	94.9	80	120	0.4783	0.790	20	
Iron	0.4542	0.02	0.5	0	90.8	80	120	0.4516	0.566	20	
Lead	0.4833	0.005	0.5	0	96.7	80	120	0.4901	1.39	20	
Magnesium	46.5	1	50.5	0	92.1	80	120	46.92	0.899	20	
Manganese	0.4574	0.002	0.5	0	91.5	80	120	0.4581	0.143	20	
Potassium	47.5	1	55	0	86.4	80	120	48.12	1.29	20	
Selenium	0.4593	0.05	0.5	0	91.9	80	120	0.4594	0.0257	20	
Silver	0.5199	0.005	0.5	0	104	80	120	0.5221	0.431	20	
Sodium	47.69	1	50.5	0	94.4	80	120	48.3	1.26	20	
Uranium	2.236	0.1	2.5	0	89.4	80	120	2.244	0.352	20	
Zinc	0.4792	0.005	0.5	0	95.8	80	120	0.4815	0.482	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:

12/8/2004

Work Order Number 0412087

Received by AT

Checklist completed by

Signature

Date

12/13/04

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 ☐		
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

December 27, 2004

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

RE: River Sampling December 2004

Order No.: 0412103

Dear Cindy Hurtado:

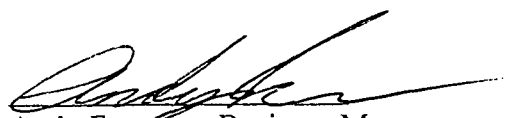
Hall Environmental Analysis Laboratory received 2 samples on 12/9/2004 for the analyses presented in the following report.

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-Dec-04

CLIENT: San Juan Refining

Client Sample ID: River-Downstream

Lab Order: 0412103

Collection Date: 12/7/2004 12:00:00 PM

Project: River Sampling December 2004

Lab ID: 0412103-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS Analyst: MAP						
Fluoride	0.18	0.10		mg/L	1	12/10/2004 1:01:35 PM
Chloride	4.6	0.10		mg/L	1	12/10/2004 1:01:35 PM
Bromide	ND	0.10		mg/L	1	12/13/2004 11:22:59 AM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	12/10/2004 1:01:35 PM
Sulfate	120	2.5		mg/L	5	12/10/2004 5:47:11 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	12/10/2004 12:44:47 PM
EPA METHOD 310.1: ALKALINITY Analyst: MAP						
Alkalinity, Total (As CaCO3)	98	4.0		mg/L CaCO3	2	12/20/2004
Carbonate	ND	4.0		mg/L CaCO3	2	12/20/2004
Bicarbonate	98	4.0		mg/L CaCO3	2	12/20/2004
EPA METHOD 8015B: DIESEL RANGE Analyst: JMP						
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	12/13/2004 9:26:23 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/13/2004 9:26:23 PM
Surr: DNOP	134	58-140		%REC	1	12/13/2004 9:26:23 PM
EPA METHOD 8015B: GASOLINE RANGE Analyst: NSB						
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/10/2004 6:17:18 PM
Surr: BFB	103	78.3-120		%REC	1	12/10/2004 6:17:18 PM
EPA METHOD 8021B: VOLATILES Analyst: NSB						
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/10/2004 6:17:18 PM
Benzene	ND	0.50		µg/L	1	12/10/2004 6:17:18 PM
Toluene	ND	0.50		µg/L	1	12/10/2004 6:17:18 PM
Ethylbenzene	ND	0.50		µg/L	1	12/10/2004 6:17:18 PM
Xylenes, Total	ND	0.50		µg/L	1	12/10/2004 6:17:18 PM
Surr: 4-Bromofluorobenzene	98.1	83.3-121		%REC	1	12/10/2004 6:17:18 PM
EPA METHOD 8270C: SEMIVOLATILES Analyst: GAB						
Acenaphthene	ND	10		µg/L	1	12/20/2004
Acenaphthylene	ND	10		µg/L	1	12/20/2004
Aniline	ND	10		µg/L	1	12/20/2004
Anthracene	ND	10		µg/L	1	12/20/2004
Azobenzene	ND	10		µg/L	1	12/20/2004
Benz(a)anthracene	ND	15		µg/L	1	12/20/2004
Benzo(a)pyrene	ND	10		µg/L	1	12/20/2004
Benzo(b)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzo(g,h,i)perylene	ND	10		µg/L	1	12/20/2004
Benzo(k)fluoranthene	ND	10		µg/L	1	12/20/2004
Benzoic acid	ND	50		µg/L	1	12/20/2004
Benzyl alcohol	ND	20		µg/L	1	12/20/2004
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	12/20/2004

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-Dec-04

CLIENT: San Juan Refining
Lab Order: 0412103
Project: River Sampling December 2004
Lab ID: 0412103-01

Client Sample ID: River-Downstream
Collection Date: 12/7/2004 12:00:00 PM
Matrix: AQUEOUS

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

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-Dec-04

CLIENT: San Juan Refining

Client Sample ID: River-Downstream

Lab Order: 0412103

Collection Date: 12/7/2004 12:00:00 PM

Project: River Sampling December 2004

Lab ID: 0412103-01

Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Naphthalene	ND	10		µg/L	1	12/20/2004
2-Nitroaniline	ND	50		µg/L	1	12/20/2004
3-Nitroaniline	ND	50		µg/L	1	12/20/2004
4-Nitroaniline	ND	20		µg/L	1	12/20/2004
Nitrobenzene	ND	10		µg/L	1	12/20/2004
2-Nitrophenol	ND	15		µg/L	1	12/20/2004
4-Nitrophenol	ND	50		µg/L	1	12/20/2004
Pentachlorophenol	ND	50		µg/L	1	12/20/2004
Phenanthrene	ND	10		µg/L	1	12/20/2004
Phenol	ND	10		µg/L	1	12/20/2004
Pyrene	ND	15		µg/L	1	12/20/2004
Pyridine	ND	30		µg/L	1	12/20/2004
1,2,4-Trichlorobenzene	ND	10		µg/L	1	12/20/2004
2,4,5-Trichlorophenol	ND	10		µg/L	1	12/20/2004
2,4,6-Trichlorophenol	ND	15		µg/L	1	12/20/2004
Surr: 2,4,6-Tribromophenol	16.5	16.6-115	S	%REC	1	12/20/2004
Surr: 2-Fluorobiphenyl	74.3	37-95.7		%REC	1	12/20/2004
Surr: 2-Fluorophenol	37.3	9.54-89.8		%REC	1	12/20/2004
Surr: 4-Terphenyl-d14	91.4	47.9-115		%REC	1	12/20/2004
Surr: Nitrobenzene-d5	75.4	38-106		%REC	1	12/20/2004
Surr: Phenol-d6	43.7	10.7-63.4		%REC	1	12/20/2004
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: MAP
Specific Conductance	440	0.010		µmhos/cm	1	12/21/2004
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	12/21/2004
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	12/17/2004 9:15:32 AM
Barium	0.068	0.0020		mg/L	1	12/17/2004 9:15:32 AM
Cadmium	ND	0.0020		mg/L	1	12/17/2004 9:15:32 AM
Calcium	46	1.0		mg/L	1	12/17/2004 9:15:32 AM
Chromium	ND	0.0060		mg/L	1	12/17/2004 9:15:32 AM
Copper	ND	0.0060		mg/L	1	12/17/2004 9:15:32 AM
Iron	ND	0.020		mg/L	1	12/17/2004 9:15:32 AM
Lead	ND	0.0050		mg/L	1	12/17/2004 9:15:32 AM
Magnesium	7.9	1.0		mg/L	1	12/17/2004 9:15:32 AM
Manganese	0.033	0.0020		mg/L	1	12/17/2004 9:15:32 AM
Potassium	2.0	1.0		mg/L	1	12/17/2004 9:15:32 AM
Selenium	ND	0.050		mg/L	1	12/17/2004 9:15:32 AM
Silver	ND	0.0050		mg/L	1	12/17/2004 9:15:32 AM
Sodium	32	1.0		mg/L	1	12/17/2004 9:15:32 AM
Uranium	ND	0.10		mg/L	1	12/17/2004 9:15:32 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: 27-Dec-04

CLIENT: San Juan Refining
Lab Order: 0412103
Project: River Sampling December 2004
Lab ID: 0412103-01

Client Sample ID: River-Downstream
Collection Date: 12/7/2004 12:00:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Zinc	0.013	0.0050		mg/L	1	12/17/2004 9:15:32 AM
EPA 6010C: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	12/16/2004 9:56:33 AM
Barium	0.082	0.020		mg/L	1	12/16/2004 9:56:33 AM
Cadmium	ND	0.0020		mg/L	1	12/16/2004 9:56:33 AM
Chromium	ND	0.0060		mg/L	1	12/16/2004 9:56:33 AM
Copper	ND	0.0060		mg/L	1	12/16/2004 9:56:33 AM
Iron	0.22	0.020		mg/L	1	12/16/2004 9:56:33 AM
Lead	ND	0.0050		mg/L	1	12/16/2004 9:56:33 AM
Manganese	0.061	0.0020		mg/L	1	12/16/2004 9:56:33 AM
Selenium	ND	0.050		mg/L	1	12/16/2004 9:56:33 AM
Silver	ND	0.0050		mg/L	1	12/16/2004 9:56:33 AM
Uranium	ND	0.10		mg/L	1	12/16/2004 9:56:33 AM
Zinc	ND	0.050		mg/L	1	12/16/2004 9:56:33 AM
EPA METHOD 160.1: TDS						Analyst: MAP
Total Dissolved Solids	310	50		mg/L	1	12/15/2004

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-Dec-04

LIENT: San Juan Refining
Lab Order: 0412103
Project: River Sampling December 2004
Lab ID: 0412103-02

Client Sample ID: Trip Blank**Collection Date:****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	12/13/2004 9:56:02 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	12/13/2004 9:56:02 PM
Surr: DNOP	119	58-140		%REC	1	12/13/2004 9:56:02 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	12/10/2004 6:47:01 PM
Surr: BFB	104	78.3-120		%REC	1	12/10/2004 6:47:01 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	12/10/2004 6:47:01 PM
Benzene	ND	0.50		µg/L	1	12/10/2004 6:47:01 PM
Toluene	ND	0.50		µg/L	1	12/10/2004 6:47:01 PM
Ethylbenzene	ND	0.50		µg/L	1	12/10/2004 6:47:01 PM
Xylenes, Total	ND	0.50		µg/L	1	12/10/2004 6:47:01 PM
Surr: 4-Bromofluorobenzene	98.8	83.3-121		%REC	1	12/10/2004 6:47:01 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-Dec-04

CLIENT: San Juan Refining
Work Order: 0412103
Project: River Sampling December 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MBLK	Batch ID: R14012	Test Code: E300	Units: mg/L	Analysis Date 12/10/2004 12:11:13 P	Prep Date					
Client ID:		Run ID: LC_041210A	SeqNo: 325811								
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									
Bromide	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

Sample ID	MBLK	Batch ID: R14012	Test Code: E300	Units: mg/L	Analysis Date 12/10/2004 6:54:25 PM	Prep Date					
Client ID:		Run ID: LC_041210A	SeqNo: 325835								
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									
Bromide	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									
Nitrate (As N)+Nitrite (As N)	ND	0.1									

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: 0412103
 Project: River Sampling December 2004

Sample ID	MBLK	Batch ID: R14035	Test Code: E300	Units: mg/L	Analysis Date	12/13/2004 10:49:21 A	Prep Date
Client ID:		Run ID: LC_041213A			SeqNo:	326327	
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				
Bromide		ND	0.1				
Phosphorus, Orthophosphate (As P)		ND	0.5				
Sulfate		ND	0.5				
Nitrate (As N)+Nitrite (As N)		ND	0.1				

Sample ID	MBLK	Batch ID: R14084	Test Code: E310.1	Units: mg/L CaCO3	Analysis Date	12/20/2004	Prep Date
Client ID:		Run ID: WC_041220A			SeqNo:	327418	
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				

Sample ID	MB-7054	Batch ID: 7054	Test Code: SW8015	Units: mg/L	Analysis Date	12/13/2004 5:27:20 PM	Prep Date
Client ID:			Run ID: FID(17A) 2_041214A		SeqNo:	326266	
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		0.7425	0	1	0	74.3	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: 0412103
Project: River Sampling December 2004

QC SUMMARY REPORT
Method Blank

Sample ID	Reagent Blank 5m	Batch ID: R14011	Test Code: SW8015	Units: mg/L	Analysis Date	12/10/2004 9:17:35 AM	Prep Date				
Client ID:			Run ID: PIDFID_041210A		SeqNo:	325792					
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	19.63	0	20	0	98.2	78.3	120	0			

Sample ID	Reagent Blank 5m	Batch ID: R14011	Test Code: SW8021	Units: µg/L	Analysis Date	12/10/2004 9:17:35 AM	Prep Date				
Client ID:			Run ID: PIDFID_041210A		SeqNo:	325791					
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	18.85	0	20	0	94.2	83.3	121	0			

CLIENT: San Juan Refining
Work Order: 0412103
Project: River Sampling December 2004

QC SUMMARY REPORT
 Method Blank

Sample ID	mb-7051	Batch ID: 7051	Test Code: SW8270C	Units: µg/L	Analysis Date	12/20/2004	Prep Date	12/13/2004			
Client ID:			Run ID:	ELMO_041220A	SeqNo:	327616					
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

CLIENT: San Juan Refining
Work Order: 0412103
Project: River Sampling December 2004

QC SUMMARY REPORT

Method Blank

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

CLIENT: San Juan Refining

Work Order: 0412103

Project: River Sampling December 2004

Chemical Name	Unit	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)
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	165.9	0	200	0	82.9	16.6	115	0	
Surr: 2-Fluorobiphenyl	81.66	0	100	0	81.7	37	95.7	0	
Surr: 2-Fluorophenol	136.7	0	200	0	68.3	9.54	89.8	0	
Surr: 4-Terphenyl-d14	103.3	0	100	0	103	51.2	125	0	
Surr: Nitrobenzene-d5	80	0	100	0	80.0	38	106	0	
Surr: Phenol-d6	102.6	0	200	0	51.3	10.7	63.4	0	

[illegible]

Mercury

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

9

CLIENT: San Juan Refining

Work Order: 0412103

Project: River Sampling December 2004

QC SUMMARY REPORT

Method Blank

Sample ID	MB	Batch ID: R14065	Test Code: SW6010A	Units: mg/L	Analysis Date	12/17/2004 8:07:09 AM	Prep Date					
Client ID:		Run ID: ICP_041217A			SeqNo:	326947						
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		ND	0.002									
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

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 0412103
 Project: River Sampling December 2004

Sample ID	MB-7069	Batch ID: 7069	Test Code: SW6010A	Units: mg/L	Analysis Date	12/16/2004 11:30:41 A	Prep Date	12/15/2004			
Client ID:			Run ID:	ICP_041216A	SeqNo:	326705					
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									
Copper	ND	0.006									
Iron	ND	0.05									
Lead	ND	0.005									
Manganese	ND	0.002									
Selenium	ND	0.05									
Silver	ND	0.005									
Uranium	ND	0.1									
Zinc	ND	0.05									

Sample ID	MB-7069	Batch ID: 7069	Test Code: SW6010A	Units: mg/L	Analysis Date	12/16/2004 9:09:29 AM	Prep Date	12/15/2004			
Client ID:			Run ID:	ICP_041216A	SeqNo:	326715					
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									
Copper	ND	0.006									
Iron	ND	0.05									
Manganese	ND	0.002									
Selenium	ND	0.05									
Silver	0.002113	0.005									J
Uranium	ND	0.1									
Zinc	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

CLIENT: San Juan Refining
Work Order: 0412103
Project: River Sampling December 2004

QC SUMMARY REPORT

Method Blank

Sample ID MB-7069	Batch ID: 7069	Test Code: SW6010A	Units: mg/L	Analysis Date 12/17/2004 4:08:01 PM	Prep Date 12/15/2004
Client ID:	Run ID: ICP_041217B	SeqNo: 327026			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead	ND	0.005			
Sample ID MB-7059	Batch ID: 7059	Test Code: E160.1	Units: mg/L	Analysis Date 12/15/2004	Prep Date 12/13/2004
Client ID:	Run ID: WC_041216A	SeqNo: 326800			
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-Dec-04

CLIENT: San Juan Refining
 Work Order: 0412103
 Project: River Sampling December 2004

QC SUMMARY REPORT

Sample Duplicate

Sample ID	0412103-01C dup	Batch ID: 7059	Test Code: E160.1	Units: mg/L	Analysis Date	12/15/2004	Prep Date	12/13/2004				
Client ID:	River-Downstrea		Run ID:	WC_041216A	SeqNo:	326813						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids		308	50	0	0	0	0	0	305	0.979	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-Dec-04

CLIENT: San Juan Refining

Work Order: 0412103

Project: River Sampling December 2004

QC SUMMARY REPORT

Sample Matrix Spike

Sample ID	0412103-01C ms	Batch ID: 7059	Test Code: E160.1	Units: mg/L	Analysis Date	12/15/2004	Prep Date	12/13/2004				
Client ID:	River-Downstrea		Run ID: WC_041216A		SeqNo:	326814						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids		1290	50	1000	305	98.5	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

Date: 27-Dec-04

CLIENT: San Juan Refining

Work Order: 0412103

Project: River Sampling December 2004

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS	Batch ID: R14012	Test Code: E300	Units: mg/L	Analysis Date	12/10/2004 12:27:58 P	Prep Date				
Client ID:		Run ID:	LC_041210A		SeqNo:	325812					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4732	0.1	0.5	0	94.6	90	110	0			
Chloride	4.635	0.1	5	0	92.7	90	110	0			
Bromide	2.147	0.1	2.5	0	85.9	90	110	0			
Phosphorus, Orthophosphate (As P)	4.79	0.5	5	0	95.8	90	110	0			S
Sulfate	9.623	0.5	10	0	96.2	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.266	0.1	3.5	0	93.3	90	110	0			

Sample ID	LCS	Batch ID: R14035	Test Code: E300	Units: mg/L	Analysis Date	12/13/2004 11:06:10 A	Prep Date				
Client ID:		Run ID:	LC_041213A		SeqNo:	326328					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.8197	0.1	0.5	0	164	90	110	0			S
Chloride	4.876	0.1	5	0	97.5	90	110	0			
Bromide	2.338	0.1	2.5	0	93.5	90	110	0			
Phosphorus, Orthophosphate (As P)	4.799	0.5	5	0	96.0	90	110	0			
Sulfate	9.978	0.5	10	0	99.8	90	110	0			
Nitrate (As N)+Nitrite (As N)	3.44	0.1	3.5	0	98.3	90	110	0			

Sample ID	LCS-7054	Batch ID: 7054	Test Code: SW8015	Units: mg/L	Analysis Date	12/13/2004 6:27:06 PM	Prep Date	12/13/2004			
Client ID:			Run ID: FID(17A) 2_041214A		SeqNo: 326268						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.292	1	5	0	126	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

/

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0412103
 Project: River Sampling December 2004

Sample ID	LCSD-7054	Batch ID: 7054	Test Code: SW8015	Units: mg/L	Analysis Date	12/13/2004 6:56:52 PM	Prep Date	12/13/2004				
Client ID:			Run ID: FID(17A)_2_041214A		SeqNo: 326269							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		6.433	1	5	0	129	81.2	149	6.292	2.22	23	

Sample ID	GRO std 2.5ug	Batch ID: R14011	Test Code: SW8015	Units: mg/L	Analysis Date	12/10/2004 11:44:26 P	Prep Date					
Client ID:			Run ID: PIDFID_041210A		SeqNo:	325853						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.5378	0.05	0.5	0	108	82.6	114	0			

Sample ID	BTEX std 100ng	Batch ID: R14011	Test Code: SW8021	Units: µg/L	Analysis Date	12/10/2004 7:16:44 PM	Prep Date					
Client ID:			Run ID: PIDFID_041210A		SeqNo: 325844							
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)		41.26	2.5	40	0	103	64.5	133	0			
Benzene		20.85	0.5	20	0	104	88.7	114	0			
Toluene		20.74	0.5	20	0	104	89.3	112	0			
Ethylbenzene		20.01	0.5	20	0	100	88.6	113	0			
Xylenes, Total		60.51	0.5	60	0	101	89.4	112	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: 0412103

Project: River Sampling December 2004

Sample ID	Ics-7051	Batch ID: 7051	Test Code: SW8270C	Units: µg/L	Analysis Date	12/20/2004	Prep Date	12/13/2004			
Client ID:			Run ID: ELMO_041220A		SeqNo:	327617					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	88.82	10	100	0	88.8	11	123	0			
4-Chloro-3-methylphenol	184.5	20	200	0	92.3	15.4	119	0			
2-Chlorophenol	170.6	10	200	0	85.3	12.2	122	0			
1,4-Dichlorobenzene	73.24	10	100	0	73.2	16.9	100	0			
2,4-Dinitrotoluene	96.12	10	100	0	96.1	13	138	0			
N-Nitrosodi-n-propylamine	80.12	10	100	0	80.1	9.93	122	0			
4-Nitrophenol	71.12	50	200	0	35.6	-20.5	87.4	0			
Pentachlorophenol	178.6	50	200	0	89.3	-0.355	114	0			
Phenol	99.48	10	200	0	49.7	7.53	73.1	0			
Pyrene	95.36	15	100	0	95.4	12.6	140	0			
1,2,4-Trichlorobenzene	77.7	10	100	0	77.7	17.4	98.7	0			

Sample ID	Icsd-7051	Batch ID: 7051	Test Code: SW8270C	Units: µg/L	Analysis Date	12/20/2004	Prep Date	12/13/2004			
Client ID:			Run ID:	ELMO_041220A	SeqNo:	327618					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	74.96	10	100	0	75.0	11	123	88.82	16.9	30.5	
4-Chloro-3-methylphenol	176	20	200	0	88.0	15.4	119	184.5	4.70	28.6	
2-Chlorophenol	170.7	10	200	0	85.4	12.2	122	170.6	0.0938	107	
1,4-Dichlorobenzene	72.46	10	100	0	72.5	16.9	100	73.24	1.07	62.1	
2,4-Dinitrotoluene	85.12	10	100	0	85.1	13	138	96.12	12.1	14.7	
N-Nitrosodi-n-propylamine	75.04	10	100	0	75.0	9.93	122	80.12	6.55	30.3	
4-Nitrophenol	91.7	50	200	0	45.9	12.5	87.4	71.12	25.3	36.3	
Pentachlorophenol	164.4	50	200	0	82.2	3.55	114	178.6	8.31	49	
Phenol	91.52	10	200	0	45.8	7.53	73.1	99.48	8.34	52.4	
Pyrene	89.96	15	100	0	90.0	12.6	140	95.36	5.83	16.3	
1,2,4-Trichlorobenzene	73.5	10	100	0	73.5	17.4	98.7	77.7	5.56	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: 0412103
Project: River Sampling December 2004

Sample ID	LCS-7107	Batch ID: 7107	Test Code: SW7470	Units: mg/L	Analysis Date	12/21/2004	Prep Date	12/21/2004
Client ID:		Run ID:	MI-LA254_041221B		SeqNo:	327859		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val
Mercury	0.004669	0.0002	0.005	0	93.4	75.2	134	0

Sample ID	LCS-7107	Batch ID: 7107	Test Code: SW7470	Units: mg/L	Analysis Date	12/21/2004	Prep Date	12/21/2004
Client ID:		Run ID:	MI-LA254_041221B		SeqNo:	327883		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val
Mercury	0.00461	0.0002	0.005	0	92.2	75.2	134	0.004669

Sample ID	LCS	Batch ID: R14065	Test Code: SW6010A	Units: mg/L	Analysis Date	12/17/2004 8:09:39 AM	Prep Date	
Client ID:		Run ID:	ICP_041217A		SeqNo:	326948		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val

Arsenic	0.4958	0.02	0.5	0	99.2	80	120	0
Barium	0.4794	0.002	0.5	0	95.9	80	120	0
Cadmium	0.4785	0.002	0.5	0	95.7	80	120	0
Calcium	45.66	1	50.5	0	90.4	80	120	0
Chromium	0.4804	0.006	0.5	0	96.1	80	120	0
Copper	0.4783	0.006	0.5	0	95.7	80	120	0
Iron	0.4516	0.02	0.5	0	90.3	80	120	0
Lead	0.4901	0.005	0.5	0	98.0	80	120	0
Magnesium	46.92	1	50.5	0	92.9	80	120	0
Manganese	0.4581	0.002	0.5	0	91.6	80	120	0
Potassium	48.12	1	55	0	87.5	80	120	0
Selenium	0.4594	0.05	0.5	0	91.9	80	120	0
Silver	0.5221	0.005	0.5	0	104	80	120	0
Sodium	48.3	1	50.5	0	95.6	80	120	0
Uranium	2.244	0.1	2.5	0	89.8	80	120	0
Zinc	0.4815	0.005	0.5	0	96.3	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: 0412103
 Project: River Sampling December 2004

Sample ID	LCSD	Batch ID: R14065	Test Code: SW6010A	Units: mg/L	Analysis Date	12/17/2004 8:12:49 AM	Prep Date				
Client ID:		Run ID:	ICP_041217A		SeqNo:	326949					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4867	0.02	0.5	0	97.3	80	120	0.4958	1.85	20	
Barium	0.4782	0.002	0.5	0	95.6	80	120	0.4794	0.241	20	
Cadmium	0.4751	0.002	0.5	0	95.0	80	120	0.4785	0.703	20	
Calcium	45.78	1	50.5	0	90.6	80	120	45.66	0.247	20	
Chromium	0.4776	0.006	0.5	0	95.5	80	120	0.4804	0.595	20	
Copper	0.4745	0.006	0.5	0	94.9	80	120	0.4783	0.790	20	
Iron	0.4542	0.02	0.5	0	90.8	80	120	0.4516	0.566	20	
Lead	0.4833	0.005	0.5	0	96.7	80	120	0.4901	1.39	20	
Magnesium	46.5	1	50.5	0	92.1	80	120	46.92	0.899	20	
Manganese	0.4574	0.002	0.5	0	91.5	80	120	0.4581	0.143	20	
Potassium	47.5	1	55	0	86.4	80	120	48.12	1.29	20	
Selenium	0.4593	0.05	0.5	0	91.9	80	120	0.4594	0.0257	20	
Silver	0.5199	0.005	0.5	0	104	80	120	0.5221	0.431	20	
Sodium	47.69	1	50.5	0	94.4	80	120	48.3	1.26	20	
Uranium	2.236	0.1	2.5	0	89.4	80	120	2.244	0.352	20	
Zinc	0.4792	0.005	0.5	0	95.8	80	120	0.4815	0.482	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:

12/9/2004

Work Order Number 0412103

Received by AT

Checklist completed by

Signature

Date

12/9/04

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 ☐	
- VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☒	No ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☒

Container/Temp Blank temperature?

4°

4° C ± 2 Acceptable

If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

**HALL ENVIRONMENT,
ANALYSIS LABORATORY**

Project Name: River Sampling -
December 2004

Project #:

Project Manager:

Phone #: 505-632-4161

Fax #: 505-632-3911

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					H ₂ Cl ₂	HNO ₃		
10/07/04	12N	H ₂ O	River Downs Head	2-VOA	X			0412103-1
				2-VOA	X			
				1-500ml		X		
				1-125ml		X	Filtered	
				1-500ml			H ₂ SO ₄	
				1-500ml				
				1-liter			Amber	
			TP3	300ml				-2-

Date: 10/7/04	Time: 3:05 PM	Relinquished By: (Signature) <i>Andy Gutado</i>	Remarks: <i>12/19/04</i>
Date:	Time:	Relinquished By: (Signature)	Remarks:

ANALYSIS REQUEST

[illegible]

Remarks:

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	500	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
Lab Order: 0410291
Project: River Terrace-Temp Piezometers
Lab ID: 0410291-02

Client Sample ID: TP#2
Collection Date: 10/28/2004 11:30:00 AM
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	500	11/2/2004 1:46:01 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
Lab Order: 0410291
Project: River Terrace-Temp Piezometers
Lab ID: 0410291-03

Client Sample ID: TP#3
Collection Date: 10/28/2004 11:45:00 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	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
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#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

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#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
Lab Order: 0410291
Project: River Terrace-Temp Piezometers
Lab ID: 0410291-06

Client Sample ID: TP#6
Collection Date: 10/28/2004 12:35:00 PM
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
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#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

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#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

B - Analyte detected in the associated Method Blank

/

QC SUMMARY REPORT

Method Blank

CLIENT: San Juan Refining
 Work Order: 041029J
 Project: River Terrace-Temp Piezometers

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

/

QC SUMMARY REPORT

Laboratory Control Spike - generic

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

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

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 _____

**HALL ENVIRONMENTAL
ANALYSIS LABORATORY**

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

Project Name: River Terrace —
Temporary Piezometers

Project #:

Project Manager:

Sampler: Cindy Hurtado

Sample Temperature: 3.0

Number/Volume	Preservative	HEAL No.

HEAL No.

Preservative

$$\text{Cl}_2 \mid \text{HNO}_3$$

Number/Volume

2410291-1

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Remarks:



Remarks:

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Remarks:

ANALYSIS REQUEST

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Remarks:

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:

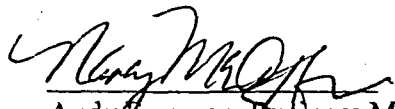
Hall Environmental Analysis Laboratory received 3 samples on 10/29/2004 for the analyses presented in the following report.

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
 * - 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: 0410290-02

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
* - 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: 0410290-02

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
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
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
EPA METHOD 8015B: DIESEL RANGE						Analyst: JMP
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						Analyst: NSB
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						Analyst: BDH
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
1,1,2,2-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	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

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
 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 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

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									

J

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

Method Blank

Project: MW#48 - Soil

Chemical Name	Concentration (mg/L)	Concentration (µg/L)	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)	Concentration (ppb)	Concentration (ppm)
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		88.1	68.4	123	0
Surr: 4-Bromofluorobenzene	0.4993	0	0.5		99.9	70	119	0
Surr: Dibromofluoromethane	0.5739	0	0.5		115	76.8	123	0
Surr: Toluene-d8	0.4458	0	0.5		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

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining

Work Order: 0410290

Project: MW#48 - Soil

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	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

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 ☐		
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 _____

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:

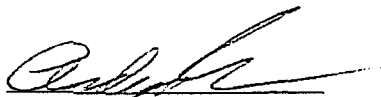
Hall Environmental Analysis Laboratory received 1 sample on 11/2/2004 for the analyses presented in the following report.

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



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
Sum: 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
Sum: 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
 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
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
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
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: SW6015	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
 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	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

QC SUMMARY REPORT

Method Blank

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

Sample ID MB-6788 Batch ID: 6788 Test Code: SW7470 Units: mg/L 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 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 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 3

QC SUMMARY REPORT

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

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									
dis-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

cis-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
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

QC SUMMARY REPORT
Sample DuplicateCLIENT: San Juan Refining
Work Order: 0411032
Project: MW #48 - Water

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
Specific Conductance		2660		0.01	0	0	0	0	0	2720	2.23
											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	/

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

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

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

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: 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: pg/L Analysis Date: 11/3/2004 Prep Date:
 Client 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 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

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

CLIENT: San Juan Refining
 Work Order: 0411032
 Project: MW #48 - 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	31.81	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	11.9	
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

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

QC SUMMARY REPORT
 Laboratory Control Spike Duplicate

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		0.4969	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
 1 - 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

Laboratory Control Spike Duplicate

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	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Limit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result												
Arsenic	0.4951	0.02	0.5	0	0	99.0	80	120		0			
Barium	0.4857	0.02	0.5	0	0	97.1	80	120		0			
Cadmium	0.4953	0.002	0.5	0.0006448	0	98.9	80	120		0			
Calcium	47.73	1	50	0	0	95.5	80	120		0			
Chromium	0.4915	0.006	0.5	0	0	98.3	80	120		0			
Iron	0.4884	0.05	0.5	0	0	97.7	80	120		0			
Lead	0.4965	0.005	0.5	0	0	99.3	80	120		0			
Magnesium	48.35	1	50	0	0	96.7	90	120		0			
Manganese	0.4811	0.002	0.5	0	0	96.2	80	120		0			
Potassium	51.1	1	50	0	0	102	80	120		0			
Selenium	0.4682	0.05	0.5	0	0	93.6	80	120		0			
Silver	0.5536	0.005	0.5	0.007271	0	109	80	120		0			
Sodium	54.62	1	50	0	0	109	80	120		0			
Uranium	4.649	0.1	5	0	0	93.0	80	120		0			
Zinc	0.4739	0.05	0.5	0	0	94.8	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

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: 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 Limit	Qual
Arsenic	0.5078	0.02	0.5	0	102	80	120	0.4951	20
Barium	0.4894	0.02	0.5	0	97.9	80	120	0.4857	20
Cadmium	0.4967	0.002	0.5	0.0006448	99.2	80	120	0.4953	20
Calcium	48.21	1	50	0	96.4	80	120	47.73	20
Chromium	0.4937	0.006	0.5	0	98.7	80	120	0.4915	20
Iron	0.4794	0.05	0.5	0	95.9	80	120	0.4884	20
Lead	0.4987	0.005	0.5	0	99.7	80	120	0.4965	20
Magnesium	48.56	1	50	0	97.1	80	120	48.35	20
Manganese	0.4832	0.002	0.5	0	96.6	80	120	0.4811	20
Potassium	51.37	1	50	0	103	80	120	51.1	20
Selenium	0.4727	0.05	0.5	0	94.5	80	120	0.4682	20
Silver	0.5457	0.005	0.5	0.007271	108	80	120	0.5536	20
Sodium	54.83	1	50	0	110	80	120	54.62	20
Uranium	4.683	0.1	5	0	93.7	80	120	4.649	20
Zinc	0.479	0.05	0.5	0	95.8	80	120	0.4739	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 Limit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1024	50	1000	0	102	80	120	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]

11/2/04

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 _____

COVER LETTER

January 13, 2005

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

RE: River Terrace - MW #48 & MW #49

Order No.: 0412237

Dear Cindy Hurtado:

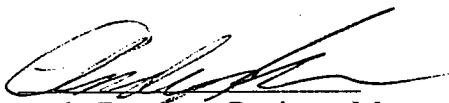
Hall Environmental Analysis Laboratory received 2 samples on 12/28/2004 for the analyses presented in the following report.

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: 13-Jan-05

CLIENT: San Juan Refining

Client Sample ID: MW #48

Lab Order: 0412237

Collection Date: 12/27/2004 1:50:00 PM

Project: River Terrace - MW #48 & MW #49

Lab ID: 0412237-01

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	1/3/2005 5:09:41 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/3/2005 5:09:41 PM
Surr: DNOP	112	58-140		%REC	1	1/3/2005 5:09:41 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	28	5.0		mg/L	100	1/3/2005 5:34:00 PM
Surr: BFB	111	78.3-120		%REC	100	1/3/2005 5:34:00 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	1/3/2005 5:34:00 PM
Benzene	690	50		µg/L	100	1/3/2005 5:34:00 PM
Toluene	ND	50		µg/L	100	1/3/2005 5:34:00 PM
Ethylbenzene	1900	50		µg/L	100	1/3/2005 5:34:00 PM
Xylenes, Total	8200	50		µg/L	100	1/3/2005 5:34:00 PM
Surr: 4-Bromofluorobenzene	110	83.3-121		%REC	100	1/3/2005 5:34:00 PM
EPA METHOD 8310: PAHS						Analyst: BL
Naphthalene	190	13		µg/L	5	1/10/2005 12:51:57 PM
1-Methylnaphthalene	69	2.5		µg/L	1	1/7/2005 3:18:32 PM
2-Methylnaphthalene	76	2.5		µg/L	1	1/7/2005 3:18:32 PM
Acenaphthylene	ND	2.5		µg/L	1	1/7/2005 3:18:32 PM
Acenaphthene	ND	2.5		µg/L	1	1/7/2005 3:18:32 PM
Fluorene	1.1	0.80		µg/L	1	1/7/2005 3:18:32 PM
Phenanthrene	2.2	0.60		µg/L	1	1/7/2005 3:18:32 PM
Anthracene	ND	0.60		µg/L	1	1/7/2005 3:18:32 PM
Fluoranthene	ND	0.30		µg/L	1	1/7/2005 3:18:32 PM
Pyrene	ND	0.30		µg/L	1	1/7/2005 3:18:32 PM
Benz(a)anthracene	ND	0.020		µg/L	1	1/7/2005 3:18:32 PM
Chrysene	ND	0.20		µg/L	1	1/7/2005 3:18:32 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	1/7/2005 3:18:32 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	1/7/2005 3:18:32 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	1/7/2005 3:18:32 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	1/7/2005 3:18:32 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	1/7/2005 3:18:32 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	1/7/2005 3:18:32 PM
Surr: Benzo(e)pyrene	81.8	54-102		%REC	1	1/7/2005 3:18:32 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: 13-Jan-05

CLIENT: San Juan Refining
Lab Order: 0412237
Project: River Terrace - MW #48 & MW #49
Lab ID: 0412237-02

Client Sample ID: MW #49
Collection Date: 12/27/2004 1:00:00 PM
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	1/4/2005 10:11:04 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/4/2005 10:11:04 AM
Surr: DNOP	98.2	58-140		%REC	1	1/4/2005 10:11:04 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.23	0.050		mg/L	1	1/4/2005 10:13:32 AM
Surr: BFB	108	78.3-120		%REC	1	1/4/2005 10:13:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/4/2005 10:13:32 AM
Benzene	9.7	0.50		µg/L	1	1/4/2005 10:13:32 AM
Toluene	ND	0.50		µg/L	1	1/4/2005 10:13:32 AM
Ethylbenzene	1.9	0.50		µg/L	1	1/4/2005 10:13:32 AM
Xylenes, Total	0.52	0.50		µg/L	1	1/4/2005 10:13:32 AM
Surr: 4-Bromofluorobenzene	105	83.3-121		%REC	1	1/4/2005 10:13:32 AM
EPA METHOD 8310: PAHS						Analyst: BL
Naphthalene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
1-Methylnaphthalene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
2-Methylnaphthalene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
Acenaphthylene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
Acenaphthene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
Fluorene	ND	0.80		µg/L	1	1/7/2005 4:06:32 PM
Phenanthrene	ND	0.60		µg/L	1	1/7/2005 4:06:32 PM
Anthracene	ND	0.60		µg/L	1	1/7/2005 4:06:32 PM
Fluoranthene	ND	0.30		µg/L	1	1/7/2005 4:06:32 PM
Pyrene	ND	0.30		µg/L	1	1/7/2005 4:06:32 PM
Benz(a)anthracene	ND	0.020		µg/L	1	1/7/2005 4:06:32 PM
Chrysene	ND	0.20		µg/L	1	1/7/2005 4:06:32 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	1/7/2005 4:06:32 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	1/7/2005 4:06:32 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	1/7/2005 4:06:32 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	1/7/2005 4:06:32 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	1/7/2005 4:06:32 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	1/7/2005 4:06:32 PM
Surr: Benzo(e)pyrene	88.0	54-102		%REC	1	1/7/2005 4:06:32 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: 13-Jan-05

CLIENT: San Juan Refining

Work Order: 0412237

Project: River Terrace - MW #48 & MW #49

QC SUMMARY REPORT

Method Blank

Sample ID	MB-7169	Batch ID:	7169	Test Code:	SW8015	Units:	mg/L	Analysis Date	1/3/2005 3:39:14 PM	Prep Date	12/30/2004
Client ID:		Run ID:	FID(17A) 2_041230A					SeqNo:	330395		

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	1.194	0	1	0	119	58	140	0			

Sample ID	Reagent Blank 5m	Batch ID:	R14198	Test Code:	SW8015	Units:	mg/L	Analysis Date	1/3/2005 9:35:16 AM	Prep Date
Client ID:		Run ID:	PIDFID_050103A					SeqNo:	330242	

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	19.09	0	20	0	95.5	78.3	120	0			

Sample ID	Reagent Blank 5m	Batch ID:	R14206	Test Code:	SW8015	Units:	mg/L	Analysis Date	1/4/2005 8:43:42 AM	Prep Date
Client ID:		Run ID:	PIDFID_050104A					SeqNo:	330471	

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	19.24	0	20	0	96.2	78.3	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

Method Blank

CLIENT: San Juan Refining
 Work Order: 0412237
 Project: River Terrace - MW #48 & MW #49

Sample ID	Reagent Blank 5m	Batch ID: R14198	Test Code: SW8021	Units: µg/L	Analysis Date	1/3/2005 9:35:16 AM	Prep Date				
Client ID:			Run ID: PIDFID_050103A		SeqNo:	330238					
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	19.22	0	20	0	96.1	83.3	121	0			

Sample ID	Reagent Blank 5m	Batch ID: R14206	Test Code: SW8021	Units: µg/L	Analysis Date	1/4/2005 8:43:42 AM	Prep Date				
Client ID:			Run ID: PIDFID_050104A		SeqNo:	330470					
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	19.97	0	20	0	99.9	83.3	121	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: 0412237

Project: River Terrace - MW #48 & MW #49

Sample ID	MB-7179	Batch ID: 7179	Test Code: SW8310	Units: µg/L	Analysis Date	17/2005 12:54:33 PM	Prep Date	1/3/2005			
Client ID:			Run ID:	HUGO_050107A	SeqNo:	331224					
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	ND	0.04									
Benzo(g,h,i)perylene	ND	0.03									
Indeno(1,2,3-cd)pyrene	ND	0.08									
Surr: Benzo(e)pyrene	8.55	0	10	0	85.5	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

Hall Environmental Analysis Laboratory

Date: 13-Jan-05

CLIENT: San Juan Refining

Work Order: 0412237

Project: River Terrace - MW #48 & MW #49

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-7169	Batch ID: 7169	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 4:09:07 PM	Prep Date	12/30/2004				
Client ID:		Run ID:	FID(17A) 2_041230A		SeqNo:	330396						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.595	1	5	0	112	81.2	149	0			
Sample ID	LCSD-7169	Batch ID: 7169	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 4:39:01 PM	Prep Date	12/30/2004				
Client ID:		Run ID:	FID(17A) 2_041230A		SeqNo:	330397						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.657	1	5	0	113	81.2	149	5.595	1.10	23	
Sample ID	GRO std 2.5ug	Batch ID: R14198	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 10:05:01 AM	Prep Date					
Client ID:		Run ID:	PIDFID_050103A		SeqNo:	330248						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.5244	0.05	0.5	0	105	82.6	114	0			
Sample ID	GRO std 2.5ug	Batch ID: R14198	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 6:33:51 PM	Prep Date					
Client ID:		Run ID:	PIDFID_050103A		SeqNo:	330252						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.4968	0.05	0.5	0	99.4	82.6	114	0.5244	5.41	8.39	
Sample ID	GRO std 2.5ug	Batch ID: R14206	Test Code: SW8015	Units: mg/L	Analysis Date	1/4/2005 11:13:21 AM	Prep Date					
Client ID:		Run ID:	PIDFID_050104A		SeqNo:	330473						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.5016	0.05	0.5	0	100	82.6	114	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: 0412237

Project: River Terrace - MW #48 & MW #49

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	BTEX Ics 100ng	Batch ID: R14198	Test Code: SW8021	Units: µg/L	Analysis Date	1/3/2005 5:04:03 PM	Prep Date				
Client ID:			Run ID: PIDFID_050103A		SeqNo:	330336					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	43.46	2.5	40	0	109	64.5	133	0			
Benzene	20.36	0.5	20	0	102	88.7	114	0			
Toluene	20.01	0.5	20	0	100	89.3	112	0			
Ethylbenzene	20.64	0.5	20	0	103	88.6	113	0			
Xylenes, Total	60.06	0.5	60	0	100	89.4	112	0			

Sample ID	BTEX std	100ng	Batch ID: R14206	Test Code: SW8021	Units: µg/L	Analysis Date	1/4/2005 7:42:37 PM	Prep Date			
Client ID:			Run ID: PIDFID_050104A			SeqNo:	330511				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	38.09	2.5	40	0	95.2	64.5	133	0			
Benzene	20.16	0.5	20	0	101	88.7	114	0			
Toluene	19.44	0.5	20	0	97.2	89.3	112	0			
Ethylbenzene	20.19	0.5	20	0	101	88.6	113	0			
Xylenes, Total	59.17	0.5	60	0	98.6	89.4	112	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: 0412237
 Project: River Terrace - MW #48 & MW #49

Sample ID	LCS-7179	Batch ID: 7179	Test Code: SW8310	Units: µg/L	Analysis Date	17/2005 1:42:33 PM	Prep Date	1/3/2005			
Client ID:		Run ID:	HUGO_050107A		SeqNo:	331225					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	32.35	2.5	40	0	80.9	20.939	111.211	0			
1-Methylnaphthalene	32.39	2.5	40.1	0	80.8	22.016	110.385	0			
2-Methylnaphthalene	31.65	2.5	40	0	79.1	21.098	111.261	0			
Acenaphthylene	30.78	2.5	40.1	0	76.8	23.852	116.857	0			
Acenaphthene	31.39	2.5	40	0	78.5	27.524	111.73	0			
Fluorene	3.02	0.8	4.01	0	75.3	31.046	113.32	0			
Phenanthrene	1.75	0.6	2.01	0	87.1	42.279	115.749	0			
Anthracene	1.66	0.6	2.01	0	82.6	43.767	118.693	0			
Fluoranthene	3.46	0.3	4.01	0	86.3	55.334	117.461	0			
Pyrene	3.49	0.3	4.01	0	87.0	57.722	120.832	0			
Benz(a)anthracene	0.34	0.02	0.401	0	84.8	70.18	113.452	0			
Chrysene	1.69	0.2	2.01	0	84.1	43.942	141.404	0			
Benzo(b)fluoranthene	0.42	0.05	0.501	0	83.8	71.192	103.368	0			
Benzo(k)fluoranthene	0.22	0.02	0.25	0	88.0	75.336	107.209	0			
Benzo(a)pyrene	0.22	0.02	0.251	0	87.6	74.556	100.742	0			
Dibenz(a,h)anthracene	0.46	0.04	0.501	0	91.8	80.693	106.931	0			
Benzo(g,h,i)perylene	0.44	0.03	0.5	0	88.0	55.168	135.014	0			
Indeno(1,2,3-cd)pyrene	0.91	0.08	1.002	0	90.8	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

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
Work Order: 0412237
Project: River Terrace - MW #48 & MW #49

Sample ID	LCSD-7179	Batch ID: 7179	Test Code: SW8310	Units: µg/L	Analysis Date	1/7/2005 2:30:33 PM	Prep Date	1/3/2005			
Client ID:		Run ID:	HUGO_050107A		SeqNo:	331226					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	27.72	2.5	40	0	69.3	20.939	111.211	32.35	15.4	32.1	
1-Methylnaphthalene	29.52	2.5	40.1	0	73.6	22.016	110.385	32.39	9.27	32.7	
2-Methylnaphthalene	28.91	2.5	40	0	72.3	21.098	111.261	31.65	9.05	34	
Acenaphthylene	29.32	2.5	40.1	0	73.1	23.852	116.857	30.78	4.86	38.8	
Acenaphthene	30.78	2.5	40	0	77.0	27.524	111.73	31.39	1.96	38.6	
Fluorene	3.01	0.8	4.01	0	75.1	31.046	113.32	3.02	0.332	39.3	
Phenanthrene	1.77	0.6	2.01	0	88.1	42.279	115.749	1.75	1.14	25	
Anthracene	1.7	0.6	2.01	0	84.6	43.767	118.693	1.66	2.38	23.9	
Fluoranthene	3.66	0.3	4.01	0	91.3	55.334	117.461	3.46	5.62	15.7	
Pyrene	3.48	0.3	4.01	0	86.8	57.722	120.832	3.49	0.287	15.3	
Benz(a)anthracene	0.35	0.02	0.401	0	87.3	70.18	113.452	0.34	2.90	119	
Chrysene	1.72	0.2	2.01	0	85.6	43.942	141.404	1.69	1.76	16.6	
Benzo(b)fluoranthene	0.42	0.05	0.501	0	83.8	71.192	103.368	0.42	0	21.7	
Benzo(k)fluoranthene	0.23	0.02	0.25	0	92.0	75.336	107.209	0.22	4.44	19.4	
Benzo(a)pyrene	0.22	0.02	0.251	0	87.6	74.556	100.742	0.22	0	16.7	
Dibenz(a,h)anthracene	0.46	0.04	0.501	0	91.8	80.693	106.931	0.46	0	17.3	
Benzo(g,h,i)perylene	0.43	0.03	0.5	0	86.0	55.168	135.014	0.44	2.30	118	
Indeno(1,2,3-cd)pyrene	0.91	0.08	1.002	0	90.8	79.328	104.794	0.91	0	17.7	

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:

Work Order Number 0412237

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 ☐	
r - 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

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:

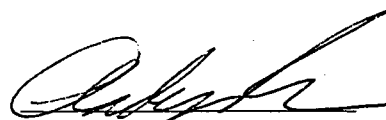
Hall Environmental Analysis Laboratory received 3 samples on 11/2/2004 for the analyses presented in the following report.

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

Client Sample ID: MW#49 10'-11.5'

Lab Order: 0411034

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

Project: MW#49 - Soil

Lab ID: 0411034-02

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 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						Analyst: NSB
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						Analyst: BDH
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

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 10'-11.5'

Lab Order: 0411034

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

Project: MW#49 - Soil

Lab ID: 0411034-02

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

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
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
 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

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

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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									
trans-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

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: 0411034

Project: MW#49 - Soil

QC SUMMARY REPORT

Method Blank

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	0.5011	0	0.5	0	100	68.4	123	0	
Surr: 4-Bromofluorobenzene	0.5024	0	0.5	0	100	70	119	0	
Surr: Dibromofluoromethane	0.5016	0	0.5	0	100	76.8	123	0	
Surr: Toluene-d8	0.4901	0	0.5	0	98.0	75.9	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: 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	Ics-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:	318237					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	1.001	0.05	1	0	100	75.3	121	0			
Toluene	0.9563	0.05	1	0	95.6	65.5	123	0			
Chlorobenzene	1.031	0.05	1	0	103	78.3	124	0			
1,1-Dichloroethene	1.017	0.05	1	0	102	72.5	125	0			
Trichloroethene (TCE)	0.9027	0.05	1	0	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 ☐		
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 505.345.4107
www.hallenvironmental.com

Client: SAN Juan Refining

Project Name:

MW#49-501/

Address: #50 Rd/4990

Bloomfield NM

07413

Phone #: 505-1037-4101

Fax #: 505-632-3911

Date _____

Time

Matrix

Sample I.D. No.

Number/Volume

HEAL No.

Preservative

HgCl_2	HNO_3

10-28-01

W

1.00

mw #49 5-65-

1-401

04/034-1



MW #49 10-11.5'
MW #49 15-16.5'

1-452	1-452

2	3	

Date: _____

Time:

Relinquished By: (Signature)

Printed By: (Signature)

Received By: (Signature)

Date: 11/01/04

Time: 2pm

Relinquished By: (Signature) _____

quished By: (Signature)

Received By: (Signature)

ANALYSIS REQUEST

[illegible]

Remarks:

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
Tetrachloroethane (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
Sum: 1,2-Dichloroethane-d4	100	70.6-124		%REC	10	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

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
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
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
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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: 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
Sum: 1,2-Dichloroethane-d4	100	70.6-124		%REC	1	11/3/2004
Sum: 4-Bromofluorobenzene	98.6	76.4-130		%REC	1	11/3/2004
Sum: Dibromofluoromethane	93.1	67.2-131		%REC	1	11/3/2004
Sum: 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
 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

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									
Surf: BFB		20.09	0	20	0	100	74	118	0			

CLIENT: San Juan Refining

Work Order: 0411033

Project: MW #49-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									
Is-1,3-Dichloropropene	ND	1									

Qualifiers: ND - Not Detected at the Reporting Limit
 I - 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: 0411033
Project: MW #49-Water

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 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

[illegible]

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				SagNo:	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									
Benzo(g,h,i)perylene	ND	0.03									
Indeno(1,2,3-cd)pyrene	ND	0.08									
Surf: Benzo(e)pyrene	9.47	0	10	0	94.7	54	102	0			J

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

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	PQL	SPK value	SeqNo: 318408	
Analyte	Result	PQL	SPK Ref Val	%REC	%RPD
Mercury	0.00005025	0.0002			J

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	PQL	SPK value	SeqNo: 319298	
Analyte	Result	PQL	SPK Ref Val	%REC	%RPD
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	PQL	SPK value	SeqNo: 319467	
Analyte	Result	PQL	SPK Ref Val	%REC	%RPD
Arsenic	ND	2.5			

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

CLIENT: San Juan Refining
Work Order: 0411033
Project: MW #49-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: 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	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
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

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

Sample ID	GRO s/d 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	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

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	79.329	104.794	0			

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analytic 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 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 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-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
Mercury		0.005232	0.0002	0.0005	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
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

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

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

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 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
 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-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	0.4965	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
 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 Duplicate

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	20
Barium	0.4894	0.02	0.5	0	97.9	80	120	0.4857	0.761	20	20
Cadmium	0.4967	0.002	0.5	0.0006448	99.2	80	120	0.4953	0.294	20	20
Calcium	48.21	1	50	0	96.4	80	120	47.73	0.996	20	20
Chromium	0.4937	0.006	0.5	0	98.7	80	120	0.4915	0.442	20	20
Iron	0.4794	0.05	0.5	0	95.9	80	120	0.4884	1.87	20	20
Lead	0.4987	0.005	0.5	0	99.7	80	120	0.4965	0.431	20	20
Magnesium	48.56	1	50	0	97.1	80	120	48.35	0.432	20	20
Manganese	0.4832	0.002	0.5	0	96.6	80	120	0.4811	0.437	20	20
Potassium	51.37	1	50	0	103	80	120	51.1	0.527	20	20
Selenium	0.4727	0.05	0.5	0	94.5	80	120	0.4682	0.954	20	20
Silver	0.5457	0.005	0.5	0.007271	108	80	120	0.5536	1.44	20	20
Sodium	54.83	1	50	0	110	80	120	54.62	0.377	20	20
Uranium	4.683	0.1	5	0	93.7	80	120	4.649	0.731	20	20
Zinc	0.479	0.05	0.5	0	95.8	80	120	0.4739	1.07	20	20

Sample ID	LCSD-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

8



COVER LETTER

January 13, 2005

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

RE: River Terrace - MW #48 & MW #49

Order No.: 0412237

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 2 samples on 12/28/2004 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: 13-Jan-05

CLIENT: San Juan Refining
Lab Order: 0412237
Project: River Terrace - MW #48 & MW #49
Lab ID: 0412237-01

Client Sample ID: MW #48
Collection Date: 12/27/2004 1:50:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	1/3/2005 5:09:41 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/3/2005 5:09:41 PM
Surr: DNOP	112	58-140		%REC	1	1/3/2005 5:09:41 PM
EPA METHOD 8015B: GASOLINE RANGE						
Gasoline Range Organics (GRO)	28	5.0		mg/L	100	1/3/2005 5:34:00 PM
Surr: BFB	111	78.3-120		%REC	100	1/3/2005 5:34:00 PM
EPA METHOD 8021B: VOLATILES						
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	1/3/2005 5:34:00 PM
Benzene	690	50		µg/L	100	1/3/2005 5:34:00 PM
Toluene	ND	50		µg/L	100	1/3/2005 5:34:00 PM
Ethylbenzene	1900	50		µg/L	100	1/3/2005 5:34:00 PM
Xylenes, Total	8200	50		µg/L	100	1/3/2005 5:34:00 PM
Surr: 4-Bromofluorobenzene	110	83.3-121		%REC	100	1/3/2005 5:34:00 PM
EPA METHOD 8310: PAHS						
Naphthalene	190	13		µg/L	5	1/10/2005 12:51:57 PM
1-Methylnaphthalene	69	2.5		µg/L	1	1/7/2005 3:18:32 PM
2-Methylnaphthalene	76	2.5		µg/L	1	1/7/2005 3:18:32 PM
Acenaphthylene	ND	2.5		µg/L	1	1/7/2005 3:18:32 PM
Acenaphthene	ND	2.5		µg/L	1	1/7/2005 3:18:32 PM
Fluorene	1.1	0.80		µg/L	1	1/7/2005 3:18:32 PM
Phenanthrene	2.2	0.60		µg/L	1	1/7/2005 3:18:32 PM
Anthracene	ND	0.60		µg/L	1	1/7/2005 3:18:32 PM
Fluoranthene	ND	0.30		µg/L	1	1/7/2005 3:18:32 PM
Pyrene	ND	0.30		µg/L	1	1/7/2005 3:18:32 PM
Benz(a)anthracene	ND	0.020		µg/L	1	1/7/2005 3:18:32 PM
Chrysene	ND	0.20		µg/L	1	1/7/2005 3:18:32 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	1/7/2005 3:18:32 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	1/7/2005 3:18:32 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	1/7/2005 3:18:32 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	1/7/2005 3:18:32 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	1/7/2005 3:18:32 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	1/7/2005 3:18:32 PM
Surr: Benzo(e)pyrene	81.8	54-102		%REC	1	1/7/2005 3:18:32 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: 13-Jan-05

CLIENT: San Juan Refining
 Lab Order: 0412237
 Project: River Terrace - MW #48 & MW #49
 Lab ID: 0412237-02

Client Sample ID: MW #49
 Collection Date: 12/27/2004 1:00:00 PM
 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	1/4/2005 10:11:04 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	1/4/2005 10:11:04 AM
Surr: DNOP	98.2	58-140		%REC	1	1/4/2005 10:11:04 AM
EPA METHOD 8015B: GASOLINE RANGE Analyst: NSB						
Gasoline Range Organics (GRO)	0.23	0.050		mg/L	1	1/4/2005 10:13:32 AM
Surr: BFB	108	78.3-120		%REC	1	1/4/2005 10:13:32 AM
EPA METHOD 8021B: VOLATILES Analyst: NSB						
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	1/4/2005 10:13:32 AM
Benzene	9.7	0.50		µg/L	1	1/4/2005 10:13:32 AM
Toluene	ND	0.50		µg/L	1	1/4/2005 10:13:32 AM
Ethylbenzene	1.9	0.50		µg/L	1	1/4/2005 10:13:32 AM
Xylenes, Total	0.52	0.50		µg/L	1	1/4/2005 10:13:32 AM
Surr: 4-Bromofluorobenzene	105	83.3-121		%REC	1	1/4/2005 10:13:32 AM
EPA METHOD 8310: PAHS Analyst: BL						
Naphthalene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
1-Methylnaphthalene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
2-Methylnaphthalene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
Acenaphthylene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
Acenaphthene	ND	2.5		µg/L	1	1/7/2005 4:06:32 PM
Fluorene	ND	0.80		µg/L	1	1/7/2005 4:06:32 PM
Phenanthrene	ND	0.60		µg/L	1	1/7/2005 4:06:32 PM
Anthracene	ND	0.60		µg/L	1	1/7/2005 4:06:32 PM
Fluoranthene	ND	0.30		µg/L	1	1/7/2005 4:06:32 PM
Pyrene	ND	0.30		µg/L	1	1/7/2005 4:06:32 PM
Benz(a)anthracene	ND	0.020		µg/L	1	1/7/2005 4:06:32 PM
Chrysene	ND	0.20		µg/L	1	1/7/2005 4:06:32 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	1/7/2005 4:06:32 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	1/7/2005 4:06:32 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	1/7/2005 4:06:32 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	1/7/2005 4:06:32 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	1/7/2005 4:06:32 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	1/7/2005 4:06:32 PM
Surr: Benzo(e)pyrene	88.0	54-102		%REC	1	1/7/2005 4:06:32 PM

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: 13-Jan-05

CLIENT: San Juan Refining
Work Order: 0412237
Project: River Terrace - MW #48 & MW #49

QC SUMMARY REPORT

Method Blank

Sample ID	MB-7169	Batch ID: 7169	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 3:39:14 PM	Prep Date	12/30/2004			
Client ID:		Run ID:	FID(17A) 2_041230A		SeqNo:	330395					
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	1.194	0	1	0	119	58	140	0			

Sample ID	Reagent Blank 5m	Batch ID: R14198	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 9:35:16 AM	Prep Date				
Client ID:		Run ID:	PIDFID_050103A		SeqNo:	330242					
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	19.09	0	20	0	95.5	78.3	120	0			

Sample ID	Reagent Blank 5m	Batch ID: R14206	Test Code: SW8015	Units: mg/L	Analysis Date	1/4/2005 8:43:42 AM	Prep Date				
Client ID:		Run ID:	PIDFID_050104A		SeqNo:	330471					
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	19.24	0	20	0	96.2	78.3	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

Method Blank

CLIENT: San Juan Refining
 Work Order: 0412237
 Project: River Terrace - MW #48 & MW #49

Sample ID	Reagent Blank 5m	Batch ID: R14198	Test Code: SW8021	Units: µg/L	Analysis Date	1/3/2005 9:35:16 AM	Prep Date				
Client ID:			Run ID: PIDFID_050103A		SeqNo: 330238						
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	19.22	0	20	0	96.1	83.3	121	0			

Sample ID	Reagent Blank 5m	Batch ID: R14206	Test Code: SW8021	Units: µg/L	Analysis Date	1/4/2005 8:43:42 AM	Prep Date				
Client ID:			Run ID: PIDFID_050104A		SeqNo:	330470					
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	19.97	0	20	0	99.9	83.3	121	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: 0412237

Project: River Terrace - MW #48 & MW #49

Sample ID	MB-7179	Batch ID: 7179	Test Code: SW8310	Units: µg/L	Analysis Date	1/7/2005 12:54:33 PM	Prep Date	1/3/2005			
Client ID:			Run ID:	HUGO_050107A	SeqNo:	331224					
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	ND	0.04									
Benzo(g,h,i)perylene	ND	0.03									
Indeno(1,2,3-cd)pyrene	ND	0.08									
Surr: Benzo(e)pyrene	8.55	0	10	0	85.5	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
3

Hall Environmental Analysis Laboratory

Date: 13-Jan-05

CLIENT: San Juan Refining

Work Order: 0412237

Project: River Terrace - MW #48 & MW #49

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID	LCS-7169	Batch ID: 7169	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 4:09:07 PM	Prep Date	12/30/2004				
Client ID:		Run ID:	FID(17A) 2_041230A		SeqNo:	330396						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.595	1	5	0	112	81.2	149	0			
Sample ID	LCSD-7169	Batch ID: 7169	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 4:39:01 PM	Prep Date	12/30/2004				
Client ID:		Run ID:	FID(17A) 2_041230A		SeqNo:	330397						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)		5.657	1	5	0	113	81.2	149	5.595	1.10	23	
Sample ID	GRO std 2.5ug	Batch ID: R14198	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 10:05:01 AM	Prep Date					
Client ID:		Run ID:	PIDFID_050103A		SeqNo:	330248						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.5244	0.05	0.5	0	105	82.6	114	0			
Sample ID	GRO std 2.5ug	Batch ID: R14198	Test Code: SW8015	Units: mg/L	Analysis Date	1/3/2005 6:33:51 PM	Prep Date					
Client ID:		Run ID:	PIDFID_050103A		SeqNo:	330252						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.4968	0.05	0.5	0	99.4	82.6	114	0.5244	5.41	8.39	
Sample ID	GRO std 2.5ug	Batch ID: R14206	Test Code: SW8015	Units: mg/L	Analysis Date	1/4/2005 11:13:21 AM	Prep Date					
Client ID:		Run ID:	PIDFID_050104A		SeqNo:	330473						
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)		0.5016	0.05	0.5	0	100	82.6	114	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: 0412237

Project: River Terrace - MW #48 & MW #49

Sample ID	BTEX Ics 100ng	Batch ID: R14198	Test Code: SW8021	Units: µg/L	Analysis Date	1/3/2005 5:04:03 PM	Prep Date				
Client ID:		Run ID:	PIDFID_050103A		SeqNo:	330336					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE) Benzene Toluene Ethylbenzene Xylenes, Total	43.46	2.5	40	0	109	64.5	133	0			
	20.36	0.5	20	0	102	88.7	114	0			
	20.01	0.5	20	0	100	89.3	112	0			
	20.64	0.5	20	0	103	88.6	113	0			
	60.06	0.5	60	0	100	89.4	112	0			

Sample ID	BTEX std 100ng	Batch ID: R14206	Test Code: SW8021	Units: µg/L	Analysis Date	1/4/2005 7:42:37 PM	Prep Date				
Client ID:		Run ID: PIDFID_050104A			SeqNo:	330511					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	38.09	2.5	40	0	95.2	64.5	133	0			
Benzene	20.16	0.5	20	0	101	88.7	114	0			
Toluene	19.44	0.5	20	0	97.2	89.3	112	0			
Ethylbenzene	20.19	0.5	20	0	101	88.6	113	0			
Xylenes, Total	59.17	0.5	60	0	98.6	89.4	112	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: 0412237
 Project: River Terrace - MW #48 & MW #49

Sample ID	LCS-7179	Batch ID: 7179	Test Code: SW8310	Units: µg/L	Analysis Date	1/7/2005 1:42:33 PM	Prep Date	1/3/2005			
Client ID:		Run ID:	HUGO_050107A		SeqNo:	331225					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	32.35	2.5	40	0	80.9	20.939	111.211	0			
1-Methylnaphthalene	32.39	2.5	40.1	0	80.8	22.016	110.385	0			
2-Methylnaphthalene	31.65	2.5	40	0	79.1	21.098	111.261	0			
Acenaphthylene	30.78	2.5	40.1	0	76.8	23.852	116.857	0			
Acenaphthene	31.39	2.5	40	0	78.5	27.524	111.73	0			
Fluorene	3.02	0.8	4.01	0	75.3	31.046	113.32	0			
Phenanthrene	1.75	0.6	2.01	0	87.1	42.279	115.749	0			
Anthracene	1.66	0.6	2.01	0	82.6	43.767	118.693	0			
Fluoranthene	3.46	0.3	4.01	0	86.3	55.334	117.461	0			
Pyrene	3.49	0.3	4.01	0	87.0	57.722	120.832	0			
Benz(a)anthracene	0.34	0.02	0.401	0	84.8	70.18	113.452	0			
Chrysene	1.69	0.2	2.01	0	84.1	43.942	141.404	0			
Benzo(b)fluoranthene	0.42	0.05	0.501	0	83.8	71.192	103.368	0			
Benzo(k)fluoranthene	0.22	0.02	0.25	0	88.0	75.336	107.209	0			
Benzo(a)pyrene	0.22	0.02	0.251	0	87.6	74.556	100.742	0			
Dibenz(a,h)anthracene	0.46	0.04	0.501	0	91.8	80.693	106.931	0			
Benzo(g,h,i)perylene	0.44	0.03	0.5	0	88.0	55.168	135.014	0			
Indeno(1,2,3-cd)pyrene	0.91	0.08	1.002	0	90.8	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

QC SUMMARY REPORT

Laboratory Control Spike Duplicate

CLIENT: San Juan Refining
 Work Order: 0412237
 Project: River Terrace - MW #48 & MW #49

Sample ID	LCSD-7179	Batch ID: 7179	Test Code: SW8310	Units: µg/L	Analysis Date	17/2005 2:30:33 PM	Prep Date	1/3/2005				
Client ID:	Run ID:	HUGO_050107A	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Analyte	Result											
Naphthalene	27.72	2.5	40	0	0	69.3	20.939	111.211	32.35	15.4	32.1	
1-Methylnaphthalene	29.52	2.5	40.1	0	0	73.6	22.016	110.385	32.39	9.27	32.7	
2-Methylnaphthalene	28.91	2.5	40	0	0	72.3	21.098	111.261	31.65	9.05	34	
Acenaphthylene	29.32	2.5	40.1	0	0	73.1	23.852	116.857	30.78	4.86	38.8	
Acenaphthene	30.78	2.5	40	0	0	77.0	27.524	111.73	31.39	1.96	38.6	
Fluorene	3.01	0.8	4.01	0	0	75.1	31.046	113.32	3.02	0.332	39.3	
Phenanthrene	1.77	0.6	2.01	0	0	88.1	42.279	115.749	1.75	1.14	25	
Anthracene	1.7	0.6	2.01	0	0	84.6	43.767	118.693	1.66	2.38	23.9	
Fluoranthene	3.66	0.3	4.01	0	0	91.3	55.334	117.461	3.46	5.62	15.7	
Pyrene	3.48	0.3	4.01	0	0	86.8	57.722	120.832	3.49	0.287	15.3	
Benz(a)anthracene	0.35	0.02	0.401	0	0	87.3	70.18	113.452	0.34	2.90	119	
Chrysene	1.72	0.2	2.01	0	0	85.6	43.942	141.404	1.69	1.76	16.6	
Benzo(b)fluoranthene	0.42	0.05	0.501	0	0	83.8	71.192	103.368	0.42	0	21.7	
Benzo(k)fluoranthene	0.23	0.02	0.25	0	0	92.0	75.336	107.209	0.22	4.44	19.4	
Benzo(a)pyrene	0.22	0.02	0.251	0	0	87.6	74.556	100.742	0.22	0	16.7	
Dibenz(a,h)anthracene	0.46	0.04	0.501	0	0	91.8	80.693	106.931	0.46	0	17.3	
Benzo(g,h,i)perylene	0.43	0.03	0.5	0	0	86.0	55.168	135.014	0.44	2.30	118	
Indeno(1,2,3-cd)pyrene	0.91	0.08	1.002	0	0	90.8	79.328	104.794	0.91	0	17.7	

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:

Work Order Number 0412237

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?	5°	4° C ± 2 Acceptable	If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

