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REPORTS

YEAR(S):

2005

MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS & CONSULTANTS

October 28, 2005

Ms. Hope Monzeglio
State of New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Re: Giant Bloomfield Refinery
North Boundary Barrier Corrective Measures Implementation Report

Dear Ms. Monzeglio:

On behalf of Giant Refining Company Bloomfield (GRCB), Malcolm Pirnie, Inc. is pleased to submit for your review and approval the attached table of contents for the North Boundary Barrier Corrective Measures Implementation (CMI) Report. The CMI report will be submitted to the State of New Mexico Environmental Department (NMED) within 120 days upon receipt of approval, as requested in the NMED letter to GRCB dated July 26, 2005.

We are looking forward to receiving your approval of the outline for the North Boundary Barrier CMI Report. If you have any questions in this matter, please contact Randy Schmaltz at 505-632-4171.

Sincerely,

MALCOLM PIRNIE, INC.

Dennis L. Tucker

Dennis Tucker, P.E.
Senior Associate

Enclosure

Cc: Wayne Price – OCD
Denny Foust - OCD Aztec Office
Bob Wilkinson – EPA
Ed Riege - Giant
Randy Schmaltz – Giant
Dave Cobrain - NMED

4646 E. VAN BUREN STREET SUITE 400 PHOENIX, AZ 85008-6945 602-241-1770 fax 602-231-0131 http://www.pirnie.com

DRAFT CORRECTIVE MEASURES IMPLEMENTATION REPORT BLOOMFIELD REFINERY NORTH BOUNDARY BARRIER

GIANT REFINING COMPANY

October 2005

Prepared for
Giant Refining Company
50 Road 4990
Bloomfield, New Mexico 87413

Prepared by
Malcolm Pirnie Inc.
4646 E. Van Buren Street, #400
Phoenix, AZ 85008

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MALCOLM PIRNIE

MALCOLM PIRNIE, INC.
INDEPENDENT ENVIRONMENTAL ENGINEERS, SCIENTISTS & CONSULTANTS

October 28, 2005

Ms. Hope Monzeglio
NMED Hazardous Waste Bureau
2905 Rodeo Park Dr. East. BLDG 1
Santa Fe, New Mexico 87505

Re: **Giant Refining Company, Bloomfield Refinery**
River Terrace Voluntary Corrective Measures - Revised Monitoring Plan
NMD089416416 HWB-GRCB-05-002

Dear Ms. Monzeglio:

Malcolm Pirnie, on behalf of Giant Refining Company, Bloomfield Refinery (GRCB), is submitting the enclosed revised *Voluntary Corrective Measures Bioventing Monitoring Plan* in response to the New Mexico Environmental Department's (NMED's) September 30, 2005 letter of Approval with Modifications for the plan.

GRCB requests NMED approval of the following variations from the modifications requested by NMED in the letter. These variations are reflected in the revised plan.

1. GRCB analyzed groundwater samples from the river terrace wells for BTEX, MTBE, GRO, and DRO in August 2005 (see Table A of plan) as part of regularly-scheduled monitoring events. We propose these results be used for the pre-dewatering organic samples indicated in NMED Table 1D.
2. GRCB proposes the pre-dewatering soil gas samples indicated in NMED Table 1E be collected after dewatering has stabilized.

Three summary tables have been included in the revised plan to correspond with the three phases of required monitoring:

- Table 1A – Monitoring prior to system startup.
- Table 1B – Monitoring after dewatering stabilization and prior to bioventing.
- Table 1A – Routine system monitoring.

The monitoring summary tables requested by NMED have been incorporated into the revised plan as follows:

- NMED Table 1A appears as Table 1A.
- NMED Table 1B incorporated into Table 1B.
- NMED Table 1C incorporated into Table 1C.

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- NMED Table 1D
    - Pre-dewater organic sampling conducted in August 2005, see Table A.
    - Pre-dewater metals and dewater start-up GAC sampling incorporated into Table 1B.
    - Post-startup sampling incorporated into Table 1C.
- NMED Table 1E
    - Pre-dewater soil gas sampling is proposed as post-dewatering sampling in Table 1B.
    - Post-startup sampling incorporated into Table 1C.

GRCB looks forward to receiving NMED approval of the requested variations. Please feel free to call me at 602-797-4623, or Randy Schmaltz at 505-632-4171, if you have any questions.

Sincerely,

MALCOLM PIRNIE, INC.

Dennis L. Tucker, P.E., DEE
Senior Associate

Cc: Denny Foust - OCD Aztec Office
Wayne Price - OCD
Dave Cobrain – NMED Hazardous Waste Bureau
Bob Wilkinson – EPA
Ed Riege – Giant Refining Co., Gallup
Randy Schmaltz – Giant Refining Co., Bloomfield

MALCOLM PIRNIE

BIOVENTING MONITORING PLAN (REVISED)
RIVER TERRACE VOLUNTARY CORRECTIVE MEASURES

GIANT BLOOMFIELD REFINERY
BLOOMFIELD, NEW MEXICO

October 28, 2005

Prepared for
Giant Bloomfield Refinery
50 Road 4990
Bloomfield, New Mexico 87413

Prepared by
Malcolm Pirnie Inc.
4646 E. Van Buren Street, Suite 400
Phoenix, Arizona 85008

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1.0 INTRODUCTION

This monitoring plan describes monitoring activities developed to assess baseline conditions and provide periodic progress information of the bioventing system located within the Giant Refinery river terrace area in Bloomfield, New Mexico. The purpose of collecting baseline samples is to evaluate the current site conditions prior to remediation activities that will allow for comparison, or measure of progress, once remediation has commenced. Ongoing, or performance, monitoring provides periodic feedback of remediation performance.

2.0 BASELINE MONITORING

Baseline samples of groundwater, soil, and soil gas will be collected from specified temporary piezometers (TPs), monitoring wells (MWs), and dewatering wells (DWs) for laboratory analysis to evaluate current site conditions prior to the start of remediation activities. Specified field parameters and samples for analytical analysis will be collected prior to the start of the dewatering pumps, and once dewatering conditions have stabilized prior to starting the bioventing blower. Baseline analytical results will be compared with the results from final samples collected once remedial activities are completed.

Based on previous analytical results, contaminants of concern at the river terrace are primarily benzene, toluene, ethylbenzene, and xylenes (BTEX). Gasoline range organics (GRO) and diesel range organics (DRO) are included in the monitoring plan due to the nature of the fuel hydrocarbons. At the request of NMED, methyl tert butyl ether (MTBE) and the RCRA 8 metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag) are also included in the sampling analyses.

A well location map of the river terrace area is provided in Figure 1. Procedures for collecting baseline monitoring samples are described in Section 4.0. Procedures regarding sample handling are provided in Appendix A.

2.1 GROUNDWATER SAMPLING

Pre-Dewatering System and Air Injection System Start-Up

Baseline groundwater samples were collected from each TP well during the week of August 8, 2005 as part of the semi-annual sampling event at the refinery. Well TP-7 was not sampled because it appears to be completed in the River Terrace barrier wall and as such, does not yield a sufficient water volume. During sample activities, field parameters (temperature, conductivity, pH, and total dissolved solids (TDS)) were recorded prior to sample collection. Table A indicates the field parameters and samples collected during the August 2005 baseline groundwater sampling. The groundwater samples were submitted to the laboratory and analyzed for the following parameters:

- Volatile Organic Compounds – BTEX and MTBE by EPA Method 8021B
- Total Petroleum Hydrocarbons – Gasoline Range Organics (GRO) by EPA Modified Method 8015B
- Total Petroleum Hydrocarbons – Diesel Range Organics (DRO) by EPA Modified Method 8015B

Additional groundwater samples were collected from dewatering wells DW-1 and DW-2 following their installation during the week of August 22, 2005. The samples were submitted to the laboratory and analyzed for the following parameters:

- Anions by EPA Method 300.0
- Alkalinity by EPA Method 310.1
- Volatile Organic Compounds by EPA Method 8260B
- Poly-aromatic Hydrocarbons by EPA Method 8310
- Specific Conductance by EPA Method 120.1
- Mercury by EPA Method 7470
- Dissolved Metals by EPA Method 6010C
- Total Recoverable Metals by EPA Method 6010
- Total Dissolved Solids (TDS) by EPA Method 160.1

Groundwater samples were also collected from monitoring wells MW-48 and 49 during the week of August 22, 2005 as part of the monthly monitoring activities at the river terrace. The samples were submitted to the laboratory and analyzed for the following parameters:

- Anions by EPA Method 300.0
- Alkalinity by EPA Method 310.1
- Volatile Organic Compounds by EPA Method 8260B
- Specific Conductance by EPA Method 120.1
- Dissolved Metals by EPA Method 6010C
- Total Recoverable Metals by EPA Method 6010
- Total Dissolved Solids (TDS) by EPA Method 160.1

During groundwater sampling activities, depth to water and depth to product measurements were obtained prior to sample collection. These measurements were used to calculate the anticipated purge volume of each well before sample collection. A copy of the analytical reports for the samples described above is provided in Appendix C.

Groundwater field parameters (temperature, pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP)) will be collected from each of the MW, DW, and TP wells (except TP-7) prior to the start of dewatering as indicated in Table 1A.

Post-Dewatering System Start-Up and Prior to the Air Injection System Start-Up

Once dewatering conditions have stabilized, additional groundwater samples and baseline monitoring field parameters will be collected from the TP (except TP-7), DW, and MW wells. Table 1B summarizes the baseline field parameters and samples to be collected once dewatering conditions have stabilized. Groundwater samples will be collected for metals analysis from the TP, DW, and MW wells. The samples will be submitted to the laboratory for analysis and analyzed for the following parameters:

- Total Recoverable Metals - RCRA 8 Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag) by EPA Method 6010/7470

2.2 SOIL SAMPLING

A total of 22 subsurface soil samples were collected from the boreholes of the 13 bioventing (BV) wells during the week of August 15, 2005. Samples were collected above the water table at discrete intervals to assess baseline fuel hydrocarbon concentrations. The soil samples were submitted to the laboratory and analyzed for the following parameters:

- Volatile Organic Compounds - BTEX by EPA Method 8021B
- Total Petroleum Hydrocarbons – Gasoline Range Organics (GRO) by EPA Modified Method 8015B
- Total Petroleum Hydrocarbons – Diesel Range Organics (DRO) by EPA Modified Method 8015B

During soil sampling activities, headspace readings were recorded from the discrete sample intervals using a hand-held PID. Table A indicates the field parameters and samples collected during baseline soil sampling. Analytical results of the soil samples collected as part of baseline monitoring will be submitted when available. Confirmation samples will be collected from the same sample locations and at the same depth intervals once soil gas microbial respiration data indicate a significant reduction of fuel hydrocarbons has occurred in the soil.

2.3 SOIL GAS SAMPLING

Pre-Dewatering System and Air Injection System Start-Up

Prior to starting the dewatering pumps and blower, vapor-phase organics, oxygen, and carbon dioxide concentrations will be collected from each MW, DW, TP (except TP-7), and BV well using a hand-held photoionization detector (PID) and multi-gas meter. PID readings will be collected to assess fuel hydrocarbon concentrations in the vadose zone. Monitoring of oxygen and carbon dioxide concentrations will aid in assessing microbial activity levels. Table 1A summarizes the baseline soil gas field parameters to be collected.

Post-Dewatering System Start-Up and Prior to the Air Injection System Start-Up

After dewatering conditions have stabilized and prior to starting the blower, soil gas samples will be collected from each TP (except TP-7), MW, and DW for laboratory analysis. By allowing the groundwater table to recede, a thicker vadose zone will be exposed and representative soil gas samples can be collected to compare to performance samples collected during system operation. One soil gas sample from each specified sample location will be collected for laboratory analysis and analyzed for the following parameters:

- Volatile Organic Compounds - BTEX by EPA Method 8021B
- Total Petroleum Hydrocarbons – Gasoline Range Organics (GRO) by EPA Modified Method 8015B

During soil gas sampling activities, vapor-phase organics, oxygen, and carbon dioxide concentrations will be collected from each MW, DW, TP (except TP-7), and BV well using a hand-held photoionization detector (PID) and multi-gas meter. PID readings will be collected to assess fuel hydrocarbon concentrations within the exposed vadose zone, and to provide a correlation to vapor samples submitted to the laboratory. Monitoring of oxygen and carbon dioxide concentrations will allow for evaluation of baseline in-situ respiration and microbial activity. Table 1B summarizes the field parameters and samples to be obtained during baseline soil gas sampling.

3.0 PERFORMANCE MONITORING

The purpose of ongoing, or performance monitoring is to assess the progress of the treatment system in reducing fuel hydrocarbons. Laboratory analysis of groundwater, treated groundwater, and soil gas will be included in the performance monitoring. In addition, certain field parameter data will be collected using portable gauges and gas meters.

Table 1C summarizes the field parameters and samples to be obtained during system startup and routine performance monitoring. Procedures regarding sample handling are provided in Appendix A. Inspection logs to record system readings and field measurements are included in Appendix B. A location map of wells within the River Terrace area is provided in Figure 1.

3.1 ROUTINE SYSTEM MONITORING

3.1.1 Pressure Readings

Pressure readings will be collected from each of the MW, DW, and TP wells (except TP-7) using a hand-held Magnahelic gauge and sample port at the top of each well. The pressure readings will be recorded weekly during the first month of system operation, monthly during the first quarter and then quarterly thereafter. Positive pressure readings in these sample locations indicate that air from the blower is reaching the intended area. The applied air flowrate at each BV well may be adjusted as needed to maintain an adequate radius of influence.

3.1.2 Groundwater Measurements

Depth to groundwater and depth to product measurements will be collected from each of the MW, DW, and TP wells (except TP-7) using an electronic level meter. Depth to groundwater and depth to product measurements will be recorded weekly for the first four weeks, monthly for the first quarter, and then quarterly thereafter. The purpose of the measurements is to monitor seasonal fluctuations within the area, and the effectiveness of dewatering the subsurface to increase the thickness of the vadose zone.

3.1.3 Groundwater Quality Monitoring

3.1.3.1 Groundwater Field Parameters

Groundwater field parameters (temperature, pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP)) will be collected from each of the MW, DW, and TP wells (except TP-7) weekly for the first four weeks of system operation, monthly for the first quarter, and then quarterly thereafter.

3.1.3.2 Groundwater Sampling

Groundwater samples will be collected quarterly from each of the MW, DW, and TP wells (except TP-7) during system operation. During sample collection, field parameters (temperature, pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP)) will be recorded prior to sample collection. The samples will be submitted to the laboratory and analyzed for the following parameters:

- Volatile Organic Compounds – BTEX and MTBE by EPA Method 8021B
- Total Petroleum Hydrocarbons – Gasoline Range Organics (GRO) by EPA Modified Method 8015B
- Total Petroleum Hydrocarbons – Diesel Range Organics (DRO) by EPA Modified Method 8015B
- Total Recoverable Metals – Total Lead and Chromium by EPA Method 6010C (for MW and DW wells only)

The procedure for collecting groundwater samples is described in Section 4.1.

3.1.4 Soil Gas Monitoring

3.1.4.1 Soil Gas Field Parameters

Field measurements of soil gas hydrocarbons (using a PID) and oxygen and carbon dioxide concentrations (using a multi-gas meter) will be collected from each of the MW, DW, and TP wells (except TP-7) weekly for the first four weeks of system operation, monthly for the first quarter, and then quarterly thereafter. Oxygen and carbon dioxide monitoring will allow for evaluation of in-situ respiration and microbial activity. A decrease in oxygen and increase in carbon dioxide is expected to occur over the course of system operation as the microorganisms take in oxygen, degrade the fuel hydrocarbons, and respire carbon dioxide. However, since oxygen is being injected into the subsurface continually during routine monitoring, a decrease in oxygen may not be readily measurable. The main indicator of microbial activity will be the carbon dioxide levels. Two respiration tests are planned during the monitoring period to provide additional biological activity data. These tests are discussed in Section 3.2.

The procedure for collecting soil gas samples is described in Section 4.3.

3.1.4.2 Soil Gas Sampling

Quarterly soil gas samples will be collected from each of the MW, DW, and TP wells (except TP-7) using a portable vacuum pump and tedlar bag to monitor changes in soil

gas hydrocarbons. Each sample will be submitted to the laboratory and analyzed for the following parameters:

- Volatile Organic Compounds - BTEX by EPA Method 8021B
- Total Petroleum Hydrocarbons – Gasoline Range Organics (GRO) by EPA Modified Method 8015B

The procedure for collecting soil gas samples is described in Section 4.3.

3.1.5 GAC Breakthrough Sampling

Extracted groundwater from the dewatering wells will be treated prior to discharging to the raw water ponds, located within the east portion of the refinery. Extracted groundwater will be pumped through two GAC filters positioned in series for removal of dissolved-phase hydrocarbons.

GAC sampling will include influent samples from a sample port located upstream of the GAC filters, and effluent samples collected from ports located after each of the lead and lag GAC filters. Monitoring the performance of the GAC filters is necessary to estimate GAC change-out frequency.

GAC influent samples (GAC Inf) and effluent samples collected downstream of the lag GAC filter (GAC 2 Eff) will be collected at system start-up and quarterly thereafter. Effluent samples from the lead GAC filter (GAC 1 Eff) will be obtained at system startup and weekly thereafter until breakthrough is detected. Once the breakthrough profile is determined, GAC 1 Eff samples will be obtained monthly.

Samples collected during GAC breakthrough monitoring will be submitted to the laboratory and analyzed for the following parameters:

- Volatile Organic Compounds – BTEX, MTBE by EPA Method 8021B
- Total Petroleum Hydrocarbons – Gasoline Range Organics (GRO) by EPA Modified Method 8015B
- Total Petroleum Hydrocarbons – Diesel Range Organics (DRO) by EPA Modified Method 8015B
- Total Recoverable Metals – RCRA 8 Metals (As, Ba, Cd, Cr, Pb, Hg, Se, and Ag) by EPA Method 6010/7470 (GAC Inf only at startup)

Table 1C summarizes the GAC sampling activities for performance monitoring.

3.2 IN-SITU RESPIRATION TESTS

Following approximately two months of system operation, and in the summer of 2006, the bioventing blower will be shutdown while the dewatering wells remain operational. During in-situ respiration testing, oxygen and carbon dioxide concentrations will be collected from TP-1, 2, 5, 6, 8, 9, and each of the 13 BV wells using a hand-held multi-gas meter. The purpose of the testing is to monitor the level of microbial activity. A decline in oxygen and an increase in carbon dioxide concentrations are expected after the source of oxygen are turned off. The microbes will continue to take in oxygen and produce carbon dioxide while they degrade the fuel hydrocarbons. The rate at which the carbon dioxide rebound occurs will be measured over a 48- to 72-hour time period during each test. Monitoring during testing will occur every half hour for the first four hours, every hour until hour twelve, then every 10 to 12 hours up to two to four days. Monitoring will cease when parameters stabilize in the two- to four-day period.

4.0 SAMPLING PROCEDURES

4.1 GROUNDWATER SAMPLING PROCEDURE

Each sample well is purged of stagnant groundwater prior to sample collection. A hand bailer is used during well purging and sample collection activities. Field parameters (temperature, pH, conductivity, and total dissolved solids (TDS)) are recorded during well purging activities using a portable field meters.

Purging consists of evacuating at least three casing volumes from each well prior to sample collection. All purged water is containerized in a 55-gallon drum. At the completion of field activities, the drum is transported to refinery's API separator for treatment.

Groundwater samples are contained in sample containers provided by the analytical laboratory and preserved, as needed, for the desired analysis. To avoid volatilization of potential contaminants, the volatile organic analysis vials are completely filled and inspected for air bubbles to achieve zero headspace.

All samples are properly labeled and placed on ice in sample coolers for delivery to the off-site laboratory. Refer to Appendix A for further details regarding sample handling.

4.2 SOIL SAMPLING PROCEDURE

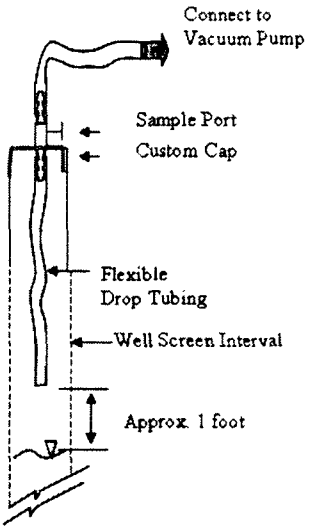
Subsurface soils are collected using a drill rig equipped with a hollow-stem auger drill bit and split spoon sampler. Each soil sample is collected by the following procedure:

- A 4-inch drill auger is used to advance the hole to the specified sample interval below grade.
- Soil samples are collected in a brass sleeve using a split spoon sampler.
- The brass sleeve is secured with end caps and labeled with the appropriate information.
- The sample is then placed in a cooler on ice immediately. Refer to Appendix A for procedures regarding sample handling.

Headspace monitoring is performed at each of the sample depth intervals using a photoionization detector (PID). The headspace test consists of filling a sealable plastic gas with approximately two ounces of soil is collected using a decontaminated stainless steel spoon. The sealed bag is allowed to sit for approximately 10 minutes to equilibrate and allow for volatilization of vapor organics in the sample. The tip of the PID is then inserted into the bag, and the resulting PID reading is recorded.

4.3 SOIL GAS SAMPLING PROCEDURE

Each TP is equipped with an air-tight well cap for sample extraction through a sample port/opening at the top of the well casing. Flexible poly tubing connects to the underneath side of the cap and extends down into the well casing to approximately 1 foot above the water table. The specific sample depth at each sample location will be determined based on depth to groundwater measurements collected prior to each soil gas sampling event. Flexible tubing from the suction end of the portable vacuum pump connects to the sample port at the well cap.



Typical Set-Up for Soil Gas Sampling

The vacuum pump is operated at a low flow rate (approximately 1 cfs) to purge stagnant air out of the soil gas sampling assembly. Approximately three purge volumes are withdrawn from the well casing prior to sample collection. After the well is purged, a sample tedlar bag is attached to the tubing at the discharge end of the vacuum pump for sample collection. All samples are properly labeled and placed in a sample cooler for delivery to the off-site laboratory. Refer to Appendix A for procedures regarding sample handling.

During sample activities, field measurements of vapor-phase organics, oxygen, and carbon dioxide concentrations are recorded using portable field instruments prior to collecting the sample for laboratory analysis. Once the well has been purged, a field sample is collected using a tedlar bag.

Decontamination procedures include dedicated tubing for each of the wells sampled, and a five-minute purge time of the vacuum pump in ambient air.

TABLES

Table A: Summary of Baseline Monitoring Completed in August 2005

Bioventing Monitoring Plan
Giant Refinery - Bloomfield, New Mexico

Location	Matrix	DTW / DTP	Temp	pH	Cond	TDS	% CO2	% O2	Organic Vapors (PID)	Pressure	Baseline Samples
MW-48 (1)	GW	H	H	H	H	H					V
MW-49 (1)	GW	H	H	H	H	H					V
DW-1 (1)	GW	H	H	H	H	H					B
DW-2 (1)	GW	H	H	H	H	H					B
TP-1	GW	H	H	H	H	H					B, GRO, DRO
TP-2	GW	H	H	H	H	H					B, GRO, DRO
TP-3	GW	H	H	H	H	H					B, GRO, DRO
TP-4	GW	H	H	H	H	H					B, GRO, DRO
TP-5	GW	H	H	H	H	H					B, GRO, DRO
TP-6	GW	H	H	H	H	H					B, GRO, DRO
TP-8	GW	H	H	H	H	H					B, GRO, DRO
TP-9	GW	H	H	H	H	H					B, GRO, DRO
TP-10	GW	H	H	H	H	H					B, GRO, DRO
TP-11	GW	H	H	H	H	H					B, GRO, DRO
TP-12	GW	H	H	H	H	H					B, GRO, DRO
TP-13	GW	H	H	H	H	H					B, GRO, DRO
BV-1	S								H		B(2), GRO, DRO
BV-2	S								H		B(2), GRO, DRO
BV-3	S								H		B(2), GRO, DRO
BV-4	S								H		B(2), GRO, DRO
BV-5	S								H		B(2), GRO, DRO
BV-6	S								H		B(2), GRO, DRO
BV-7	S								H		B(2), GRO, DRO
BV-8	S								H		B(2), GRO, DRO
BV-9	S								H		B(2), GRO, DRO
BV-10	S								H		B(2), GRO, DRO
BV-11	S								H		B(2), GRO, DRO
BV-12	S								H		B(2), GRO, DRO
BV-13	S								H		B(2), GRO, DRO

Notes:

(1) = Additional laboratory analysis was performed during the August 2005 sampling event. Refer to Section 2.1 for additional information.

H - Baseline monitoring completed in August 2005 prior to the start of the dewatering pumps and blower.

Matrix
GW - groundwater
S - soil

Field Parameters
DTW - Depth to water measurement
DTP - Depth to product measurement
Temp - temperature
Cond - conductivity
TDS - Total Dissolved Solids
% CO2 - percent carbon dioxide
% O2 - percent oxygen
PID - photoionization detector

Analytical Analysis
B - BTEX, MTBE using EPA Method 8021B
B(2) - BTEX only using EPA Method 8021B
GRO - GRO using EPA Method 8015B
DRO - DRO using EPA Method 8051B
V - VOCs using EPA Method 8260

Table 1A: Baseline Monitoring Activities Prior to the Dewatering and Air Injection System Start-Up

Bioventing Monitoring Plan
Giant Refinery - Bloomfield, New Mexico

Location	Matrix	DTW / DTP	Temp	pH	Cond	DO	ORP	% CO2	% O2	Organic Vapors (PID)	Pressure
MW-48	GW	B	B	B	B	B	B				
MW-49	GW	B	B	B	B	B	B				
DW-1	GW	B	B	B	B	B	B				
DW-2	GW	B	B	B	B	B	B				
TP-1	GW	B	B	B	B	B	B				
TP-2	GW	B	B	B	B	B	B				
TP-3	GW	B	B	B	B	B	B				
TP-4	GW	B	B	B	B	B	B				
TP-5	GW	B	B	B	B	B	B				
TP-6	GW	B	B	B	B	B	B				
TP-8	GW	B	B	B	B	B	B				
TP-9	GW	B	B	B	B	B	B				
TP-10	GW	B	B	B	B	B	B				
TP-11	GW	B	B	B	B	B	B				
TP-12	GW	B	B	B	B	B	B				
TP-13	GW	B	B	B	B	B	B				
GAC Inf	EW										
GAC 1 Eff	EW										
GAC 2 Eff	EW										
MW-48	A							B	B	B	B
MW-49	A							B	B	B	B
DW-1	A							B	B	B	B
DW-2	A							B	B	B	B
TP-1	A							B	B	B	B
TP-2	A							B	B	B	B
TP-3	A							B	B	B	B
TP-4	A							B	B	B	B
TP-5	A							B	B	B	B
TP-6	A							B	B	B	B
TP-8	A							B	B	B	B
TP-9	A							B	B	B	B
TP-10	A							B	B	B	B
TP-11	A							B	B	B	B
TP-12	A							B	B	B	B
TP-13	A							B	B	B	B

Notes:

B - Baseline monitoring activities prior to the start of the dewatering pumps and venting blower.

Matrix
GW - groundwater
EW - extracted groundwater
A - soil gas

Field Parameters
DTW - Depth to water measurement
DTP - Depth to product measurement
Temp - temperature
Cond - conductivity
DO - dissolved oxygen
ORP - oxidation-reduction potential
% CO2 - percent carbon dioxide
% O2 - percent oxygen
PID - photoionization detector

Table 1B: Baseline Monitoring Activities Prior to Air Injection System Start-Up

Bioventing Monitoring Plan
Giant Refinery - Bloomfield, New Mexico

Location	Matrix	DTW / DTP	Temp	pH	Cond	DO	ORP	% CO2	% O2	Organic Vapors (PID)	Pressure	Baseline Samples
MW-48	GW	D	D	D	D	D	D					T
MW-49	GW	D	D	D	D	D	D					T
DW-1	GW	D	D	D	D	D	D					T
DW-2	GW	D	D	D	D	D	D					T
TP-1	GW	D	D	D	D	D	D					T
TP-2	GW	D	D	D	D	D	D					T
TP-3	GW	D	D	D	D	D	D					T
TP-4	GW	D	D	D	D	D	D					T
TP-5	GW	D	D	D	D	D	D					T
TP-6	GW	D	D	D	D	D	D					T
TP-8	GW	D	D	D	D	D	D					T
TP-9	GW	D	D	D	D	D	D					T
TP-10	GW	D	D	D	D	D	D					T
TP-11	GW	D	D	D	D	D	D					T
TP-12	GW	D	D	D	D	D	D					T
TP-13	GW	D	D	D	D	D	D					T
GAC Inf*	EW											B, GRO, DRO, T
GAC 1 Eff*	EW											B, GRO, DRO
GAC 2 Eff*	EW											B, GRO, DRO
MW-48	A							D	D	D	D	B[(2)], GRO
MW-49	A							D	D	D	D	B[(2)], GRO
DW-1	A							D	D	D	D	B[(2)], GRO
DW-2	A							D	D	D	D	B[(2)], GRO
TP-1	A							D	D	D	D	B[(2)], GRO
TP-2	A							D	D	D	D	B[(2)], GRO
TP-3	A							D	D	D	D	B[(2)], GRO
TP-4	A							D	D	D	D	B[(2)], GRO
TP-5	A							D	D	D	D	B[(2)], GRO
TP-6	A							D	D	D	D	B[(2)], GRO
TP-8	A							D	D	D	D	B[(2)], GRO
TP-9	A							D	D	D	D	B[(2)], GRO
TP-10	A							D	D	D	D	B[(2)], GRO
TP-11	A							D	D	D	D	B[(2)], GRO
TP-12	A							D	D	D	D	B[(2)], GRO
TP-13	A							D	D	D	D	B[(2)], GRO
BV-1	A							D	D	D	D	
BV-2	A							D	D	D	D	
BV-3	A							D	D	D	D	
BV-4	A							D	D	D	D	
BV-5	A							D	D	D	D	
BV-6	A							D	D	D	D	
BV-7	A							D	D	D	D	
BV-8	A							D	D	D	D	
BV-9	A							D	D	D	D	
BV-10	A							D	D	D	D	
BV-11	A							D	D	D	D	
BV-12	A							D	D	D	D	
BV-13	A							D	D	D	D	

Notes:

D - Baseline monitoring activities to be completed after the start of the dewatering pumps and before the start of the bioventing blower.

***** - Sampling commences when dewatering begins.

Matrix
GW - groundwater
EW - Extracted groundwater
A - soil gas

Field Parameters
DTW - Depth to water measurement
DTP - Depth to product measurement
Temp - temperature
Cond - conductivity
DO - dissolved oxygen
ORP - oxidation-reduction potential
% CO2 - percent carbon dioxide
% O2 - percent oxygen
PID - photoionization detector

Analytical Analysis
B - BTEX, MTBE by EPA Method 8021B
B[(2)] - BTEX only by EPA Method 8021B
GRO - GRO by EPA Method 8015B
DRO - DRO by EPA Method 8015B
T - Total RCRA 8 Metals (As, Ba, Cd, Cr, Pb, Hg, Se, Ag) by EPA Method 6010 / 7470

Table 1C: Summary of Performance Monitoring Activities

Bioventing Monitoring Plan
Giant Refinery - Bloomfield, New Mexico

Location	Matrix	DTW / DTP	Temp	pH	Cond	DO	ORP	% CO2	% O2	Organic Vapors (PID)	Pressure *	Baseline Samples
MW-48	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO, Pb & Cr
MW-49	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO, Pb & Cr
DW-1	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO, Pb & Cr
DW-2	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO, Pb & Cr
TP-1	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-2	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-3	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-4	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-5	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-6	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-8	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-9	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-10	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-11	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-12	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
TP-13	GW	WMQ	WMQ	WMQ	WMQ	WMQ	WMQ					Q-B, GRO, DRO
GAC Inf	EW											Q-B, GRO, DRO
GAC 1 Eff	EW											WM - B, GRO, DRO
GAC 2 Eff	EW											Q - B, GRO, DRO
MW-48	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
MW-49	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
DW-1	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
DW-2	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-1	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-2	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-3	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-4	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-5	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-6	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-8	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-9	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-10	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-11	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-12	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO
TP-13	A							WMQ	WMQ	WMQ	WMQ	Q - B[(2)], GRO

*** Pressure** - Full system and individual well injection pressure will be recorded during each monitoring event.

Matrix
GW - groundwater
EW - Extracted groundwater
A - soil gas

Field Parameters
DTW - Depth to water measurement
DTP - Depth to product measurement
Temp - temperature
Cond - conductivity
DO - dissolved oxygen
ORP - oxidation-reduction potential
% CO2 - percent carbon dioxide
% O2 - percent oxygen
PID - photoionization detector

Analytical Analysis
B - BTEX, MTBE by EPA Method 8021B
B[(2)] - BTEX only by EPA Method 8021B
GRO - GRO by EPA Method 8015B
DRO - DRO by EPA Method 8051B
Pb & Cr - Total Lead and Chromium using EPA Method 6010

Sample Frequency
WMQ - Weekly x 4 (a sample will be collected once a week for the initial four weeks of operation), monthly for

Q - Quarterl the first quarter, and then quarterly thereafter.
WM - Weekly x 4 (a sample will be collected once a week for the initial four weeks of operation), and monthly thereafter.

AT 60 DAYS AND IN AUGUST 2006- PERFORM IN-SITU RESPIRATION TESTING

Shutdown blower and monitor oxygen/carbon dioxide levels in TP-1, 2, 5, 6, 8, 9, and each of the 13 BV wells.

Monitor every 1/2 hour for first 4 hours, then every hour until hour 12. Then monitor every 10 to 12 hours up to 48 to 72 hours.

FIGURES

MALCOLM PIRNIE

APPROXIMATE WELL LOCATIONS

River Terrace Sheet Pile Area

Giant Refinery - Bloomfield, NM

FIGURE 1

APPENDIX A

Sample Handling

SAMPLE HANDLING PROCEDURES

Sample containers for chemical analysis will be placed in ice-filled coolers immediately following collection, and kept at 4±2° Celsius prior to and during shipment. Sample containers will be packaged to avoid breakage during transportation. Ice will be double-bagged to prevent leakage. Sample possession will be maintained under proper chain-of-custody.

Sample Containers and Preservation Requirements

Pre-cleaned sample containers will be obtained from the laboratory. Sample volumes, container types, and preservation requirements will be followed per specific method requirements.

Sample Identification

Samples collected will be identified with a sample label in addition to an entry on a chain-of-custody form. Each sample will be identified with a unique sample number that designates sample type, sample location, and depth (as applicable) according to the following format:

Sample Type	Example Sample ID
Subsurface Soil	BV1-5
Groundwater	TP-1
Soil Gas	TP-1
GAC Influent/Effluent	GAC Inf, GAC Eff-1, GAC Eff-2

The sample identification will consist of a prefix (e.g., BV1 or TP1) that will identify the sample source and location. For subsurface soil samples, the approximate depth of the sample in feet will also be included in the sample identification (e.g., BV1-5 is equivalent to a sample collected from bioventing well BV1 at a depth of 5 feet bgs). Groundwater and soil gas samples will include the well identification number only, and granular activated carbon (GAC) influent and effluent samples will indicate the stream from which the sample was obtained. For example, a GAC effluent sample collected from a sample port after the lead GAC vessel will be labeled "GAC Eff-1."

Sample Custody

Chain-of-custody forms will be placed in a sealed plastic bag and taped to the inside lid of the cooler with the samples. Signed custody seals will be place on the cooler during storage or transport.

The following information concerning the sample will be documented on the chain-of-custody form:

- unique sample identification;
- date and time of sample collection;
- sample matrix;
- analytical parameters requested;
- number of containers per sample; and
- sampler's name.

Upon receipt of the sample cooler, the laboratory will verify custody and the condition of the samples. Non-conformances in sample receipt (e.g., broken sample containers, samples received out of temperature) will be documented on the sample receipt form and communicated to the project team immediately.

Field Quality Control Samples

Trip blanks are used to evaluate if fuel hydrocarbons may have been introduced to the environmental samples during shipment, handling, or storage. Trip blanks are prepared in the laboratory by pouring deionized, distilled water into 40 millimeter vials. The trip blanks are shipped from the laboratory to the project site and then remain with the field samples back to the laboratory with each cooler containing VOA samples. Trip blanks will be analyzed for BTEX and GRO/DRO only.

Equipment Decontamination

Equipment that may directly or indirectly contact samples will be decontaminated. In addition, care will be taken to prevent the samples from coming into contact with potentially contamination substances, such as tape, engine exhaust, corroded surfaces, and dirt.

To decontaminate sampling devices (such as level probes), surfaces will be scrubbed with a solution of potable water rand Alconox or equivalent laboratory-grade detergent. The equipment will then be rinsed with distilled, potable water. The equipment will air-dry on a clean surface or rack. If the sampling device will not be used immediately after being decontaminated, it will be wrapped in a clean plastic bag. Where possible, disposable sampling equipment will be used in order to minimize decontamination procedures and avoid cross-contamination.

Waste Handling

Investigation-derived waste (IDW) that is generated during field activities will consist of general trash, disposable sampling equipment, and used personal protective equipment (PPE). These waste streams will be managed onsite.

Decontamination water, if generated, will be collected and placed into the onsite treatment system. Any purge water generated will be handled in the same manner.

Record Keeping

Daily activities will be recorded in a bound field logbook. Entries will be made in indelible ink and corrections made by a single stroke through the error with the recorder's initials. Entries to the logbook will include:

- date, start and finish times;
- names of personnel present;
- general weather conditions;
- details of work performed;
- summary of samples collected;
- field measurement readings;
- photograph log; and
- observations.

APPENDIX B

Sampling Forms

GROUNDWATER MONITORING LOG

Well ID: _____ **Date:** _____

Samplers: _____ **Time:** _____

Well Info (Before Purging)

Total Well Depth (ft): _____ Depth to Water (ft): _____ Depth to Product (ft): _____

Purging/Sampling Info

Sample Collection Device: [ ] Diposable Bailer [ ] Other _____

Decon Procedures: [ ] Alconox/Water/DI [ ] Other _____

Calculated Purge Volume: Height of Water Column (ft): _____ x 7.83 = _____ gal

Water Quality Parameters

Field Parameters	Initial	1st	2nd	3rd	4th	5th	6th	7th	8th	9th
Time (00:00)										
pH (SU)										
Specific Conductivity (µS/cm)										
Dissolved Oxygen (DO) (mg/L)										
Temperature (°F)										
ORP (mV)										
Depth to Water (ft bgs)										
Volume Purged (gallons)										
Color										
Odor										

Sample Analysis Info: **[ ] GRO/DRO by EPA Method 8015B** **[ ] BTEX, MTBE by EPA Method by 8021B**

[ ] Total RCRA 8 Metals by EPA Method 6010 / 7470

[ ] Total Lead & Chromium by EPA Method 6010

NOTES/COMMENTS: _____

GAC MONITORING LOG

Date:_____

Sampler(s): _____ Time: _____

Location	Container ID	BTEX by 8021B	GRO by 8015B	BTEX, MTBE by 8021B	RCRA 8 Metals by 6010 / 7470
GAC Inf					
GAC 1 Eff					
GAC 2 Eff					

Comments: _____

_____

_____

_____

SOIL GAS MONITORING FORM

Sampler(s): _____ Date: _____

Location	Sample Time	Sample ID	Approx. Purge Volume*	Pressure (inches of water)	PID (ppm)	Oxygen (%)	Carbon Dioxide (%)
TP-1	:						
TP-2	:						
TP-3	:						
TP-4	:						
TP-5	:						
TP-6	:						
TP-8	:						
TP-9	:						
TP-10	:						
TP-11	:						
TP-12	:						
TP-13	:						
MW-48	:						
MW-49	:						
DW-1	:						
DW-2	:						

*Purge volume = flow rate (ft /min) x time (min)

Sample Analysis Info: [ ] **BTEX by 8021B** [ ] **GRO by 8015**

NOTES/COMMENTS: _____

_____

_____

_____

_____

APPENDIX C

Baseline Groundwater Sampling Analytical Reports

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

August 24, 2005

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

RE: Annual Sampling 2005 Order No.: 0508092

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 3 samples on 8/9/2005 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: *24-Aug-05*

CLIENT: San Juan Refining
Client Sample ID: MW #48
Lab Order: 0508092
Collection Date: 8/9/2005 9:05:00 AM
Project: Annual Sampling 2005
Lab ID: 0508092-02
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: CMC
Fluoride	0.54	0.10		mg/L	1	8/9/2005
Chloride	120	1.0		mg/L	10	8/10/2005
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/9/2005
Bromide	ND	0.50		mg/L	1	8/9/2005
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/9/2005
Phosphorus, Orthophosphate (As P)	0.53	0.50		mg/L	1	8/9/2005
Sulfate	140	5.0		mg/L	10	8/10/2005
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO3)	1300	2.0		mg/L CaCO3	1	8/11/2005
Carbonate	110	2.0		mg/L CaCO3	1	8/11/2005
Bicarbonate	1200	2.0		mg/L CaCO3	1	8/11/2005
EPA METHOD 8260: VOLATILES						Analyst: HLM
Benzene	620	20		µg/L	20	8/16/2005
Toluene	26	20		µg/L	20	8/16/2005
Ethylbenzene	2500	100		µg/L	100	8/17/2005
Methyl tert-butyl ether (MTBE)	ND	20		µg/L	20	8/16/2005
1,2,4-Trimethylbenzene	1600	20		µg/L	20	8/16/2005
1,3,5-Trimethylbenzene	450	20		µg/L	20	8/16/2005
1,2-Dichloroethane (EDC)	ND	20		µg/L	20	8/16/2005
1,2-Dibromoethane (EDB)	ND	20		µg/L	20	8/16/2005
Naphthalene	380	40		µg/L	20	8/16/2005
1-Methylnaphthalene	180	80		µg/L	20	8/16/2005
2-Methylnaphthalene	170	80		µg/L	20	8/16/2005
Acetone	ND	200		µg/L	20	8/16/2005
Bromobenzene	ND	20		µg/L	20	8/16/2005
Bromochloromethane	ND	20		µg/L	20	8/16/2005
Bromodichloromethane	ND	20		µg/L	20	8/16/2005
Bromoform	ND	20		µg/L	20	8/16/2005
Bromomethane	ND	40		µg/L	20	8/16/2005
2-Butanone	ND	200		µg/L	20	8/16/2005
Carbon disulfide	ND	200		µg/L	20	8/16/2005
Carbon Tetrachloride	ND	20		µg/L	20	8/16/2005
Chlorobenzene	ND	20		µg/L	20	8/16/2005
Chloroethane	ND	40		µg/L	20	8/16/2005
Chloroform	ND	20		µg/L	20	8/16/2005
Chloromethane	ND	20		µg/L	20	8/16/2005
2-Chlorotoluene	ND	20		µg/L	20	8/16/2005
4-Chlorotoluene	ND	20		µg/L	20	8/16/2005
cis-1,2-DCE	ND	20		µg/L	20	8/16/2005
cis-1,3-Dichloropropene	ND	20		µg/L	20	8/16/2005

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: *24-Aug-05*

CLIENT: San Juan Refining
Client Sample ID: MW #48
Lab Order: 0508092
Collection Date: 8/9/2005 9:05:00 AM
Project: Annual Sampling 2005
Lab ID: 0508092-02
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dibromo-3-chloropropane	ND	40		µg/L	20	8/16/2005
Dibromochloromethane	ND	20		µg/L	20	8/16/2005
Dibromomethane	ND	40		µg/L	20	8/16/2005
1,2-Dichlorobenzene	ND	20		µg/L	20	8/16/2005
1,3-Dichlorobenzene	ND	20		µg/L	20	8/16/2005
1,4-Dichlorobenzene	ND	20		µg/L	20	8/16/2005
Dichlorodifluoromethane	ND	20		µg/L	20	8/16/2005
1,1-Dichloroethane	ND	20		µg/L	20	8/16/2005
1,1-Dichloroethene	ND	20		µg/L	20	8/16/2005
1,2-Dichloropropane	ND	20		µg/L	20	8/16/2005
1,3-Dichloropropane	ND	20		µg/L	20	8/16/2005
2,2-Dichloropropane	ND	20		µg/L	20	8/16/2005
1,1-Dichloropropene	ND	20		µg/L	20	8/16/2005
Hexachlorobutadiene	ND	20		µg/L	20	8/16/2005
2-Hexanone	ND	200		µg/L	20	8/16/2005
Isopropylbenzene	230	20		µg/L	20	8/16/2005
4-Isopropyltoluene	ND	20		µg/L	20	8/16/2005
4-Methyl-2-pentanone	ND	200		µg/L	20	8/16/2005
Methylene Chloride	ND	60		µg/L	20	8/16/2005
n-Butylbenzene	110	20		µg/L	20	8/16/2005
n-Propylbenzene	420	20		µg/L	20	8/16/2005
sec-Butylbenzene	ND	20		µg/L	20	8/16/2005
Styrene	ND	20		µg/L	20	8/16/2005
tert-Butylbenzene	ND	20		µg/L	20	8/16/2005
1,1,1,2-Tetrachloroethane	ND	20		µg/L	20	8/16/2005
1,1,2,2-Tetrachloroethane	ND	20		µg/L	20	8/16/2005
Tetrachloroethene (PCE)	ND	20		µg/L	20	8/16/2005
trans-1,2-DCE	ND	20		µg/L	20	8/16/2005
trans-1,3-Dichloropropene	ND	20		µg/L	20	8/16/2005
1,2,3-Trichlorobenzene	ND	20		µg/L	20	8/16/2005
1,2,4-Trichlorobenzene	ND	20		µg/L	20	8/16/2005
1,1,1-Trichloroethane	ND	20		µg/L	20	8/16/2005
1,1,2-Trichloroethane	ND	20		µg/L	20	8/16/2005
Trichloroethene (TCE)	ND	20		µg/L	20	8/16/2005
Trichlorofluoromethane	ND	20		µg/L	20	8/16/2005
1,2,3-Trichloropropane	ND	40		µg/L	20	8/16/2005
Vinyl chloride	ND	20		µg/L	20	8/16/2005
Xylenes, Total	9900	100		µg/L	100	8/17/2005
Surr: 1,2-Dichloroethane-d4	99.5	87.7-108		%REC	20	8/16/2005
Surr: 4-Bromofluorobenzene	104	88.8-113		%REC	20	8/16/2005
Surr: Dibromofluoromethane	104	84.1-111		%REC	20	8/16/2005
Surr: Toluene-d8	95.3	85.9-109		%REC	20	8/16/2005

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: *24-Aug-05*

CLIENT: San Juan Refining
Client Sample ID: MW #48
Lab Order: 0508092
Collection Date: 8/9/2005 9:05:00 AM
Project: Annual Sampling 2005
Lab ID: 0508092-02
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	2800	0.010		µmhos/cm	1	8/13/2005
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/11/2005 10:07:41 AM
Barium	0.23	0.0020		mg/L	1	8/11/2005 10:07:41 AM
Cadmium	ND	0.0020		mg/L	1	8/11/2005 10:07:41 AM
Calcium	100	10		mg/L	10	8/11/2005 11:55:35 AM
Chromium	ND	0.0060		mg/L	1	8/11/2005 10:07:41 AM
Copper	ND	0.0060		mg/L	1	8/11/2005 10:07:41 AM
Iron	ND	0.020		mg/L	1	8/11/2005 10:07:41 AM
Lead	0.012	0.0050		mg/L	1	8/11/2005 10:07:41 AM
Magnesium	20	1.0		mg/L	1	8/11/2005 10:07:41 AM
Manganese	0.12	0.0020		mg/L	1	8/11/2005 10:07:41 AM
Potassium	4.0	1.0		mg/L	1	8/11/2005 10:07:41 AM
Selenium	0.077	0.050		mg/L	1	8/11/2005 10:07:41 AM
Silver	ND	0.0050		mg/L	1	8/11/2005 10:07:41 AM
Sodium	510	10		mg/L	10	8/11/2005 11:55:35 AM
Uranium	ND	0.10		mg/L	1	8/11/2005 10:07:41 AM
Zinc	0.012	0.0050		mg/L	1	8/11/2005 10:07:41 AM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Chromium	ND	0.0060		mg/L	1	8/15/2005 12:56:42 PM
Lead	0.015	0.0050		mg/L	1	8/15/2005 12:56:42 PM
EPA METHOD 160.1: TDS						Analyst: DK
Total Dissolved Solids	1800	50		mg/L	1	8/12/2005

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: *24-Aug-05*

CLIENT: San Juan Refining
Lab Order: 0508092
Project: Annual Sampling 2005
Lab ID: 0508092-03

Client Sample ID: MW #49
Collection Date: 8/9/2005 8:45:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: CMC
Fluoride	0.37	0.10		mg/L	1	8/9/2005
Chloride	140	0.50		mg/L	5	8/10/2005
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/9/2005
Bromide	ND	2.5		mg/L	5	8/10/2005
Nitrogen, Nitrate (As N)	ND	0.50		mg/L	5	8/10/2005
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/9/2005
Sulfate	280	5.0		mg/L	10	8/10/2005
EPA METHOD 310.1: ALKALINITY						Analyst: CMC
Alkalinity, Total (As CaCO3)	960	2.0		mg/L CaCO3	1	8/11/2005
Carbonate	ND	2.0		mg/L CaCO3	1	8/11/2005
Bicarbonate	960	2.0		mg/L CaCO3	1	8/11/2005
EPA METHOD 8260: VOLATILES						Analyst: HLM
Benzene	93	2.0		µg/L	2	8/17/2005
Toluene	ND	2.0		µg/L	2	8/17/2005
Ethylbenzene	15	2.0		µg/L	2	8/17/2005
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	8/17/2005
1,2,4-Trimethylbenzene	34	2.0		µg/L	2	8/17/2005
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	8/17/2005
1,2-Dichloroethane (EDC)	ND	2.0		µg/L	2	8/17/2005
1,2-Dibromoethane (EDB)	ND	2.0		µg/L	2	8/17/2005
Naphthalene	9.1	4.0		µg/L	2	8/17/2005
1-Methylnaphthalene	ND	8.0		µg/L	2	8/17/2005
2-Methylnaphthalene	ND	8.0		µg/L	2	8/17/2005
Acetone	ND	20		µg/L	2	8/17/2005
Bromobenzene	ND	2.0		µg/L	2	8/17/2005
Bromochloromethane	ND	2.0		µg/L	2	8/17/2005
Bromodichloromethane	ND	2.0		µg/L	2	8/17/2005
Bromoform	ND	2.0		µg/L	2	8/17/2005
Bromomethane	ND	4.0		µg/L	2	8/17/2005
2-Butanone	ND	20		µg/L	2	8/17/2005
Carbon disulfide	ND	20		µg/L	2	8/17/2005
Carbon Tetrachloride	ND	2.0		µg/L	2	8/17/2005
Chlorobenzene	ND	2.0		µg/L	2	8/17/2005
Chloroethane	ND	4.0		µg/L	2	8/17/2005
Chloroform	ND	2.0		µg/L	2	8/17/2005
Chloromethane	ND	2.0		µg/L	2	8/17/2005
2-Chlorotoluene	ND	2.0		µg/L	2	8/17/2005
4-Chlorotoluene	ND	2.0		µg/L	2	8/17/2005
cis-1,2-DCE	ND	2.0		µg/L	2	8/17/2005
cis-1,3-Dichloropropene	ND	2.0		µg/L	2	8/17/2005

Qualifiers:
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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: *24-Aug-05*

CLIENT: San Juan Refining
Lab Order: 0508092
Project: Annual Sampling 2005
Lab ID: 0508092-03

Client Sample ID: MW #49
Collection Date: 8/9/2005 8:45:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dibromo-3-chloropropane	ND	4.0		µg/L	2	8/17/2005
Dibromochloromethane	ND	2.0		µg/L	2	8/17/2005
Dibromomethane	ND	4.0		µg/L	2	8/17/2005
1,2-Dichlorobenzene	ND	2.0		µg/L	2	8/17/2005
1,3-Dichlorobenzene	ND	2.0		µg/L	2	8/17/2005
1,4-Dichlorobenzene	ND	2.0		µg/L	2	8/17/2005
Dichlorodifluoromethane	ND	2.0		µg/L	2	8/17/2005
1,1-Dichloroethane	ND	2.0		µg/L	2	8/17/2005
1,1-Dichloroethene	ND	2.0		µg/L	2	8/17/2005
1,2-Dichloropropane	ND	2.0		µg/L	2	8/17/2005
1,3-Dichloropropane	ND	2.0		µg/L	2	8/17/2005
2,2-Dichloropropane	ND	2.0		µg/L	2	8/17/2005
1,1-Dichloropropene	ND	2.0		µg/L	2	8/17/2005
Hexachlorobutadiene	ND	2.0		µg/L	2	8/17/2005
2-Hexanone	ND	20		µg/L	2	8/17/2005
Isopropylbenzene	22	2.0		µg/L	2	8/17/2005
4-Isopropyltoluene	ND	2.0		µg/L	2	8/17/2005
4-Methyl-2-pentanone	ND	20		µg/L	2	8/17/2005
Methylene Chloride	ND	6.0		µg/L	2	8/17/2005
n-Butylbenzene	2.5	2.0		µg/L	2	8/17/2005
n-Propylbenzene	12	2.0		µg/L	2	8/17/2005
sec-Butylbenzene	ND	2.0		µg/L	2	8/17/2005
Styrene	ND	2.0		µg/L	2	8/17/2005
tert-Butylbenzene	ND	2.0		µg/L	2	8/17/2005
1,1,1,2-Tetrachloroethane	ND	2.0		µg/L	2	8/17/2005
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	2	8/17/2005
Tetrachloroethene (PCE)	ND	2.0		µg/L	2	8/17/2005
trans-1,2-DCE	ND	2.0		µg/L	2	8/17/2005
trans-1,3-Dichloropropene	ND	2.0		µg/L	2	8/17/2005
1,2,3-Trichlorobenzene	ND	2.0		µg/L	2	8/17/2005
1,2,4-Trichlorobenzene	ND	2.0		µg/L	2	8/17/2005
1,1,1-Trichloroethane	ND	2.0		µg/L	2	8/17/2005
1,1,2-Trichloroethane	ND	2.0		µg/L	2	8/17/2005
Trichloroethene (TCE)	ND	2.0		µg/L	2	8/17/2005
Trichlorofluoromethane	ND	2.0		µg/L	2	8/17/2005
1,2,3-Trichloropropane	ND	4.0		µg/L	2	8/17/2005
Vinyl chloride	ND	2.0		µg/L	2	8/17/2005
Xylenes, Total	4.1	2.0		µg/L	2	8/17/2005
Surr: 1,2-Dichloroethane-d4	97.2	87.7-108		%REC	2	8/17/2005
Surr: 4-Bromofluorobenzene	104	88.8-113		%REC	2	8/17/2005
Surr: Dibromofluoromethane	103	84.1-111		%REC	2	8/17/2005
Surr: Toluene-d8	91.7	85.9-109		%REC	2	8/17/2005

Qualifiers:
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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: *24-Aug-05*

CLIENT:	San Juan Refining	**Client Sample ID:**	MW #49
Lab Order:	0508092	**Collection Date:**	8/9/2005 8:45:00 AM
Project:	Annual Sampling 2005		
Lab ID:	0508092-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	2500	0.010		µmhos/cm	1	8/13/2005
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	8/11/2005 10:11:55 AM
Barium	0.24	0.0020		mg/L	1	8/11/2005 10:11:55 AM
Cadmium	ND	0.0020		mg/L	1	8/11/2005 10:11:55 AM
Calcium	120	10		mg/L	10	8/11/2005 11:58:25 AM
Chromium	ND	0.0060		mg/L	1	8/11/2005 10:11:55 AM
Copper	ND	0.0060		mg/L	1	8/11/2005 10:11:55 AM
Iron	0.72	0.020		mg/L	1	8/11/2005 10:11:55 AM
Lead	ND	0.0050		mg/L	1	8/11/2005 10:11:55 AM
Magnesium	29	1.0		mg/L	1	8/11/2005 10:11:55 AM
Manganese	1.9	0.0020		mg/L	1	8/11/2005 10:11:55 AM
Potassium	4.7	1.0		mg/L	1	8/11/2005 10:11:55 AM
Selenium	ND	0.050		mg/L	1	8/11/2005 10:11:55 AM
Silver	ND	0.0050		mg/L	1	8/11/2005 10:11:55 AM
Sodium	360	10		mg/L	10	8/11/2005 11:58:25 AM
Uranium	ND	0.10		mg/L	1	8/11/2005 10:11:55 AM
Zinc	0.0055	0.0050		mg/L	1	8/11/2005 10:11:55 AM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Chromium	0.013	0.0060		mg/L	1	8/15/2005 1:13:50 PM
Lead	0.0075	0.0050		mg/L	1	8/15/2005 1:13:50 PM
EPA METHOD 160.1: TDS						Analyst: DK
Total Dissolved Solids	1600	50		mg/L	1	8/12/2005

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

Hall Environmental Analysis Laboratory

Date: *24-Aug-05*

CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Method Blank

Sample ID MBLK	Batch ID: R16247	Test Code: E300	Units: mg/L	Analysis Date 8/9/2005	Prep Date
Client ID:		Run ID: LC_050809A		SeqNo: 386710	

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	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID MBLK	Batch ID: R16266	Test Code: E300	Units: mg/L	Analysis Date 8/10/2005	Prep Date
Client ID:		Run ID: LC_050810A		SeqNo: 387042	

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	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

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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: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Method Blank

Sample ID MBLK	Batch ID: R16266	Test Code: E300	Units: mg/L	Analysis Date 8/10/2005	Prep Date
Client ID:		Run ID: LC_050810A		SeqNo: 387086	

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	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID MB	Batch ID: R16272	Test Code: SW6010A	Units: mg/L	Analysis Date 8/11/2005 8:57:51 AM	Prep Date
Client ID:		Run ID: ICP_050811B		SeqNo: 387315	

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									
Copper	ND	0.006									
Iron	ND	0.02									
Lead	ND	0.005									
Magnesium	ND	1									
Manganese	ND	0.002									
Potassium	ND	1									
Selenium	ND	0.02									
Silver	ND	0.005									
Sodium	ND	1									
Uranium	ND	0.1									
Zinc	ND	0.05									

Qualifiers: ND - Not Detected at the Reporting Limit
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CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Method Blank

Sample ID MB-8517	Batch ID: 8517	Test Code: SW6010A	Units: mg/L	Analysis Date 8/15/2005 12:28:52 PM	Prep Date 8/11/2005
Client ID:		Run ID: ICP_050815A		SeqNo: 388298	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	ND	0.006	0	0	0	0	0	0			
Lead	ND	0.005	0	0	0	0	0	0			

Sample ID MB-8519	Batch ID: 8519	Test Code: E160.1	Units: mg/L	Analysis Date 8/12/2005	Prep Date 8/11/2005
Client ID:		Run ID: WC_050812E		SeqNo: 388615	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

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Qualifiers:
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *24-Aug-05*

CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Method Blank

Sample ID 5ml rb | Batch ID: R16318 | Test Code: SW8260B | Units: µg/L | Analysis Date 8/16/2005 | Prep Date
Client ID: | Run ID: VAL_050816A | SeqNo: 388908

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	ND	2									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									

Qualifiers: ND - Not Detected at the Reporting Limit | 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: 0508092
Project: *Annual Sampling 2005*

QC SUMMARY REPORT
Method Blank

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

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CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Method Blank

1,1,2-Trichloroethane	ND	1						
Trichloroethene (TCE)	ND	1						
Trichlorofluoromethane	ND	1						
1,2,3-Trichloropropane	ND	2						
Vinyl chloride	ND	1						
Xylenes, Total	ND	1						
Surr: 1,2-Dichloroethane-d4	9.626	0	10	0	96.3	87.7	108	0
Surr: 4-Bromofluorobenzene	10.57	0	10	0	106	88.8	113	0
Surr: Dibromofluoromethane	9.76	0	10	0	97.6	84.1	111	0
Surr: Toluene-d8	9.478	0	10	0	94.8	85.9	109	0

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Qualifiers:
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B - Analyte detected in the associated Method Blank

Hall Environmental Analysis Laboratory

Date: *24-Aug-05*

CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Sample Duplicate

Sample ID 0508092-01B DUP Batch ID: R16283 Test Code: E310.1 Units: mg/L CaCO3 Analysis Date 8/11/2005 Prep Date

Client ID: MW #12 Run ID: WC_050811B SeqNo: 387649

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	307	2	0	0	0	0	0	312	1.62	15	
Carbonate	ND	2	0	0	0	0	0	0	0	15	
Bicarbonate	307	2	0	0	0	0	0	312	1.62	15	

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

Hall Environmental Analysis Laboratory

Date: *24-Aug-05*

CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID LCS	Batch ID: R16247	Test Code: E300	Units: mg/L	Analysis Date 8/9/2005	Prep Date
Client ID:		Run ID: LC_050809A		SeqNo: 386711	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5223	0.1	0.5	0	104	90	110	0			
Chloride	4.994	0.1	5	0	99.9	90	110	0			
Nitrogen, Nitrite (As N)	0.9494	0.1	1	0	94.9	90	110	0			
Bromide	2.637	0.5	2.5	0	105	90	110	0			
Nitrogen, Nitrate (As N)	2.525	0.1	2.5	0	101	90	110	0			
Phosphorus, Orthophosphate (As P)	5.092	0.5	5	0	102	90	110	0			
Sulfate	10.25	0.5	10	0	103	90	110	0			

Sample ID LCS	Batch ID: R16266	Test Code: E300	Units: mg/L	Analysis Date 8/10/2005	Prep Date
Client ID:		Run ID: LC_050810A		SeqNo: 387043	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4754	0.1	0.5	0	95.1	90	110	0			
Chloride	4.805	0.1	5	0	96.1	90	110	0			
Nitrogen, Nitrite (As N)	0.9043	0.1	1	0	90.4	90	110	0			
Bromide	2.525	0.5	2.5	0	101	90	110	0			
Nitrogen, Nitrate (As N)	2.424	0.1	2.5	0	97.0	90	110	0			
Phosphorus, Orthophosphate (As P)	5.01	0.5	5	0	100	90	110	0			
Sulfate	9.757	0.5	10	0	97.6	90	110	0			

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Qualifiers:
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID LCS	Batch ID: R16266	Test Code: E300	Units: mg/L	Analysis Date 8/10/2005	Prep Date
Client ID:		Run ID: LC_050810A		SeqNo: 387087	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.495	0.1	0.5	0	99.0	90	110	0			
Chloride	4.883	0.1	5	0	97.7	90	110	0			
Nitrogen, Nitrite (As N)	0.9222	0.1	1	0	92.2	90	110	0			
Bromide	2.576	0.5	2.5	0	103	90	110	0			
Nitrogen, Nitrate (As N)	2.47	0.1	2.5	0	98.8	90	110	0			
Phosphorus, Orthophosphate (As P)	5.075	0.5	5	0	101	90	110	0			
Sulfate	9.928	0.5	10	0	99.3	90	110	0			

Sample ID 100ng lcs	Batch ID: R16318	Test Code: SW8260B	Units: µg/L	Analysis Date 8/16/2005	Prep Date
Client ID:		Run ID: VAL_050816A		SeqNo: 388909	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.16	1	20	0	106	81.4	130	0			
Toluene	22.8	1	20	0	114	90.8	128	0			
Chlorobenzene	23.26	1	20	0	116	89.6	134	0			
1,1-Dichloroethene	20.37	1	20	0	102	75.1	120	0			
Trichloroethene (TCE)	17.95	1	20	0	89.8	75.8	110	0			

Sample ID 100ng lcs	Batch ID: R16334	Test Code: SW8260B	Units: µg/L	Analysis Date 8/17/2005	Prep Date
Client ID:		Run ID: VAL_050817A		SeqNo: 389361	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.04	1	20	0	110	81.4	130	0			
Toluene	22.87	1	20	0	114	90.8	128	0			
Chlorobenzene	25.72	1	20	0	129	89.6	134	0			
1,1-Dichloroethene	20.58	1	20	0	103	75.1	120	0			
Trichloroethene (TCE)	18.9	1	20	0	94.5	75.8	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

CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID LCS | Batch ID: R16272 | Test Code: SW6010A | Units: mg/L | Analysis Date 8/11/2005 9:01:03 AM | Prep Date
Client ID: | Run ID: ICP_050811B | SeqNo: 387316

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.533	0.02	0.5	0	107	80	120	0			
Barium	0.5048	0.02	0.5	0	101	80	120	0			
Cadmium	0.5223	0.002	0.5	0	104	80	120	0			
Calcium	51.98	1	50.5	0	103	80	120	0			
Chromium	0.5109	0.006	0.5	0	102	80	120	0			
Copper	0.5142	0.006	0.5	0	103	80	120	0			
Iron	0.498	0.02	0.5	0	99.6	80	120	0			
Lead	0.5109	0.005	0.5	0	102	80	120	0			
Magnesium	51.93	1	50.5	0	103	80	120	0			
Manganese	0.4902	0.002	0.5	0	98.0	80	120	0			
Potassium	54.41	1	55	0	98.9	80	120	0			
Selenium	0.5129	0.02	0.5	0	103	80	120	0			
Silver	0.5283	0.005	0.5	0	106	80	120	0			
Sodium	55.22	1	50.5	0	109	80	120	0			
Uranium	2.601	0.1	2.5	0	104	80	120	0			
Zinc	0.5238	0.05	0.5	0	105	80	120	0			

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Qualifiers:
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S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID LCSD	Batch ID: R16272	Test Code: SW6010A	Units: mg/L	Analysis Date 8/11/2005 9:04:22 AM	Prep Date
Client ID:		Run ID: ICP_050811B		SeqNo: 387317	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5505	0.02	0.5	0	110	80	120	0.533	3.23	20	
Barium	0.5126	0.02	0.5	0	103	80	120	0.5048	1.53	20	
Cadmium	0.5311	0.002	0.5	0	106	80	120	0.5223	1.67	20	
Calcium	52.69	1	50.5	0	104	80	120	51.98	1.36	20	
Chromium	0.5196	0.006	0.5	0	104	80	120	0.5109	1.69	20	
Copper	0.5182	0.006	0.5	0	104	80	120	0.5142	0.774	20	
Iron	0.5	0.02	0.5	0	100	80	120	0.498	0.389	20	
Lead	0.5198	0.005	0.5	0	104	80	120	0.5109	1.74	20	
Magnesium	52.6	1	50.5	0	104	80	120	51.93	1.28	20	
Manganese	0.496	0.002	0.5	0	99.2	80	120	0.4902	1.19	20	
Potassium	55.16	1	55	0	100	80	120	54.41	1.36	20	
Selenium	0.533	0.02	0.5	0	107	80	120	0.5129	3.83	20	
Silver	0.5233	0.005	0.5	0	105	80	120	0.5283	0.954	20	
Sodium	55.88	1	50.5	0	111	80	120	55.22	1.19	20	
Uranium	2.61	0.1	2.5	0	104	80	120	2.601	0.322	20	
Zinc	0.5347	0.05	0.5	0	107	80	120	0.5238	2.06	20	

Sample ID LCS-8517	Batch ID: 8517	Test Code: SW6010A	Units: mg/L	Analysis Date 8/15/2005 12:32:07 PM	Prep Date 8/11/2005
Client ID:		Run ID: ICP_050815A		SeqNo: 388299	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.4884	0.006	0.5	0	97.7	80	120	0			
Lead	0.4996	0.005	0.5	0	99.9	80	120	0			

Qualifiers:
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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: 0508092
Project: Annual Sampling 2005

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID LCSD-8517	Batch ID: 8517	Test Code: SW6010A	Units: mg/L	Analysis Date 8/15/2005 12:35:41 PM	Prep Date 8/11/2005
Client ID:		Run ID: ICP_050815A		SeqNo: 388300	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.4983	0.006	0.5	0	99.7	80	120	0.4884	2.00	20	
Lead	0.5095	0.005	0.5	0	102	80	120	0.4996	1.98	20	

Sample ID LCS-8519	Batch ID: 8519	Test Code: E160.1	Units: mg/L	Analysis Date 8/12/2005	Prep Date 8/11/2005
Client ID:		Run ID: WC_050812E		SeqNo: 388616	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1005	50	1000	0	101	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: 8/9/2005

Work Order Number 0508092 | Received by AT

Checklist completed by _____ Signature _____ 8/9/05 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? 3° *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

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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 Refinery
Address: #50, Rd 4990 Bloomfield, NM 87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: Annual Sampling 2005
Project #:
Project Manager:
Sampler: Cindy Hurtado / Angela Folk
Sample Temperature: 3*

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Carbon Dioxide/Methane/Ethane	Dissolved Water metals	Total Pb & Cr	TDS	Air Bubbles or Headspace (Y or N)
8/08/05	420pm	H2O	MW#12	1-500ml			H_2SO_4	505082-1									X				X				
"	"	"	"	1-500ml													X				X			X	
				1-250ml		X	Filtered															X			
				1-500ml		X																	X		
				2-VOA	X														X						
8/09/05	905AM 945AM	H2O	MW#48	1-500ml			H_2SO_4	-2									X				X				
				1-500ml													X				X			X	
				1-250ml		X	Filtered															X			
				1-500ml		X																	X		
				2-VOA	X														X						

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
8/09/05	930am	Cindy Hurtado		
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
				8/9/05 1645

Remarks:

CHAIN-OF-CUSTODY RECORD

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

Address: #50 Rd 4990
Bloomfield, NM
87413

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

QA / QC Package: Std ☐ Level 4 ☐
Other:

Project Name: Annual Sampling - 2005
Project #:
Project Manager:
Sampler: Cindy Hurtado / Angela Folk
Sample Temperature: 3

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative	HEAL No. 0508912	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Carbon Dioxide / Cation Balance	Dissolved WQCC Metals	Total Pb & Cr	TDS	Air Bubbles or Headspace (Y or N)
8/09/05	845 (~~905am~~)	H_2O	MW#49 (~~48~~)	1-500ml			H_2SO_4	-3									X				X				
				1-500ml													X				X			X	
				1-250ml		X	filtered HNO_3															X			
				1-500ml		X																	X		
				2-VOA	X														X						

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8/09/05	930Am	Cindy Hurtado	[signature] 8/9/05 1645
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

September 26, 2005

Hall Environmental Analysis Laboratory
4901 Hawkins NE, Suite D
Albuquerque, NM 87109

San Juan Refining
#50 CR 4990
Bloomfield, NM 87413

Dear Ms. Hurtado:

Hall Environmental Analysis Laboratory received 1 sample on 8/24/2005 for the analyses presented in the following report.

These were analyzed acccording 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

0508276-A/DW #1 - Baseline

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

Hall Environmental Analysis Laboratory

Date: *26-Sep-05*

CLIENT: San Juan Refining
Lab Order: 0508276
Project: DW #1 Baseline
Lab ID: 0508276-01

Client Sample ID: DW #1
Collection Date: 8/23/2005 10:45:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.39	0.10		mg/L	1	8/24/2005
Chloride	42	0.50		mg/L	5	8/25/2005
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/24/2005
Bromide	ND	0.50		mg/L	1	8/24/2005
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/24/2005
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/24/2005
Sulfate	230	2.5		mg/L	5	8/25/2005
EPA METHOD 310.1: ALKALINITY						Analyst: MAP
Alkalinity, Total (As CaCO3)	370	2.0		mg/L CaCO3	1	9/2/2005
Carbonate	ND	2.0		mg/L CaCO3	1	9/2/2005
Bicarbonate	370	2.0		mg/L CaCO3	1	9/2/2005
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Benzene	ND	1.0		µg/L	1	8/25/2005
Toluene	ND	1.0		µg/L	1	8/25/2005
Ethylbenzene	ND	1.0		µg/L	1	8/25/2005
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	8/25/2005
1,2,4-Trimethylbenzene	1.3	1.0		µg/L	1	8/25/2005
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	8/25/2005
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	8/25/2005
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	8/25/2005
Naphthalene	ND	2.0		µg/L	1	8/25/2005
1-Methylnaphthalene	ND	4.0		µg/L	1	8/25/2005
2-Methylnaphthalene	ND	4.0		µg/L	1	8/25/2005
Acetone	ND	10		µg/L	1	8/25/2005
Bromobenzene	ND	1.0		µg/L	1	8/25/2005
Bromochloromethane	ND	1.0		µg/L	1	8/25/2005
Bromodichloromethane	ND	1.0		µg/L	1	8/25/2005
Bromoform	ND	1.0		µg/L	1	8/25/2005
Bromomethane	ND	2.0		µg/L	1	8/25/2005
2-Butanone	ND	10		µg/L	1	8/25/2005
Carbon disulfide	ND	10		µg/L	1	8/25/2005
Carbon Tetrachloride	ND	1.0		µg/L	1	8/25/2005
Chlorobenzene	ND	1.0		µg/L	1	8/25/2005
Chloroethane	ND	2.0		µg/L	1	8/25/2005
Chloroform	ND	1.0		µg/L	1	8/25/2005
Chloromethane	ND	1.0		µg/L	1	8/25/2005
2-Chlorotoluene	ND	1.0		µg/L	1	8/25/2005
4-Chlorotoluene	ND	1.0		µg/L	1	8/25/2005
cis-1,2-DCE	ND	1.0		µg/L	1	8/25/2005
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	8/25/2005

Qualifiers:
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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: *26-Sep-05*

CLIENT: San Juan Refining
Lab Order: 0508276
Project: DW #1 Baseline
Lab ID: 0508276-01

Client Sample ID: DW #1
Collection Date: 8/23/2005 10:45:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	8/25/2005
Dibromochloromethane	ND	1.0		µg/L	1	8/25/2005
Dibromomethane	ND	2.0		µg/L	1	8/25/2005
1,2-Dichlorobenzene	ND	1.0		µg/L	1	8/25/2005
1,3-Dichlorobenzene	ND	1.0		µg/L	1	8/25/2005
1,4-Dichlorobenzene	ND	1.0		µg/L	1	8/25/2005
Dichlorodifluoromethane	ND	1.0		µg/L	1	8/25/2005
1,1-Dichloroethane	ND	1.0		µg/L	1	8/25/2005
1,1-Dichloroethene	ND	1.0		µg/L	1	8/25/2005
1,2-Dichloropropane	ND	1.0		µg/L	1	8/25/2005
1,3-Dichloropropane	ND	1.0		µg/L	1	8/25/2005
2,2-Dichloropropane	ND	1.0		µg/L	1	8/25/2005
1,1-Dichloropropene	ND	1.0		µg/L	1	8/25/2005
Hexachlorobutadiene	ND	1.0		µg/L	1	8/25/2005
2-Hexanone	ND	10		µg/L	1	8/25/2005
Isopropylbenzene	ND	1.0		µg/L	1	8/25/2005
4-Isopropyltoluene	ND	1.0		µg/L	1	8/25/2005
4-Methyl-2-pentanone	ND	10		µg/L	1	8/25/2005
Methylene Chloride	ND	3.0		µg/L	1	8/25/2005
n-Butylbenzene	ND	1.0		µg/L	1	8/25/2005
n-Propylbenzene	ND	1.0		µg/L	1	8/25/2005
sec-Butylbenzene	ND	1.0		µg/L	1	8/25/2005
Styrene	ND	1.0		µg/L	1	8/25/2005
tert-Butylbenzene	ND	1.0		µg/L	1	8/25/2005
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	8/25/2005
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	8/25/2005
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	8/25/2005
trans-1,2-DCE	ND	1.0		µg/L	1	8/25/2005
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	8/25/2005
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	8/25/2005
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	8/25/2005
1,1,1-Trichloroethane	ND	1.0		µg/L	1	8/25/2005
1,1,2-Trichloroethane	ND	1.0		µg/L	1	8/25/2005
Trichloroethene (TCE)	ND	1.0		µg/L	1	8/25/2005
Trichlorofluoromethane	ND	1.0		µg/L	1	8/25/2005
1,2,3-Trichloropropane	ND	2.0		µg/L	1	8/25/2005
Vinyl chloride	ND	1.0		µg/L	1	8/25/2005
Xylenes, Total	3.1	1.0		µg/L	1	8/25/2005
Surr: 1,2-Dichloroethane-d4	99.2	87.7-108		%REC	1	8/25/2005
Surr: 4-Bromofluorobenzene	96.6	88.8-113		%REC	1	8/25/2005
Surr: Dibromofluoromethane	98.7	84.1-111		%REC	1	8/25/2005
Surr: Toluene-d8	98.8	85.9-109		%REC	1	8/25/2005

Qualifiers:

ND - Not Detected at the Reporting Limit
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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: *26-Sep-05*

CLIENT: San Juan Refining
Lab Order: 0508276
Project: DW #1 Baseline
Lab ID: 0508276-01

Client Sample ID: DW #1
Collection Date: 8/23/2005 10:45:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	2.5		µg/L	1	9/2/2005 4:05:05 PM
1-Methylnaphthalene	ND	2.5		µg/L	1	9/2/2005 4:05:05 PM
2-Methylnaphthalene	ND	2.5		µg/L	1	9/2/2005 4:05:05 PM
Acenaphthylene	ND	2.5		µg/L	1	9/2/2005 4:05:05 PM
Acenaphthene	ND	2.5		µg/L	1	9/2/2005 4:05:05 PM
Fluorene	ND	0.80		µg/L	1	9/2/2005 4:05:05 PM
Phenanthrene	ND	0.60		µg/L	1	9/2/2005 4:05:05 PM
Anthracene	ND	0.60		µg/L	1	9/2/2005 4:05:05 PM
Fluoranthene	ND	0.30		µg/L	1	9/2/2005 4:05:05 PM
Pyrene	ND	0.30		µg/L	1	9/2/2005 4:05:05 PM
Benz(a)anthracene	ND	0.020		µg/L	1	9/2/2005 4:05:05 PM
Chrysene	ND	0.20		µg/L	1	9/2/2005 4:05:05 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	9/2/2005 4:05:05 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	9/2/2005 4:05:05 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	9/2/2005 4:05:05 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	9/2/2005 4:05:05 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	9/2/2005 4:05:05 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	9/2/2005 4:05:05 PM
Surr: Benzo(e)pyrene	71.5	54-102		%REC	1	9/2/2005 4:05:05 PM
TOTAL CARBON DIOXIDE CALCULATION						Analyst: MAP
Total Carbon Dioxide	330	1.0		mg CO2/L	1	9/2/2005
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: DK
Specific Conductance	1200	0.010		µmhos/cm	1	8/26/2005
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	9/7/2005
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/8/2005 3:21:44 PM
Barium	0.12	0.0020		mg/L	1	9/8/2005 3:21:44 PM
Cadmium	ND	0.0020		mg/L	1	9/8/2005 3:21:44 PM
Calcium	61	1.0		mg/L	1	9/8/2005 3:21:44 PM
Chromium	ND	0.0060		mg/L	1	9/8/2005 3:21:44 PM
Copper	ND	0.0060		mg/L	1	9/8/2005 3:21:44 PM
Iron	0.97	0.020		mg/L	1	9/8/2005 3:21:44 PM
Lead	ND	0.0050		mg/L	1	9/8/2005 3:21:44 PM
Magnesium	10	1.0		mg/L	1	9/8/2005 3:21:44 PM
Manganese	1.9	0.0020		mg/L	1	9/8/2005 3:21:44 PM
Potassium	3.6	1.0		mg/L	1	9/8/2005 3:21:44 PM
Selenium	ND	0.050		mg/L	1	9/8/2005 3:21:44 PM
Silver	ND	0.0050		mg/L	1	9/8/2005 3:21:44 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: *26-Sep-05*

CLIENT: San Juan Refining
Client Sample ID: DW #1
Lab Order: 0508276
Collection Date: 8/23/2005 10:45:00 AM
Project: DW #1 Baseline
Lab ID: 0508276-01
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	210	10		mg/L	10	9/9/2005 10:28:08 AM
Uranium	ND	0.10		mg/L	1	9/8/2005 3:21:44 PM
Zinc	0.10	0.0050		mg/L	1	9/8/2005 3:21:44 PM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/9/2005 10:34:05 AM
Barium	0.11	0.020		mg/L	1	9/9/2005 10:34:05 AM
Cadmium	ND	0.0020		mg/L	1	9/9/2005 10:34:05 AM
Chromium	ND	0.0060		mg/L	1	9/9/2005 10:34:05 AM
Copper	ND	0.0060		mg/L	1	9/9/2005 10:34:05 AM
Iron	1.4	0.020		mg/L	1	9/9/2005 10:34:05 AM
Lead	ND	0.0050		mg/L	1	9/9/2005 10:34:05 AM
Manganese	1.8	0.0020		mg/L	1	9/9/2005 10:34:05 AM
Selenium	ND	0.050		mg/L	1	9/9/2005 10:34:05 AM
Silver	ND	0.0050		mg/L	1	9/9/2005 10:34:05 AM
Uranium	ND	0.10		mg/L	1	9/9/2005 10:34:05 AM
Zinc	ND	0.050		mg/L	1	9/9/2005 10:34:05 AM
EPA METHOD 160.1: TDS						Analyst: DK
Total Dissolved Solids	830	50		mg/L	1	8/26/2005

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: *26-Sep-05*

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID: MBLK	Batch ID: R16423	Test Code: E300	Units: mg/L	Analysis Date: 8/24/2005	Prep Date:
Client ID:		Run ID: LC_050824A		SeqNo: 391843	

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	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID: MBLK	Batch ID: R16546	Test Code: E310.1	Units: mg/L CaCO3	Analysis Date: 9/2/2005	Prep Date:
Client ID:		Run ID: WC_050902B		SeqNo: 395705	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2									
Carbonate	ND	2									
Bicarbonate	ND	2									

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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID: 5ml rb | Batch ID: R16424 | Test Code: SW8260B | Units: µg/L | Analysis Date: 8/24/2005 | Prep Date:
Client ID: | Run ID: VAL_050824A | SeqNo: 391929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	ND	2									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									
cis-1,3-Dichloropropene	ND	1									

6/23

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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

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

7/23

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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT

Method Blank

Trichloroethene (TCE)	ND	1							
Trichlorofluoromethane	ND	1							
1,2,3-Trichloropropane	0.482	2							
Vinyl chloride	ND	1							J
Xylenes, Total	ND	1							
Surr: 1,2-Dichloroethane-d4	9.346	0	10	0	93.5	87.7	108	0	
Surr: 4-Bromofluorobenzene	9.56	0	10	0	95.6	88.8	113	0	
Surr: Dibromofluoromethane	10.07	0	10	0	101	84.1	111	0	
Surr: Toluene-d8	9.752	0	10	0	97.5	85.9	109	0	

8/23

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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID: 5ml rb | Batch ID: R16442 | Test Code: SW8260B | Units: µg/L | Analysis Date: 8/25/2005 | Prep Date:
Client ID: | Run ID: VAL_050825A | SeqNo: 392288

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	ND	2									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									
cis-1,3-Dichloropropene	ND	1									

9/23

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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

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

10/23

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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

Trichloroethene (TCE)	ND	1							
Trichlorofluoromethane	ND	1							
1,2,3-Trichloropropane	0.48	2							
Vinyl chloride	ND	1							J
Xylenes, Total	ND	1							
Surr: 1,2-Dichloroethane-d4	9.626	0	10	0	96.3	87.7	108	0	
Surr: 4-Bromofluorobenzene	10.31	0	10	0	103	88.8	113	0	
Surr: Dibromofluoromethane	10.18	0	10	0	102	84.1	111	0	
Surr: Toluene-d8	9.714	0	10	0	97.1	85.9	109	0	

Sample ID: MB-8618 Batch ID: 8618 Test Code: SW8310 Units: µg/L Analysis Date: 9/2/2005 1:41:05 PM Prep Date: 8/25/2005
Client ID: Run ID: HUGO_050901A SeqNo: 395655

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	7.92	0	10	0	79.2	54	102	0			

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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID: MB-8699	Batch ID: 8699	Test Code: SW7470	Units: mg/L	Analysis Date: 9/7/2005	Prep Date: 9/7/2005
Client ID:		Run ID: MI-LA254_050907A		SeqNo: 396456	

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: R16596	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/8/2005 1:19:39 PM	Prep Date:
Client ID:		Run ID: ICP_050908C		SeqNo: 397842	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	0.0003229	0.02									J
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	0.02									
Silver	ND	0.005									
Sodium	ND	1									
Uranium	ND	0.1									
Zinc	ND	0.05									

12/23

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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID: MB-8699	Batch ID: 8699	Test Code: SW7470	Units: mg/L	Analysis Date: 9/7/2005	Prep Date: 9/7/2005
Client ID:		Run ID: MI-LA254_050907A		SeqNo: 396456	

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: R16596	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/8/2005 1:19:39 PM	Prep Date:
Client ID:		Run ID: ICP_050908C		SeqNo: 397842	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	0.0003229	0.02									J
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	0.02									
Silver	ND	0.005									
Sodium	ND	1									
Uranium	ND	0.1									
Zinc	ND	0.05									

12/23

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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID: MB-8694	Batch ID: 8694	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/9/2005 10:04:29 AM	Prep Date: 9/7/2005
Client ID:		Run ID: ICP_050909B		SeqNo: 398132	

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	0.001572	0.006									J
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-8625	Batch ID: 8625	Test Code: E160.1	Units: mg/L	Analysis Date: 8/26/2005	Prep Date: 8/26/2005
Client ID:		Run ID: WC_050826F		SeqNo: 395152	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50									

13/23

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: *26-Sep-05*

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT

Sample Duplicate

Sample ID: **0508276-01C DUP** Batch ID: **R16423** Test Code: **E300** Units: **mg/L** Analysis Date: **8/24/2005** Prep Date:
Client ID: **DW #1** Run ID: **LC_050824A** SeqNo: **391846**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.3844	0.1	0	0	0	0	0	0.3909	1.68	20	
Nitrogen, Nitrite (As N)	ND	0.1	0	0	0	0	0	0	0	20	
Bromide	0.2215	0.5	0	0	0	0	0	0.2659	0	20	J
Nitrogen, Nitrate (As N)	ND	0.1	0	0	0	0	0	0	0	20	
Phosphorus, Orthophosphate (As P)	ND	0.5	0	0	0	0	0	0	0	20	

Sample ID: **0508276-02C DUP** Batch ID: **R16596** Test Code: **SW6010A** Units: **mg/L** Analysis Date: **9/8/2005 3:34:56 PM** Prep Date:
Client ID: **DW #2** Run ID: **ICP_050908C** SeqNo: **397872**

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	0.09721	0.02	0	0	0	0	0	0.09721	0.00473	30	
Cadmium	ND	0.002	0	0	0	0	0	0	0	30	
Calcium	59.1	1	0	0	0	0	0	58.92	0.311	30	
Chromium	ND	0.006	0	0	0	0	0	0	0	30	
Copper	ND	0.006	0	0	0	0	0	0	0	30	
Iron	0.02466	0.02	0	0	0	0	0	0.0252	2.16	30	
Lead	ND	0.005	0	0	0	0	0	0	0	30	
Magnesium	12.84	1	0	0	0	0	0	13.03	1.49	30	
Manganese	0.3092	0.002	0	0	0	0	0	0.3073	0.617	30	
Potassium	2.546	1	0	0	0	0	0	2.417	5.20	30	
Selenium	ND	0.02	0	0	0	0	0	0.02171	0	30	
Silver	ND	0.005	0	0	0	0	0	0	0	30	
Sodium	89.34	1	0	0	0	0	0	88.81	0.595	30	
Uranium	ND	0.1	0	0	0	0	0	0	0	30	
Zinc	0.01777	0.05	0	0	0	0	0	0.01776	0	30	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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Sample Duplicate

Sample ID: 0508276-02D DUP Batch ID: 8694 Test Code: SW6010A Units: mg/L Analysis Date: 9/9/2005 11:46:31 AM Prep Date: 9/7/2005
Client ID: DW #2 Run ID: ICP_050909B SeqNo: 398154

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	0.1281	0.02	0	0	0	0	0	0.1274	0.568	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	
Copper	0.001204	0.006	0	0	0	0	0	0	0	30	J
Iron	0.9111	0.05	0	0	0	0	0	0.911	0.00717	30	
Lead	0.005425	0.005	0	0	0	0	0	0.004544	17.7	30	
Manganese	0.3875	0.002	0	0	0	0	0	0.3851	0.612	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	
Uranium	ND	0.1	0	0	0	0	0	0	0	30	
Zinc	ND	0.05	0	0	0	0	0	0.01218	0	30	

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: *26-Sep-05*

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS ST300-05021	Batch ID: R16423	Test Code: E300	Units: mg/L	Analysis Date: 8/24/2005	Prep Date:
Client ID:		Run ID: LC_050824A		SeqNo: 391844	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5134	0.1	0.5	0	103	90	110	0			
Chloride	4.804	0.1	5	0	96.1	90	110	0			
Nitrogen, Nitrite (As N)	0.9619	0.1	1	0	96.2	90	110	0			
Bromide	2.533	0.5	2.5	0	101	90	110	0			
Nitrogen, Nitrate (As N)	2.441	0.1	2.5	0	97.6	90	110	0			
Phosphorus, Orthophosphate (As P)	4.966	0.5	5	0	99.3	90	110	0			
Sulfate	9.911	0.5	10	0	99.1	90	110	0			

Sample ID: 100ng lcs	Batch ID: R16424	Test Code: SW8260B	Units: µg/L	Analysis Date: 8/24/2005	Prep Date:
Client ID:		Run ID: VAL_050824A		SeqNo: 391931	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.6	1	20	0	98.0	81.4	130	0			
Toluene	22.17	1	20	0	111	90.8	128	0			
Chlorobenzene	21.97	1	20	0	110	89.6	134	0			
1,1-Dichloroethene	18.69	1	20	0	93.5	75.1	120	0			
Trichloroethene (TCE)	18.26	1	20	0	91.3	75.8	110	0			

Sample ID: 100ng lcs	Batch ID: R16442	Test Code: SW8260B	Units: µg/L	Analysis Date: 8/25/2005	Prep Date:
Client ID:		Run ID: VAL_050825A		SeqNo: 392314	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.51	1	20	0	97.5	81.4	130	0			
Toluene	20.57	1	20	0	103	90.8	128	0			
Chlorobenzene	21.38	1	20	0	107	89.6	134	0			
1,1-Dichloroethene	18.1	1	20	0	90.5	75.1	120	0			
Trichloroethene (TCE)	17.64	1	20	0	88.2	75.8	110	0			

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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS-8618 Batch ID: 8618 Test Code: SW8310 Units: µg/L Analysis Date: 9/2/2005 2:29:05 PM Prep Date: 8/25/2005

Client ID: Run ID: HUGO_050901A SeqNo: 395688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	24.62	2.5	40	0	61.6	34.8	97.4	0			
1-Methylnaphthalene	25.82	2.5	40.1	0	64.4	34.7	100	0			
2-Methylnaphthalene	25.63	2.5	40	0	64.1	35	98.1	0			
Acenaphthylene	28.27	2.5	40.1	0	70.5	48.3	95.1	0			
Acenaphthene	27.21	2.5	40	0	68.0	45	95	0			
Fluorene	2.93	0.8	4.01	0	73.1	46.8	93.4	0			
Phenanthrene	1.52	0.6	2.01	0	75.6	48.7	104	0			
Anthracene	1.48	0.6	2.01	0	73.6	47.5	102	0			
Fluoranthene	3.01	0.3	4.01	0	75.1	46.3	108	0			
Pyrene	3	0.3	4.01	0	74.8	43.8	109	0			
Benz(a)anthracene	0.3	0.02	0.401	0	74.8	40.3	115	0			
Chrysene	1.55	0.2	2.01	0	77.1	42.6	107	0			
Benzo(b)fluoranthene	0.36	0.05	0.501	0	71.9	48.6	107	0			
Benzo(k)fluoranthene	0.19	0.02	0.25	0	76.0	23.3	136	0			
Benzo(a)pyrene	0.19	0.02	0.251	0	75.7	33.4	117	0			
Dibenz(a,h)anthracene	0.35	0.04	0.501	0	69.9	27.3	139	0			
Benzo(g,h,i)perylene	0.37	0.03	0.5	0	74.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.747	0.08	1.002	0	74.6	39.9	125	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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: LCSD-8618 Batch ID: 8618 Test Code: SW8310 Units: µg/L Analysis Date: 9/2/2005 3:17:05 PM Prep Date: 8/25/2005
Client ID: Run ID: HUGO_050901A SeqNo: 395689

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	22.84	2.5	40	0	57.1	34.8	97.4	24.62	7.50	32.1	
1-Methylnaphthalene	22.66	2.5	40.1	0	56.5	34.7	100	25.82	13.0	32.7	
2-Methylnaphthalene	22.88	2.5	40	0	57.2	35	98.1	25.63	11.3	34	
Acenaphthylene	24.94	2.5	40.1	0	62.2	48.3	95.1	28.27	12.5	38.8	
Acenaphthene	23.78	2.5	40	0	59.5	45	95	27.21	13.5	38.6	
Fluorene	2.61	0.8	4.01	0	65.1	46.8	93.4	2.93	11.6	39.3	
Phenanthrene	1.26	0.6	2.01	0	62.7	48.7	104	1.52	18.7	25	
Anthracene	1.33	0.6	2.01	0	66.2	47.5	102	1.48	10.7	23.9	
Fluoranthene	2.84	0.3	4.01	0	70.8	46.3	108	3.01	5.81	15.7	
Pyrene	2.81	0.3	4.01	0	70.1	43.8	109	3	6.54	15.3	
Benz(a)anthracene	0.29	0.02	0.401	0	72.3	40.3	115	0.3	3.39	119	
Chrysene	1.38	0.2	2.01	0	68.7	42.6	107	1.55	11.6	16.6	
Benzo(b)fluoranthene	0.36	0.05	0.501	0	71.9	48.6	107	0.36	0	21.7	
Benzo(k)fluoranthene	0.18	0.02	0.25	0	72.0	23.3	136	0.19	5.41	19.4	
Benzo(a)pyrene	0.18	0.02	0.251	0	71.7	33.4	117	0.19	5.41	16.7	
Dibenz(a,h)anthracene	0.35	0.04	0.501	0	69.9	27.3	139	0.35	0	17.3	
Benzo(g,h,i)perylene	0.35	0.03	0.5	0	70.0	38.2	117	0.37	5.56	118	
Indeno(1,2,3-cd)pyrene	0.677	0.08	1.002	0	67.6	39.9	125	0.747	9.83	17.7	

Sample ID: LCS-8699 Batch ID: 8699 Test Code: SW7470 Units: mg/L Analysis Date: 9/7/2005 Prep Date: 9/7/2005
Client ID: Run ID: MI-LA254_050907A SeqNo: 396457

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005182	0.0002	0.005	0	104	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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: LCSD-8699	Batch ID: 8699	Test Code: SW7470	Units: mg/L	Analysis Date: 9/7/2005	Prep Date: 9/7/2005
Client ID:		Run ID: MI-LA254_050907A		SeqNo: 396471	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005394	0.0002	0.005	0	108	75.2	134	0.005182	4.01	0	

Sample ID: LCS	Batch ID: R16596	Test Code: SW6010A	Units: mg/L	Analysis Date: 9/8/2005 1:22:38 PM	Prep Date:
Client ID:		Run ID: ICP_050908C		SeqNo: 397843	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4847	0.02	0.5	0	96.9	80	120	0			
Barium	0.4728	0.02	0.5	0.0003229	94.5	80	120	0			
Cadmium	0.481	0.002	0.5	0	96.2	80	120	0			
Calcium	45.55	1	50.5	0	90.2	80	120	0			
Chromium	0.4737	0.006	0.5	0	94.7	80	120	0			
Copper	0.4854	0.006	0.5	0	97.1	80	120	0			
Iron	0.4595	0.02	0.5	0	91.9	80	120	0			
Lead	0.4768	0.005	0.5	0	95.4	80	120	0			
Magnesium	45.86	1	50.5	0	90.8	80	120	0			
Manganese	0.4497	0.002	0.5	0	89.9	80	120	0			
Potassium	48.13	1	55	0	87.5	80	120	0			
Selenium	0.4503	0.02	0.5	0	90.1	80	120	0			
Silver	0.4774	0.005	0.5	0	95.5	80	120	0			
Sodium	49.03	1	50.5	0	97.1	80	120	0			
Uranium	2.38	0.1	2.5	0	95.2	80	120	0			
Zinc	0.4678	0.05	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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: LCSD | Batch ID: R16596 | Test Code: SW6010A | Units: mg/L | Analysis Date: 9/8/2005 1:25:54 PM | Prep Date:
Client ID: | Run ID: ICP_050908C | SeqNo: 397844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4688	0.02	0.5	0	93.8	80	120	0.4847	3.34	20	
Barium	0.4734	0.02	0.5	0.0003229	94.6	80	120	0.4728	0.128	20	
Cadmium	0.4784	0.002	0.5	0	95.7	80	120	0.481	0.538	20	
Calcium	45.68	1	50.5	0	90.5	80	120	45.55	0.302	20	
Chromium	0.4748	0.006	0.5	0	95.0	80	120	0.4737	0.238	20	
Copper	0.4852	0.006	0.5	0	97.0	80	120	0.4854	0.0417	20	
Iron	0.455	0.02	0.5	0	91.0	80	120	0.4595	0.979	20	
Lead	0.477	0.005	0.5	0	95.4	80	120	0.4768	0.0606	20	
Magnesium	46.07	1	50.5	0	91.2	80	120	45.86	0.451	20	
Manganese	0.451	0.002	0.5	0	90.2	80	120	0.4497	0.283	20	
Potassium	48.32	1	55	0	87.9	80	120	48.13	0.409	20	
Selenium	0.4449	0.02	0.5	0	89.0	80	120	0.4503	1.20	20	
Silver	0.4816	0.005	0.5	0	96.3	80	120	0.4774	0.868	20	
Sodium	49.22	1	50.5	0	97.5	80	120	49.03	0.398	20	
Uranium	2.399	0.1	2.5	0	96.0	80	120	2.38	0.811	20	
Zinc	0.4673	0.05	0.5	0	93.5	80	120	0.4678	0.116	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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID: LCS-8694 Batch ID: 8694 Test Code: SW6010A Units: mg/L Analysis Date: 9/9/2005 10:07:21 AM Prep Date: 9/7/2005
Client ID: Run ID: ICP_050909B SeqNo: 398133

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			
Barium	0.4782	0.02	0.5	0	95.6	80	120	0			
Cadmium	0.4845	0.002	0.5	0	96.9	80	120	0			
Chromium	0.4776	0.006	0.5	0	95.5	80	120	0			
Copper	0.4956	0.006	0.5	0.001572	98.8	80	120	0			
Iron	0.4615	0.05	0.5	0	92.3	80	120	0			
Lead	0.4774	0.005	0.5	0	95.5	80	120	0			
Manganese	0.455	0.002	0.5	0	91.0	80	120	0			
Selenium	0.4728	0.05	0.5	0	94.6	80	120	0			
Silver	0.4891	0.005	0.5	0	97.8	80	120	0			
Uranium	2.364	0.1	2.5	0	94.6	80	120	0			
Zinc	0.4724	0.05	0.5	0	94.5	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: 0508276
Project: DW #1 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID: LCSD-8694 Batch ID: 8694 Test Code: SW6010A Units: mg/L Analysis Date: 9/9/2005 10:10:27 AM Prep Date: 9/7/2005
Client ID: Run ID: ICP_050909B SeqNo: 398134

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	80	120	0.4949	0.637	20	
Barium	0.4717	0.02	0.5	0	94.3	80	120	0.4782	1.37	20	
Cadmium	0.4791	0.002	0.5	0	95.8	80	120	0.4845	1.12	20	
Chromium	0.4694	0.006	0.5	0	93.9	80	120	0.4776	1.72	20	
Copper	0.487	0.006	0.5	0.001572	97.1	80	120	0.4956	1.76	20	
Iron	0.461	0.05	0.5	0	92.2	80	120	0.4615	0.124	20	
Lead	0.477	0.005	0.5	0	95.4	80	120	0.4774	0.0730	20	
Manganese	0.4485	0.002	0.5	0	89.7	80	120	0.455	1.46	20	
Selenium	0.4723	0.05	0.5	0	94.5	80	120	0.4728	0.109	20	
Silver	0.481	0.005	0.5	0	96.2	80	120	0.4891	1.68	20	
Uranium	2.339	0.1	2.5	0	93.6	80	120	2.364	1.06	20	
Zinc	0.4676	0.05	0.5	0	93.5	80	120	0.4724	1.01	20	

Sample ID: LCS-8625 Batch ID: 8625 Test Code: E160.1 Units: mg/L Analysis Date: 8/26/2005 Prep Date: 8/26/2005
Client ID: Run ID: WC_050826F SeqNo: 395153

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	910	50	1000	0	91.0	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: 8/24/2005

Work Order Number 0508276 | Received by AT

Checklist completed by _____ Date 8/24/05
Signature

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 _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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
Address: #50 CR 4990 Bloomfield, NM 87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: DW#1 - Baseline
Project #:
Project Manager:
Sampler: Cindy Hurtado/Angela Falk
Sample Temperature: 5°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative HgCl2	Preservative HNO3	Preservative	HEAL No.
8/23/05	1045am	H2O	DW#1	2-VOA	X			0508276-1
				1-liter			Amber	-1
				1-250ml		X	Filtered	-1
				1-500ml		X		-1
				1-500ml			H2SO4	-1
				1-500ml				-1

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_2, NO_3, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Dissolved WQCC Metals	Total WQCC Metals	Cation/Anion / TDS		Air Bubbles or Headspace (Y or N)
						X				X						
												X				
													X			
														XX		

Date: 8/23/05 Time: 3:27pm Relinquished By: (Signature) Cindy Hurtado
Received By: (Signature)
Date: Time: Relinquished By: (Signature)
Received By: (Signature) 8/24/05 11:15

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

September 28, 2005

Hall Environmental Analysis Laboratory
4901 Hawkins NE, Suite D
Albuquerque, NM 87109

San Juan Refining
#50 CR 4990
Bloomfield, NM 87413

Dear Ms. Hurtado:

Hall Environmental Analysis Laboratory received 1 sample on 8/24/2005 for the analyses presented in the following report.

These were analyzed acccording 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

0508276-B/DW #2 - Baseline

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

Hall Environmental Analysis Laboratory

Date: *28-Sep-05*

CLIENT: San Juan Refining
Lab Order: 0508276
Project: DW #2 Baseline
Lab ID: 0508276-02

Client Sample ID: DW #2
Collection Date: 8/23/2005 3:00:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: MAP
Fluoride	0.50	0.10		mg/L	1	8/24/2005
Chloride	9.0	0.10		mg/L	1	8/24/2005
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	8/24/2005
Bromide	ND	0.50		mg/L	1	8/24/2005
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	8/24/2005
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	8/24/2005
Sulfate	12	0.50		mg/L	1	8/24/2005
EPA METHOD 310.1: ALKALINITY						Analyst: MAP
Alkalinity, Total (As CaCO3)	380	2.0		mg/L CaCO3	1	9/2/2005
Carbonate	ND	2.0		mg/L CaCO3	1	9/2/2005
Bicarbonate	380	2.0		mg/L CaCO3	1	9/2/2005
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Benzene	12	10		µg/L	10	8/25/2005
Toluene	ND	10		µg/L	10	8/25/2005
Ethylbenzene	1100	50		µg/L	50	8/25/2005
Methyl tert-butyl ether (MTBE)	ND	10		µg/L	10	8/25/2005
1,2,4-Trimethylbenzene	2200	50		µg/L	50	8/25/2005
1,3,5-Trimethylbenzene	120	10		µg/L	10	8/25/2005
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	8/25/2005
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	8/25/2005
Naphthalene	210	20		µg/L	10	8/25/2005
1-Methylnaphthalene	180	40		µg/L	10	8/25/2005
2-Methylnaphthalene	66	40		µg/L	10	8/25/2005
Acetone	ND	100		µg/L	10	8/25/2005
Bromobenzene	ND	10		µg/L	10	8/25/2005
Bromochloromethane	ND	10		µg/L	10	8/25/2005
Bromodichloromethane	ND	10		µg/L	10	8/25/2005
Bromoform	ND	10		µg/L	10	8/25/2005
Bromomethane	ND	20		µg/L	10	8/25/2005
2-Butanone	ND	100		µg/L	10	8/25/2005
Carbon disulfide	ND	100		µg/L	10	8/25/2005
Carbon Tetrachloride	ND	10		µg/L	10	8/25/2005
Chlorobenzene	ND	10		µg/L	10	8/25/2005
Chloroethane	ND	20		µg/L	10	8/25/2005
Chloroform	ND	10		µg/L	10	8/25/2005
Chloromethane	ND	10		µg/L	10	8/25/2005
2-Chlorotoluene	ND	10		µg/L	10	8/25/2005
4-Chlorotoluene	ND	10		µg/L	10	8/25/2005
cis-1,2-DCE	ND	10		µg/L	10	8/25/2005
cis-1,3-Dichloropropene	ND	10		µg/L	10	8/25/2005

Qualifiers:
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- 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: *28-Sep-05*

CLIENT: San Juan Refining
Lab Order: 0508276
Project: DW #2 Baseline
Lab ID: 0508276-02

Client Sample ID: DW #2
Collection Date: 8/23/2005 3:00:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	8/25/2005
Dibromochloromethane	ND	10		µg/L	10	8/25/2005
Dibromomethane	ND	20		µg/L	10	8/25/2005
1,2-Dichlorobenzene	ND	10		µg/L	10	8/25/2005
1,3-Dichlorobenzene	ND	10		µg/L	10	8/25/2005
1,4-Dichlorobenzene	ND	10		µg/L	10	8/25/2005
Dichlorodifluoromethane	ND	10		µg/L	10	8/25/2005
1,1-Dichloroethane	ND	10		µg/L	10	8/25/2005
1,1-Dichloroethene	ND	10		µg/L	10	8/25/2005
1,2-Dichloropropane	ND	10		µg/L	10	8/25/2005
1,3-Dichloropropane	ND	10		µg/L	10	8/25/2005
2,2-Dichloropropane	ND	10		µg/L	10	8/25/2005
1,1-Dichloropropene	ND	10		µg/L	10	8/25/2005
Hexachlorobutadiene	ND	10		µg/L	10	8/25/2005
2-Hexanone	ND	100		µg/L	10	8/25/2005
Isopropylbenzene	140	10		µg/L	10	8/25/2005
4-Isopropyltoluene	21	10		µg/L	10	8/25/2005
4-Methyl-2-pentanone	ND	100		µg/L	10	8/25/2005
Methylene Chloride	ND	30		µg/L	10	8/25/2005
n-Butylbenzene	50	10		µg/L	10	8/25/2005
n-Propylbenzene	320	10		µg/L	10	8/25/2005
sec-Butylbenzene	37	10		µg/L	10	8/25/2005
Styrene	ND	10		µg/L	10	8/25/2005
tert-Butylbenzene	ND	10		µg/L	10	8/25/2005
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	8/25/2005
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	8/25/2005
Tetrachloroethene (PCE)	ND	10		µg/L	10	8/25/2005
trans-1,2-DCE	ND	10		µg/L	10	8/25/2005
trans-1,3-Dichloropropene	ND	10		µg/L	10	8/25/2005
1,2,3-Trichlorobenzene	ND	10		µg/L	10	8/25/2005
1,2,4-Trichlorobenzene	ND	10		µg/L	10	8/25/2005
1,1,1-Trichloroethane	ND	10		µg/L	10	8/25/2005
1,1,2-Trichloroethane	ND	10		µg/L	10	8/25/2005
Trichloroethene (TCE)	ND	10		µg/L	10	8/25/2005
Trichlorofluoromethane	ND	10		µg/L	10	8/25/2005
1,2,3-Trichloropropane	ND	20		µg/L	10	8/25/2005
Vinyl chloride	ND	10		µg/L	10	8/25/2005
Xylenes, Total	2300	50		µg/L	50	8/25/2005
Surr: 1,2-Dichloroethane-d4	94.7	87.7-108		%REC	10	8/25/2005
Surr: 4-Bromofluorobenzene	100	88.8-113		%REC	10	8/25/2005
Surr: Dibromofluoromethane	102	84.1-111		%REC	10	8/25/2005
Surr: Toluene-d8	100	85.9-109		%REC	10	8/25/2005

Qualifiers:

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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: *28-Sep-05*

CLIENT: San Juan Refining
Lab Order: 0508276
Project: DW #2 Baseline
Lab ID: 0508276-02

Client Sample ID: DW #2
Collection Date: 8/23/2005 3:00:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	140	2.5		µg/L	1	9/2/2005 4:53:05 PM
1-Methylnaphthalene	95	2.5		µg/L	1	9/2/2005 4:53:05 PM
2-Methylnaphthalene	43	2.5		µg/L	1	9/2/2005 4:53:05 PM
Acenaphthylene	ND	2.5		µg/L	1	9/2/2005 4:53:05 PM
Acenaphthene	2.9	2.5		µg/L	1	9/2/2005 4:53:05 PM
Fluorene	ND	0.80		µg/L	1	9/2/2005 4:53:05 PM
Phenanthrene	4.0	0.60		µg/L	1	9/2/2005 4:53:05 PM
Anthracene	ND	0.60		µg/L	1	9/2/2005 4:53:05 PM
Fluoranthene	ND	0.30		µg/L	1	9/2/2005 4:53:05 PM
Pyrene	ND	0.30		µg/L	1	9/2/2005 4:53:05 PM
Benz(a)anthracene	ND	0.020		µg/L	1	9/2/2005 4:53:05 PM
Chrysene	ND	0.20		µg/L	1	9/2/2005 4:53:05 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	9/2/2005 4:53:05 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	9/2/2005 4:53:05 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	9/2/2005 4:53:05 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	9/2/2005 4:53:05 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	9/2/2005 4:53:05 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	9/2/2005 4:53:05 PM
Surr: Benzo(e)pyrene	76.6	54-102		%REC	1	9/2/2005 4:53:05 PM
TOTAL CARBON DIOXIDE CALCULATION						Analyst: MAP
Total Carbon Dioxide	330	1.0		mg CO2/L	1	9/2/2005
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: DK
Specific Conductance	750	0.010		µmhos/cm	1	8/26/2005
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	9/7/2005
EPA METHOD 6010C: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/8/2005 3:32:31 PM
Barium	0.097	0.0020		mg/L	1	9/8/2005 3:32:31 PM
Cadmium	ND	0.0020		mg/L	1	9/8/2005 3:32:31 PM
Calcium	59	1.0		mg/L	1	9/8/2005 3:32:31 PM
Chromium	ND	0.0060		mg/L	1	9/8/2005 3:32:31 PM
Copper	ND	0.0060		mg/L	1	9/8/2005 3:32:31 PM
Iron	0.025	0.020		mg/L	1	9/8/2005 3:32:31 PM
Lead	ND	0.0050		mg/L	1	9/8/2005 3:32:31 PM
Magnesium	13	1.0		mg/L	1	9/8/2005 3:32:31 PM
Manganese	0.31	0.0020		mg/L	1	9/8/2005 3:32:31 PM
Potassium	2.4	1.0		mg/L	1	9/8/2005 3:32:31 PM
Selenium	ND	0.050		mg/L	1	9/8/2005 3:32:31 PM
Silver	ND	0.0050		mg/L	1	9/8/2005 3:32:31 PM

Qualifiers:
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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: *28-Sep-05*

CLIENT: San Juan Refining
Client Sample ID: DW #2
Lab Order: 0508276
Collection Date: 8/23/2005 3:00:00 PM
Project: DW #2 Baseline
Lab ID: 0508276-02
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
Sodium	89	1.0		mg/L	1	9/8/2005 3:32:31 PM
Uranium	ND	0.10		mg/L	1	9/8/2005 3:32:31 PM
Zinc	0.018	0.0050		mg/L	1	9/8/2005 3:32:31 PM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	9/9/2005 11:19:18 AM
Barium	0.13	0.020		mg/L	1	9/9/2005 11:19:18 AM
Cadmium	ND	0.0020		mg/L	1	9/9/2005 11:19:18 AM
Chromium	ND	0.0060		mg/L	1	9/9/2005 11:19:18 AM
Copper	ND	0.0060		mg/L	1	9/9/2005 11:19:18 AM
Iron	0.91	0.020		mg/L	1	9/9/2005 11:19:18 AM
Lead	ND	0.0050		mg/L	1	9/9/2005 11:19:18 AM
Manganese	0.39	0.0020		mg/L	1	9/9/2005 11:19:18 AM
Selenium	ND	0.050		mg/L	1	9/9/2005 11:19:18 AM
Silver	ND	0.0050		mg/L	1	9/9/2005 11:19:18 AM
Uranium	ND	0.10		mg/L	1	9/9/2005 11:19:18 AM
Zinc	ND	0.050		mg/L	1	9/9/2005 11:19:18 AM
EPA METHOD 160.1: TDS						Analyst: DK
Total Dissolved Solids	480	50		mg/L	1	8/26/2005

Qualifiers:

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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: *28-Sep-05*

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID MBLK	Batch ID: R16423	Test Code: E300	Units: mg/L	Analysis Date 8/24/2005	Prep Date
Client ID:		Run ID: LC_050824A		SeqNo: 391843	

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	0.5									
Nitrogen, Nitrate (As N)	ND	0.1									
Phosphorus, Orthophosphate (As P)	ND	0.5									
Sulfate	ND	0.5									

Sample ID MBLK	Batch ID: R16546	Test Code: E310.1	Units: mg/L CaCO3	Analysis Date 9/2/2005	Prep Date
Client ID:		Run ID: WC_050902B		SeqNo: 395705	

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									

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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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID 5ml rb | Batch ID: R16424 | Test Code: SW8260B | Units: µg/L | Analysis Date 8/24/2005 | Prep Date
Client ID: | Run ID: VAL_050824A | SeqNo: 391929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	ND	2									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									
cis-1,3-Dichloropropene	ND	1									

6/23

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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

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

7/23

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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

Trichloroethene (TCE)	ND	1							
Trichlorofluoromethane	ND	1							
1,2,3-Trichloropropane	0.482	2							J
Vinyl chloride	ND	1							
Xylenes, Total	ND	1							
Surr: 1,2-Dichloroethane-d4	9.346	0	10	0	93.5	87.7	108	0	
Surr: 4-Bromofluorobenzene	9.56	0	10	0	95.6	88.8	113	0	
Surr: Dibromofluoromethane	10.07	0	10	0	101	84.1	111	0	
Surr: Toluene-d8	9.752	0	10	0	97.5	85.9	109	0	

8/23

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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID 5ml rb | Batch ID: R16442 | Test Code: SW8260B | Units: µg/L | Analysis Date 8/25/2005 | Prep Date
Client ID: | Run ID: VAL_050825A | SeqNo: 392288

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	1									
Toluene	ND	1									
Ethylbenzene	ND	1									
Methyl tert-butyl ether (MTBE)	ND	1									
1,2,4-Trimethylbenzene	ND	1									
1,3,5-Trimethylbenzene	ND	1									
1,2-Dichloroethane (EDC)	ND	1									
1,2-Dibromoethane (EDB)	ND	1									
Naphthalene	ND	2									
1-Methylnaphthalene	ND	4									
2-Methylnaphthalene	ND	4									
Acetone	ND	10									
Bromobenzene	ND	1									
Bromochloromethane	ND	1									
Bromodichloromethane	ND	1									
Bromoform	ND	1									
Bromomethane	ND	2									
2-Butanone	ND	10									
Carbon disulfide	ND	10									
Carbon Tetrachloride	ND	1									
Chlorobenzene	ND	1									
Chloroethane	ND	2									
Chloroform	ND	1									
Chloromethane	ND	1									
2-Chlorotoluene	ND	1									
4-Chlorotoluene	ND	1									
cis-1,2-DCE	ND	1									
cis-1,3-Dichloropropene	ND	1									

9/23

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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

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

10/23

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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

Trichloroethene (TCE)	ND	1								
Trichlorofluoromethane	ND	1								
1,2,3-Trichloropropane	0.48	2								J
Vinyl chloride	ND	1								
Xylenes, Total	ND	1								
Surr: 1,2-Dichloroethane-d4	9.626	0	10	0	96.3	87.7	108	0		
Surr: 4-Bromofluorobenzene	10.31	0	10	0	103	88.8	113	0		
Surr: Dibromofluoromethane	10.18	0	10	0	102	84.1	111	0		
Surr: Toluene-d8	9.714	0	10	0	97.1	85.9	109	0		

Sample ID MB-8618 **Batch ID:** 8618 **Test Code:** SW8310 **Units:** µg/L **Analysis Date** 9/2/2005 1:41:05 PM **Prep Date** 8/25/2005

Client ID: **Run ID:** HUGO_050901A **SeqNo:** 395655

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	7.92	0	10	0	79.2	54	102	0			

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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID MB-8699	Batch ID: 8699	Test Code: SW7470	Units: mg/L	Analysis Date 9/7/2005	Prep Date 9/7/2005
Client ID:		Run ID: MI-LA254_050907A		SeqNo: 396456	

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: R16596	Test Code: SW6010A	Units: mg/L	Analysis Date 9/8/2005 1:19:39 PM	Prep Date
Client ID:		Run ID: ICP_050908C		SeqNo: 397842	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.02									
Barium	0.0003229	0.02									J
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	0.02									
Silver	ND	0.005									
Sodium	ND	1									
Uranium	ND	0.1									
Zinc	ND	0.05									

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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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Method Blank

Sample ID MB-8694	Batch ID: 8694	Test Code: SW6010A	Units: mg/L	Analysis Date 9/9/2005 10:04:29 AM	Prep Date 9/7/2005
Client ID:		Run ID: ICP_050909B		SeqNo: 398132	

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	0.001572	0.006									J
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-8625	Batch ID: 8625	Test Code: E160.1	Units: mg/L	Analysis Date 8/26/2005	Prep Date 8/26/2005
Client ID:		Run ID: WC_050826F		SeqNo: 395152	

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: *28-Sep-05*

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Sample Duplicate

Sample ID 0508276-01C DUP	Batch ID: R16423	Test Code: E300	Units: mg/L	Analysis Date 8/24/2005	Prep Date
Client ID: DW #1		Run ID: LC_050824A		SeqNo: 391846	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.3844	0.1	0	0	0	0	0	0.3909	1.68	20	
Nitrogen, Nitrite (As N)	ND	0.1	0	0	0	0	0	0	0	20	
Bromide	0.2215	0.5	0	0	0	0	0	0.2659	0	20	J
Nitrogen, Nitrate (As N)	ND	0.1	0	0	0	0	0	0	0	20	
Phosphorus, Orthophosphate (As P)	ND	0.5	0	0	0	0	0	0	0	20	

Sample ID 0508276-02C DUP	Batch ID: R16596	Test Code: SW6010A	Units: mg/L	Analysis Date 9/8/2005 3:34:56 PM	Prep Date
Client ID: DW #2		Run ID: ICP_050908C		SeqNo: 397872	

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	0.09721	0.02	0	0	0	0	0	0.09721	0.00473	30	
Cadmium	ND	0.002	0	0	0	0	0	0	0	30	
Calcium	59.1	1	0	0	0	0	0	58.92	0.311	30	
Chromium	ND	0.006	0	0	0	0	0	0	0	30	
Copper	ND	0.006	0	0	0	0	0	0	0	30	
Iron	0.02466	0.02	0	0	0	0	0	0.0252	2.16	30	
Lead	ND	0.005	0	0	0	0	0	0	0	30	
Magnesium	12.84	1	0	0	0	0	0	13.03	1.49	30	
Manganese	0.3092	0.002	0	0	0	0	0	0.3073	0.617	30	
Potassium	2.546	1	0	0	0	0	0	2.417	5.20	30	
Selenium	ND	0.02	0	0	0	0	0	0.02171	0	30	
Silver	ND	0.005	0	0	0	0	0	0	0	30	
Sodium	88.34	1	0	0	0	0	0	88.81	0.595	30	
Uranium	ND	0.1	0	0	0	0	0	0	0	30	
Zinc	0.01777	0.05	0	0	0	0	0	0.01776	0	30	J

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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Sample Duplicate

Sample ID 0508276-02D DUP Batch ID: 8694 Test Code: SW6010A Units: mg/L Analysis Date 9/9/2005 11:46:31 AM Prep Date 9/7/2005
Client ID: DW #2 Run ID: ICP_050909B SeqNo: 398154

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	0.1281	0.02	0	0	0	0	0	0.1274	0.568	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	
Copper	0.001204	0.006	0	0	0	0	0	0	0	30	J
Iron	0.9111	0.05	0	0	0	0	0	0.911	0.00717	30	
Lead	0.005425	0.005	0	0	0	0	0	0.004544	17.7	30	
Manganese	0.3875	0.002	0	0	0	0	0	0.3851	0.612	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	
Uranium	ND	0.1	0	0	0	0	0	0	0	30	
Zinc	ND	0.05	0	0	0	0	0	0.01218	0	30	

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

Hall Environmental Analysis Laboratory

Date: *28-Sep-05*

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID LCS ST300-05021	Batch ID: R16423	Test Code: E300	Units: mg/L	Analysis Date 8/24/2005	Prep Date
Client ID:		Run ID: LC_050824A		SeqNo: 391844	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5134	0.1	0.5	0	103	90	110	0			
Chloride	4.804	0.1	5	0	96.1	90	110	0			
Nitrogen, Nitrite (As N)	0.9619	0.1	1	0	96.2	90	110	0			
Bromide	2.533	0.5	2.5	0	101	90	110	0			
Nitrogen, Nitrate (As N)	2.441	0.1	2.5	0	97.6	90	110	0			
Phosphorus, Orthophosphate (As P)	4.966	0.5	5	0	99.3	90	110	0			
Sulfate	9.911	0.5	10	0	99.1	90	110	0			

Sample ID 100ng lcs	Batch ID: R16424	Test Code: SW8260B	Units: µg/L	Analysis Date 8/24/2005	Prep Date
Client ID:		Run ID: VAL_050824A		SeqNo: 391931	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.6	1	20	0	98.0	81.4	130	0			
Toluene	22.17	1	20	0	111	90.8	128	0			
Chlorobenzene	21.97	1	20	0	110	89.6	134	0			
1,1-Dichloroethene	18.69	1	20	0	93.5	75.1	120	0			
Trichloroethene (TCE)	18.26	1	20	0	91.3	75.8	110	0			

Sample ID 100ng lcs	Batch ID: R16442	Test Code: SW8260B	Units: µg/L	Analysis Date 8/25/2005	Prep Date
Client ID:		Run ID: VAL_050825A		SeqNo: 392314	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.51	1	20	0	97.5	81.4	130	0			
Toluene	20.57	1	20	0	103	90.8	128	0			
Chlorobenzene	21.38	1	20	0	107	89.6	134	0			
1,1-Dichloroethene	18.1	1	20	0	90.5	75.1	120	0			
Trichloroethene (TCE)	17.64	1	20	0	88.2	75.8	110	0			

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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID **LCS-8618** Batch ID: **8618** Test Code: **SW8310** Units: **µg/L** Analysis Date **9/2/2005 2:29:05 PM** Prep Date **8/25/2005**
Client ID: Run ID: **HUGO_050901A** SeqNo: **395688**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	24.62	2.5	40	0	61.6	34.8	97.4	0			
1-Methylnaphthalene	25.82	2.5	40.1	0	64.4	34.7	100	0			
2-Methylnaphthalene	25.63	2.5	40	0	64.1	35	98.1	0			
Acenaphthylene	28.27	2.5	40.1	0	70.5	48.3	95.1	0			
Acenaphthene	27.21	2.5	40	0	68.0	45	95	0			
Fluorene	2.93	0.8	4.01	0	73.1	46.8	93.4	0			
Phenanthrene	1.52	0.6	2.01	0	75.6	48.7	104	0			
Anthracene	1.48	0.6	2.01	0	73.6	47.5	102	0			
Fluoranthene	3.01	0.3	4.01	0	75.1	46.3	108	0			
Pyrene	3	0.3	4.01	0	74.8	43.8	109	0			
Benz(a)anthracene	0.3	0.02	0.401	0	74.8	40.3	115	0			
Chrysene	1.55	0.2	2.01	0	77.1	42.6	107	0			
Benzo(b)fluoranthene	0.36	0.05	0.501	0	71.9	48.6	107	0			
Benzo(k)fluoranthene	0.19	0.02	0.25	0	76.0	23.3	136	0			
Benzo(a)pyrene	0.19	0.02	0.251	0	75.7	33.4	117	0			
Dibenz(a,h)anthracene	0.35	0.04	0.501	0	69.9	27.3	139	0			
Benzo(g,h,i)perylene	0.37	0.03	0.5	0	74.0	38.2	117	0			
Indeno(1,2,3-cd)pyrene	0.747	0.08	1.002	0	74.6	39.9	125	0			

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Qualifiers:
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R - RPD outside accepted recovery limits
B - Analyte detected in the associated Method Blank

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID LCSD-8618	Batch ID: 8618	Test Code: SW8310	Units: µg/L	Analysis Date 9/2/2005 3:17:05 PM	Prep Date 8/25/2005
Client ID:		Run ID: HUGO_050901A		SeqNo: 395689	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	22.84	2.5	40	0	57.1	34.8	97.4	24.62	7.50	32.1	
1-Methylnaphthalene	22.66	2.5	40.1	0	56.5	34.7	100	25.82	13.0	32.7	
2-Methylnaphthalene	22.88	2.5	40	0	57.2	35	98.1	25.63	11.3	34	
Acenaphthylene	24.94	2.5	40.1	0	62.2	48.3	95.1	28.27	12.5	38.8	
Acenaphthene	23.78	2.5	40	0	59.5	45	95	27.21	13.5	38.6	
Fluorene	2.61	0.8	4.01	0	65.1	46.8	93.4	2.93	11.6	39.3	
Phenanthrene	1.26	0.6	2.01	0	62.7	48.7	104	1.52	18.7	25	
Anthracene	1.33	0.6	2.01	0	66.2	47.5	102	1.48	10.7	23.9	
Fluoranthene	2.84	0.3	4.01	0	70.8	46.3	108	3.01	5.81	15.7	
Pyrene	2.81	0.3	4.01	0	70.1	43.8	109	3	6.54	15.3	
Benz(a)anthracene	0.29	0.02	0.401	0	72.3	40.3	115	0.3	3.39	119	
Chrysene	1.38	0.2	2.01	0	68.7	42.6	107	1.55	11.6	16.6	
Benzo(b)fluoranthene	0.36	0.05	0.501	0	71.9	48.6	107	0.36	0	21.7	
Benzo(k)fluoranthene	0.18	0.02	0.25	0	72.0	23.3	136	0.19	5.41	19.4	
Benzo(a)pyrene	0.18	0.02	0.251	0	71.7	33.4	117	0.19	5.41	16.7	
Dibenz(a,h)anthracene	0.35	0.04	0.501	0	69.9	27.3	139	0.35	0	17.3	
Benzo(g,h,i)perylene	0.35	0.03	0.5	0	70.0	38.2	117	0.37	5.56	118	
Indeno(1,2,3-cd)pyrene	0.677	0.08	1.002	0	67.6	39.9	125	0.747	9.83	17.7	

Sample ID LCS-8699	Batch ID: 8699	Test Code: SW7470	Units: mg/L	Analysis Date 9/7/2005	Prep Date 9/7/2005
Client ID:		Run ID: MI-LA254_050907A		SeqNo: 396457	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005182	0.0002	0.005	0	104	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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID LCSD-8699	Batch ID: 8699	Test Code: SW7470	Units: mg/L	Analysis Date 9/7/2005	Prep Date 9/7/2005
Client ID:		Run ID: MI-LA254_050907A		SeqNo: 396471	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.005394	0.0002	0.005	0	108	75.2	134	0.005182	4.01	0	

Sample ID LCS	Batch ID: R16596	Test Code: SW6010A	Units: mg/L	Analysis Date 9/8/2005 1:22:38 PM	Prep Date
Client ID:		Run ID: ICP_050908C		SeqNo: 397843	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4847	0.02	0.5	0	96.9	80	120	0			
Barium	0.4728	0.02	0.5	0.0003229	94.5	80	120	0			
Cadmium	0.481	0.002	0.5	0	96.2	80	120	0			
Calcium	45.55	1	50.5	0	90.2	80	120	0			
Chromium	0.4737	0.006	0.5	0	94.7	80	120	0			
Copper	0.4854	0.006	0.5	0	97.1	80	120	0			
Iron	0.4595	0.02	0.5	0	91.9	80	120	0			
Lead	0.4768	0.005	0.5	0	95.4	80	120	0			
Magnesium	45.86	1	50.5	0	90.8	80	120	0			
Manganese	0.4497	0.002	0.5	0	89.9	80	120	0			
Potassium	48.13	1	55	0	87.5	80	120	0			
Selenium	0.4503	0.02	0.5	0	90.1	80	120	0			
Silver	0.4774	0.005	0.5	0	95.5	80	120	0			
Sodium	49.03	1	50.5	0	97.1	80	120	0			
Uranium	2.38	0.1	2.5	0	95.2	80	120	0			
Zinc	0.4678	0.05	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

CLIENT: San Juan Refining
Work Order: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID LCSD | Batch ID: R16598 | Test Code: SW6010A | Units: mg/L | Analysis Date 9/8/2005 1:25:54 PM | Prep Date
Client ID: | Run ID: ICP_050908C | SeqNo: 397844

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4688	0.02	0.5	0	93.8	80	120	0.4847	3.34	20	
Barium	0.4734	0.02	0.5	0.0003229	94.8	80	120	0.4728	0.128	20	
Cadmium	0.4784	0.002	0.5	0	95.7	80	120	0.481	0.538	20	
Calcium	45.68	1	50.5	0	90.5	80	120	45.55	0.302	20	
Chromium	0.4748	0.006	0.5	0	95.0	80	120	0.4737	0.238	20	
Copper	0.4852	0.006	0.5	0	97.0	80	120	0.4854	0.0417	20	
Iron	0.455	0.02	0.5	0	91.0	80	120	0.4595	0.979	20	
Lead	0.477	0.005	0.5	0	95.4	80	120	0.4768	0.0606	20	
Magnesium	46.07	1	50.5	0	91.2	80	120	45.86	0.451	20	
Manganese	0.451	0.002	0.5	0	90.2	80	120	0.4497	0.283	20	
Potassium	48.32	1	55	0	87.9	80	120	48.13	0.409	20	
Selenium	0.4449	0.02	0.5	0	89.0	80	120	0.4503	1.20	20	
Silver	0.4816	0.005	0.5	0	96.3	80	120	0.4774	0.868	20	
Sodium	49.22	1	50.5	0	97.5	80	120	49.03	0.398	20	
Uranium	2.399	0.1	2.5	0	96.0	80	120	2.38	0.811	20	
Zinc	0.4673	0.05	0.5	0	93.5	80	120	0.4678	0.116	20	

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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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID LCS-8694 Batch ID: 8694 Test Code: SW6010A Units: mg/L Analysis Date 9/9/2005 10:07:21 AM Prep Date 9/7/2005

Client ID: Run ID: ICP_050909B SeqNo: 398133

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			
Barium	0.4782	0.02	0.5	0	95.6	80	120	0			
Cadmium	0.4845	0.002	0.5	0	96.9	80	120	0			
Chromium	0.4776	0.006	0.5	0	95.5	80	120	0			
Copper	0.4956	0.006	0.5	0.001572	98.8	80	120	0			
Iron	0.4615	0.05	0.5	0	92.3	80	120	0			
Lead	0.4774	0.005	0.5	0	95.5	80	120	0			
Manganese	0.455	0.002	0.5	0	91.0	80	120	0			
Selenium	0.4728	0.05	0.5	0	94.6	80	120	0			
Silver	0.4891	0.005	0.5	0	97.8	80	120	0			
Uranium	2.364	0.1	2.5	0	94.6	80	120	0			
Zinc	0.4724	0.05	0.5	0	94.5	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: 0508276
Project: DW #2 Baseline

QC SUMMARY REPORT
Laboratory Control Spike Duplicate

Sample ID LCSD-8694 Batch ID: 8694 Test Code: SW6010A Units: mg/L Analysis Date 9/9/2005 10:10:27 AM Prep Date 9/7/2005
Client ID: Run ID: ICP_050909B SeqNo: 398134

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	80	120	0.4949	0.637	20	
Barium	0.4717	0.02	0.5	0	94.3	80	120	0.4782	1.37	20	
Cadmium	0.4791	0.002	0.5	0	95.8	80	120	0.4845	1.12	20	
Chromium	0.4694	0.006	0.5	0	93.9	80	120	0.4776	1.72	20	
Copper	0.487	0.006	0.5	0.001572	97.1	80	120	0.4956	1.76	20	
Iron	0.461	0.05	0.5	0	92.2	80	120	0.4615	0.124	20	
Lead	0.477	0.005	0.5	0	95.4	80	120	0.4774	0.0730	20	
Manganese	0.4485	0.002	0.5	0	89.7	80	120	0.455	1.46	20	
Selenium	0.4723	0.05	0.5	0	94.5	80	120	0.4728	0.109	20	
Silver	0.481	0.005	0.5	0	96.2	80	120	0.4891	1.68	20	
Uranium	2.339	0.1	2.5	0	93.6	80	120	2.364	1.08	20	
Zinc	0.4676	0.05	0.5	0	93.5	80	120	0.4724	1.01	20	

Sample ID LCS-8625 Batch ID: 8625 Test Code: E160.1 Units: mg/L Analysis Date 8/26/2005 Prep Date 8/26/2005
Client ID: Run ID: WC_050826F SeqNo: 395153

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	910	50	1000	0	91.0	80	120	0			

22 / 23

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: 8/24/2005

Work Order Number 0508276 | Received by AT

Checklist completed by _____ Signature _____ Date 8/24/05

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 _____

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other: _____

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
Address: #50 Rd 4990
Bloomfield, NM 87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: DW #2 - Baseline
Project #:
Project Manager:
Sampler: Cindy Hurtado / Angela Folk
Sample Temperature: 5

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative:	HEAL No.
8/24/05	3pm	H_2O	DW #2	2-VOA	X			0508276 -2
				1-liter			Amber	-2
				1-~~250~~ 125ml		X	Filtered	-2
				1-500ml		X		-2
				1-500ml			H_2SO_4	-2
				1-500ml				-2

ANALYSIS REQUEST

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Dissolved WQCC Metals	Total WQCC Metals	Cation / Anions / TDS		Air Bubbles or Headspace (Y or N)
						X				X						
												X				
													X			
														X		
														X		

Remarks:

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
8/24/05	330pm	Cindy Hurtado	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
			8/24/05 11:25

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

August 16, 2005

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

RE: River Terrace Baseline Order No.: 0508095

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 13 samples on 8/9/2005 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory

Date: *16-Aug-05*

CLIENT:	San Juan Refining	**Client Sample ID:**	TP-1
Lab Order:	0508095	**Collection Date:**	8/8/2005 9:45:00 AM
Project:	River Terrace Baseline		
Lab ID:	0508095-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	1.9	1.0		mg/L	1	8/12/2005 2:55:17 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 2:55:17 AM
Surr: DNOP	135	58-140		%REC	1	8/12/2005 2:55:17 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	66	1.0		mg/L	20	8/12/2005 5:13:41 PM
Surr: BFB	113	79.7-118		%REC	20	8/12/2005 5:13:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	8/12/2005 5:13:41 PM
Benzene	1400	100		µg/L	200	8/15/2005 10:11:02 AM
Toluene	49	10		µg/L	20	8/12/2005 5:13:41 PM
Ethylbenzene	3800	100		µg/L	200	8/15/2005 10:11:02 AM
Xylenes, Total	23000	100		µg/L	200	8/15/2005 10:11:02 AM
Surr: 4-Bromofluorobenzene	104	82.2-119		%REC	200	8/15/2005 10:11:02 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: *16-Aug-05*

CLIENT: San Juan Refining
Lab Order: 0508095
Project: River Terrace Baseline
Lab ID: 0508095-02

Client Sample ID: TP-2
Collection Date: 8/8/2005 9:15:00 AM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	1.1	1.0		mg/L	1	8/12/2005 3:28:22 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 3:28:22 AM
Surr: DNOP	133	58-140		%REC	1	8/12/2005 3:28:22 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	84	1.0		mg/L	20	8/12/2005 5:45:11 PM
Surr: BFB	115	79.7-118		%REC	20	8/12/2005 5:45:11 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	8/12/2005 5:45:11 PM
Benzene	6100	100		µg/L	200	8/15/2005 10:41:41 AM
Toluene	8700	100		µg/L	200	8/15/2005 10:41:41 AM
Ethylbenzene	4200	100		µg/L	200	8/15/2005 10:41:41 AM
Xylenes, Total	25000	100		µg/L	200	8/15/2005 10:41:41 AM
Surr: 4-Bromofluorobenzene	101	82.2-119		%REC	200	8/15/2005 10:41:41 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: *16-Aug-05*

CLIENT:	San Juan Refining	**Client Sample ID:**	TP-3
Lab Order:	0508095	**Collection Date:**	8/8/2005 10:50:00 AM
Project:	River Terrace Baseline		
Lab ID:	0508095-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	8/12/2005 4:01:10 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 4:01:10 AM
Surr: DNOP	132	58-140		%REC	1	8/12/2005 4:01:10 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/12/2005 7:50:36 PM
Surr: BFB	96.6	79.7-118		%REC	1	8/12/2005 7:50:36 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	8/12/2005 7:50:36 PM
Benzene	ND	0.50		µg/L	1	8/12/2005 7:50:36 PM
Toluene	ND	0.50		µg/L	1	8/12/2005 7:50:36 PM
Ethylbenzene	ND	0.50		µg/L	1	8/12/2005 7:50:36 PM
Xylenes, Total	1.2	0.50		µg/L	1	8/12/2005 7:50:36 PM
Surr: 4-Bromofluorobenzene	93.1	82.2-119		%REC	1	8/12/2005 7:50:36 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-Aug-05*

CLIENT: San Juan Refining
Client Sample ID: TP-4
Lab Order: 0508095
Collection Date: 8/8/2005 10:15:00 AM
Project: River Terrace Baseline
Lab ID: 0508095-04
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	1.1	1.0		mg/L	1	8/12/2005 6:12:22 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 6:12:22 AM
Surr: DNOP	133	58-140		%REC	1	8/12/2005 6:12:22 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	8.2	1.0		mg/L	20	8/12/2005 8:21:40 PM
Surr: BFB	109	79.7-118		%REC	20	8/12/2005 8:21:40 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	8/12/2005 8:21:40 PM
Benzene	ND	10		µg/L	20	8/12/2005 8:21:40 PM
Toluene	ND	10		µg/L	20	8/12/2005 8:21:40 PM
Ethylbenzene	420	10		µg/L	20	8/12/2005 8:21:40 PM
Xylenes, Total	220	10		µg/L	20	8/12/2005 8:21:40 PM
Surr: 4-Bromofluorobenzene	103	82.2-119		%REC	20	8/12/2005 8:21:40 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-Aug-05*

CLIENT:	San Juan Refining	**Client Sample ID:**	TP-5
Lab Order:	0508095	**Collection Date:**	8/8/2005 9:30:00 AM
Project:	River Terrace Baseline		
Lab ID:	0508095-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	1.2	1.0		mg/L	1	8/12/2005 7:17:59 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 7:17:59 AM
Surr: DNOP	136	58-140		%REC	1	8/12/2005 7:17:59 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	56	1.0		mg/L	20	8/12/2005 8:52:49 PM
Surr: BFB	108	79.7-118		%REC	20	8/12/2005 8:52:49 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	8/12/2005 8:52:49 PM
Benzene	350	10		µg/L	20	8/12/2005 8:52:49 PM
Toluene	25	10		µg/L	20	8/12/2005 8:52:49 PM
Ethylbenzene	3500	100		µg/L	200	8/15/2005 11:12:25 AM
Xylenes, Total	21000	100		µg/L	200	8/15/2005 11:12:25 AM
Surr: 4-Bromofluorobenzene	107	82.2-119		%REC	20	8/12/2005 8:52:49 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-Aug-05*

CLIENT: San Juan Refining
Client Sample ID: TP-6
Lab Order: 0508095
Collection Date: 8/8/2005 10:45:00 AM
Project: River Terrace Baseline
Lab ID: 0508095-06
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	1.0	1.0		mg/L	1	8/12/2005 7:50:45 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 7:50:45 AM
Surr: DNOP	135	58-140		%REC	1	8/12/2005 7:50:45 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	26	1.0		mg/L	20	8/12/2005 9:23:52 PM
Surr: BFB	113	79.7-118		%REC	20	8/12/2005 9:23:52 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	8/12/2005 9:23:52 PM
Benzene	280	10		µg/L	20	8/12/2005 9:23:52 PM
Toluene	ND	10		µg/L	20	8/12/2005 9:23:52 PM
Ethylbenzene	2800	50		µg/L	100	8/15/2005 11:43:08 AM
Xylenes, Total	7500	50		µg/L	100	8/15/2005 11:43:08 AM
Surr: 4-Bromofluorobenzene	106	82.2-118		%REC	20	8/12/2005 9:23:52 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-Aug-05*

CLIENT:	San Juan Refining	**Client Sample ID:**	TP-7
Lab Order:	0508095	**Collection Date:**	8/8/2005 1:05:00 PM
Project:	River Terrace Baseline		
Lab ID:	0508095-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	8/12/2005 8:22:04 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 8:22:04 AM
Surr: DNOP	132	58-140		%REC	1	8/12/2005 8:22:04 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/12/2005 9:54:54 PM
Surr: BFB	105	79.7-118		%REC	1	8/12/2005 9:54:54 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	8/12/2005 9:54:54 PM
Benzene	ND	0.50		µg/L	1	8/12/2005 9:54:54 PM
Toluene	ND	0.50		µg/L	1	8/12/2005 9:54:54 PM
Ethylbenzene	0.65	0.50		µg/L	1	8/12/2005 9:54:54 PM
Xylenes, Total	4.9	0.50		µg/L	1	8/12/2005 9:54:54 PM
Surr: 4-Bromofluorobenzene	99.4	82.2-119		%REC	1	8/12/2005 9:54:54 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: *16-Aug-05*

CLIENT: San Juan Refining
Client Sample ID: TP-8
Lab Order: 0508095
Collection Date: 8/8/2005 11:00:00 AM
Project: River Terrace Baseline
Lab ID: 0508095-08
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	7.8	1.0		mg/L	1	8/12/2005 8:54:49 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 8:54:49 AM
Surr: DNOP	139	58-140		%REC	1	8/12/2005 8:54:49 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	84	5.0		mg/L	100	8/12/2005 11:27:48 PM
Surr: BFB	107	79.7-118		%REC	100	8/12/2005 11:27:48 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	250		µg/L	100	8/12/2005 11:27:48 PM
Benzene	1100	50		µg/L	100	8/12/2005 11:27:48 PM
Toluene	ND	50		µg/L	100	8/12/2005 11:27:48 PM
Ethylbenzene	3200	50		µg/L	100	8/12/2005 11:27:48 PM
Xylenes, Total	25000	100		µg/L	200	8/15/2005 12:13:53 PM
Surr: 4-Bromofluorobenzene	105	82.2-119		%REC	100	8/12/2005 11:27:48 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-Aug-05*

CLIENT: San Juan Refining
Client Sample ID: TP-9
Lab Order: 0508095
Collection Date: 8/8/2005 1:20:00 PM
Project: River Terrace Baseline
Lab ID: 0508095-09
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	8/12/2005 9:27:34 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 9:27:34 AM
Surr: DNOP	139	58-140		%REC	1	8/12/2005 9:27:34 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	1.1	0.10		mg/L	2	8/12/2005 11:58:41 PM
Surr: BFB	110	79.7-118		%REC	2	8/12/2005 11:58:41 PM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	5.0		µg/L	2	8/12/2005 11:58:41 PM
Benzene	ND	1.0		µg/L	2	8/12/2005 11:58:41 PM
Toluene	ND	1.0		µg/L	2	8/12/2005 11:58:41 PM
Ethylbenzene	20	1.0		µg/L	2	8/12/2005 11:58:41 PM
Xylenes, Total	27	1.0		µg/L	2	8/12/2005 11:58:41 PM
Surr: 4-Bromofluorobenzene	105	82.2-119		%REC	2	8/12/2005 11:58:41 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-Aug-05*

CLIENT: San Juan Refining
Lab Order: 0508095
Project: River Terrace Baseline
Lab ID: 0508095-10

Client Sample ID: TP-10
Collection Date: 8/8/2005 1:35:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	8/12/2005 10:00:23 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 10:00:23 AM
Surr: DNOP	139	58-140		%REC	1	8/12/2005 10:00:23 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/13/2005 12:29:37 AM
Surr: BFB	98.6	79.7-118		%REC	1	8/13/2005 12:29:37 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	8/13/2005 12:29:37 AM
Benzene	ND	0.50		µg/L	1	8/13/2005 12:29:37 AM
Toluene	ND	0.50		µg/L	1	8/13/2005 12:29:37 AM
Ethylbenzene	ND	0.50		µg/L	1	8/13/2005 12:29:37 AM
Xylenes, Total	2.5	0.50		µg/L	1	8/13/2005 12:29:37 AM
Surr: 4-Bromofluorobenzene	97.1	82.2-119		%REC	1	8/13/2005 12:29:37 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: *16-Aug-05*

CLIENT:	San Juan Refining	**Client Sample ID:**	TP-11
Lab Order:	0508095	**Collection Date:**	8/8/2005 2:35:00 PM
Project:	River Terrace Baseline		
Lab ID:	0508095-11	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	8/12/2005 10:33:11 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 10:33:11 AM
Surr: DNOP	136	58-140		%REC	1	8/12/2005 10:33:11 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/13/2005 1:00:42 AM
Surr: BFB	101	79.7-118		%REC	1	8/13/2005 1:00:42 AM
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	8/13/2005 1:00:42 AM
Benzene	ND	0.50		µg/L	1	8/13/2005 1:00:42 AM
Toluene	ND	0.50		µg/L	1	8/13/2005 1:00:42 AM
Ethylbenzene	ND	0.50		µg/L	1	8/13/2005 1:00:42 AM
Xylenes, Total	2.8	0.50		µg/L	1	8/13/2005 1:00:42 AM
Surr: 4-Bromofluorobenzene	96.4	82.2-119		%REC	1	8/13/2005 1:00:42 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: *16-Aug-05*

CLIENT: San Juan Refining
Lab Order: 0508095
Project: River Terrace Baseline
Lab ID: 0508095-12

Client Sample ID: TP-12
Collection Date: 8/8/2005 2:45:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	8/12/2005 11:05:58 AM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/12/2005 11:05:58 AM
Surr: DNOP	133	58-140		%REC	1	8/12/2005 11:05:58 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/13/2005 1:31:32 AM
Surr: BFB	105	79.7-118		%REC	1	8/13/2005 1:31:32 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	2.8	2.5		µg/L	1	8/13/2005 1:31:32 AM
Benzene	ND	0.50		µg/L	1	8/13/2005 1:31:32 AM
Toluene	ND	0.50		µg/L	1	8/13/2005 1:31:32 AM
Ethylbenzene	0.55	0.50		µg/L	1	8/13/2005 1:31:32 AM
Xylenes, Total	4.2	0.50		µg/L	1	8/13/2005 1:31:32 AM
Surr: 4-Bromofluorobenzene	97.9	82.2-118		%REC	1	8/13/2005 1:31:32 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: *16-Aug-05*

CLIENT: San Juan Refining
Lab Order: 0508095
Project: River Terrace Baseline
Lab ID: 0508095-13

Client Sample ID: TP-13
Collection Date: 8/8/2005 3:05:00 PM
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	8/15/2005 9:40:21 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	8/15/2005 9:40:21 PM
Surr: DNOP	188	58-140	S	%REC	1	8/15/2005 9:40:21 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	8/13/2005 3:35:13 AM
Surr: BFB	98.6	79.7-118		%REC	1	8/13/2005 3:35:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	8/13/2005 3:35:13 AM
Benzene	ND	0.50		µg/L	1	8/13/2005 3:35:13 AM
Toluene	ND	0.50		µg/L	1	8/13/2005 3:35:13 AM
Ethylbenzene	ND	0.50		µg/L	1	8/13/2005 3:35:13 AM
Xylenes, Total	3.7	0.50		µg/L	1	8/13/2005 3:35:13 AM
Surr: 4-Bromofluorobenzene	97.0	82.2-119		%REC	1	8/13/2005 3:35:13 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: *16-Aug-05*

CLIENT: San Juan Refining
Work Order: 0508095
Project: River Terrace Baseline

QC SUMMARY REPORT
Method Blank

Sample ID MB-8515	Batch ID: 8515	Test Code: SW8015	Units: mg/L	Analysis Date 8/11/2005 8:53:07 PM	Prep Date 8/11/2005
Client ID:		Run ID: FID(17A) 2_050811A		SeqNo: 387292	

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	1.196	0	1	0	120	58	140	0			

Sample ID MB-8520	Batch ID: 8520	Test Code: SW8015	Units: mg/L	Analysis Date 8/12/2005 4:33:57 AM	Prep Date 8/11/2005
Client ID:		Run ID: FID(17A) 2_050811A		SeqNo: 387306	

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	1.23	0	1	0	123	58	140	0			

Sample ID Reagent Blank	Batch ID: R16277	Test Code: SW8015	Units: mg/L	Analysis Date 8/12/2005 9:04:34 AM	Prep Date
Client ID:		Run ID: PIDFID_050812A		SeqNo: 387495	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.0192	0.05									J
Surr: BFB	20.37	0	20	0	102	79.7	118	0			

Sample ID Reagent Blank	Batch ID: R16309	Test Code: SW8015	Units: mg/L	Analysis Date 8/15/2005 8:29:09 AM	Prep Date
Client ID:		Run ID: PIDFID_050815A		SeqNo: 388461	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.0118	0.05									J
Surr: BFB	20.47	0	20	0	102	79.7	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: 0508095
Project: River Terrace Baseline

QC SUMMARY REPORT
Method Blank

Sample ID Reagent Blank	Batch ID: R16277	Test Code: SW8021	Units: µg/L	Analysis Date 8/12/2005 9:04:34 AM	Prep Date
Client ID:		Run ID: PIDFID_050812A		SeqNo: 387493	

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	19.08	0	20	0	95.4	82.2	119	0			

Sample ID Reagent Blank	Batch ID: R16309	Test Code: SW8021	Units: µg/L	Analysis Date 8/15/2005 8:29:09 AM	Prep Date
Client ID:		Run ID: PIDFID_050815A		SeqNo: 388351	

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	19.37	0	20	0	96.9	82.2	119	0			

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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-Aug-05*

CLIENT: San Juan Refining
Work Order: 0508095
Project: River Terrace Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID LCS-8515	Batch ID: 8515	Test Code: SW8015	Units: mg/L	Analysis Date 8/11/2005 9:26:17 PM	Prep Date 8/11/2005
Client ID:		Run ID: FID(17A) 2_050811A		SeqNo: 387293	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.541	1	5	0	111	81.2	149	0			

Sample ID LCSD-8515	Batch ID: 8515	Test Code: SW8015	Units: mg/L	Analysis Date 8/11/2005 9:59:22 PM	Prep Date 8/11/2005
Client ID:		Run ID: FID(17A) 2_050811A		SeqNo: 387294	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.016	1	5	0	120	81.2	149	5.541	8.23	23	

Sample ID LCS-8520	Batch ID: 8520	Test Code: SW8015	Units: mg/L	Analysis Date 8/12/2005 5:06:46 AM	Prep Date 8/11/2005
Client ID:		Run ID: FID(17A) 2_050811A		SeqNo: 387307	

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	0			

Sample ID LCSD-8520	Batch ID: 8520	Test Code: SW8015	Units: mg/L	Analysis Date 8/12/2005 5:39:38 AM	Prep Date 8/11/2005
Client ID:		Run ID: FID(17A) 2_050811A		SeqNo: 387308	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.949	1	5	0	119	81.2	149	5.597	6.11	23	

Sample ID GRO lcs 2.5ug	Batch ID: R16277	Test Code: SW8015	Units: mg/L	Analysis Date 8/13/2005 5:38:43 AM	Prep Date
Client ID:		Run ID: PIDFID_050812A		SeqNo: 388008	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4526	0.05	0.5	0.0192	86.7	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: 0508095
Project: River Terrace Baseline

QC SUMMARY REPORT
Laboratory Control Spike - generic

Sample ID GRO lcs 2.5ug	Batch ID: R16309	Test Code: SW8015	Units: mg/L	Analysis Date 8/15/2005 9:34:19 PM	Prep Date
Client ID:		Run ID: PIDFID_050815A		SeqNo: 388462	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.498	0.05	0.5	0.0118	97.2	82.6	114	0			

Sample ID BTEX lcs 100ng	Batch ID: R16277	Test Code: SW8021	Units: µg/L	Analysis Date 8/13/2005 4:37:07 AM	Prep Date
Client ID:		Run ID: PIDFID_050812A		SeqNo: 387869	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	19.92	2.5	20	0	99.6	64.5	133	0			
Benzene	18.34	0.5	20	0	91.7	88.5	114	0			
Toluene	18.5	0.5	20	0	92.5	87.2	114	0			
Ethylbenzene	18.45	0.5	20	0	92.2	88.6	113	0			
Xylenes, Total	37	0.5	40	0	92.5	83.3	114	0			

Sample ID BTEX lcs 100ng	Batch ID: R16309	Test Code: SW8021	Units: µg/L	Analysis Date 8/15/2005 10:36:03 PM	Prep Date
Client ID:		Run ID: PIDFID_050815A		SeqNo: 388448	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	19.76	2.5	20	0	98.8	64.5	133	0			
Benzene	18.32	0.5	20	0	91.6	88.5	114	0			
Toluene	18	0.5	20	0	90.0	87.2	114	0			
Ethylbenzene	18.11	0.5	20	0	90.6	88.6	113	0			
Xylenes, Total	35.87	0.5	40	0	89.7	83.3	114	0			

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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: 8/9/2005

Work Order Number 0508095 | Received by AT

Checklist completed by [signature] Signature 8-10-05 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?	3°	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

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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 Refinery
Address: H50, Rd 4990 Bloomfield, NM 87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: River Terrace Baseline
Project #:
Project Manager:
Sampler: Cindy Hurtado / Angela Folk
Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No. 0508095	BTEX + ~~MTBE~~ + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles or Headspace (Y or N)
8-8-05	9:45am	H2O	TP-1	2-VOA			HCL	-1	X												
		"	"	2-VOA			HCL	-1			X										
8-8-05	9:15am	H2O	TP-2	2-VOA			HCL	-2	X												
		"	"	2-VOA			HCL	-2			X										
8-8-05	10:50am	H2O	TP-3	2-VOA			HCL	-3	X												
		"	"	2 VOA			HCL	-3			X										
8-8-05	10:15am	H2O	TP-4	2-VOA			HCL	-4	X												
		"	"	2-VOA			HCL	-4			X										

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
8/9/05	930am	Cindy Hurtado	1644 8/9/05
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

ANALYSIS REQUEST

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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 Refinery
Address: #50, Rd 4990
Bloomfield, NM
87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: River Terrace Baseline
Project #:
Project Manager:
Sampler: Cindy Hurtado / Angela Folk
Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					$HgCl_2$	HNO_3		0508095
8-8-05	9:30am	H_2O	TP-5	2-VOA			HCl	-5
		i	2"	2-VOA			HCl	-5
8-8-05	10:45am	H_2O	TP-6	2-VOA			HCl	-6
		i	"	2-VOA			HCl	-6
8-8-05	10:55am	H_2O	TP-7	2-VOA			HCl	-7
		1	"	2-VOA			HCl	-7
8-8-05	11:00am	H_2O	TP-8	2-VOA			HCl	-8
		1	"	2-VOA			HCl	-8

ANALYSIS REQUEST

BTEX + MTBE + TPH (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
X																
		X														
X																
		X														
X																
		X														

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
8/9/05	930AM	Cindy Hurtado	1649 8/9/05
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

CHAIN-OF-CUSTODY RECORD

QA / QC Package:
Std ☐ Level 4 ☐
Other:

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 Refinery
Address: #50, Rd 4990
Bloomfield, NM
87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: River Terrace Baseline
Project #:
Project Manager:
Sampler: Cindy Hurtado / Angela Folk
Sample Temperature: 3

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					$HgCl_2$	HNO_3		0508095
8-8-05	120pm	H_2O	TP-9	2-VOA			HCL	-9
"	"	"	"	2-VOA			HCL	-9
8-8-05	135pm	H_2O	TP-10	2-VOA			HCL	-10
"	"	"	TP-10	2-VOA			HCL	-10
8-8-05	135pm	H_2O	TP-11	2-VOA			HCL	-11
"	"	"	TP-11	2-VOA			HCL	-11
8-8-05	245pm	H_2O	TP-12	2-VOA			HCL	-12
"	"	"	TP-12	2-VOA			HCL	-12
8-8-05	305pm	H_2O	TP-13	2-VOA			HCL	-13
"	"	"	TP-13	2-VOA			HCL	-13

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
8/9/05	930am	Cindy Hurtado		8/9/05
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	1649

ANALYSIS REQUEST

BTEX + ~~MTBE~~ + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
X																
		X														
X																
		X														
X																
		X														
X																
		X														
X																
		X														

Remarks: