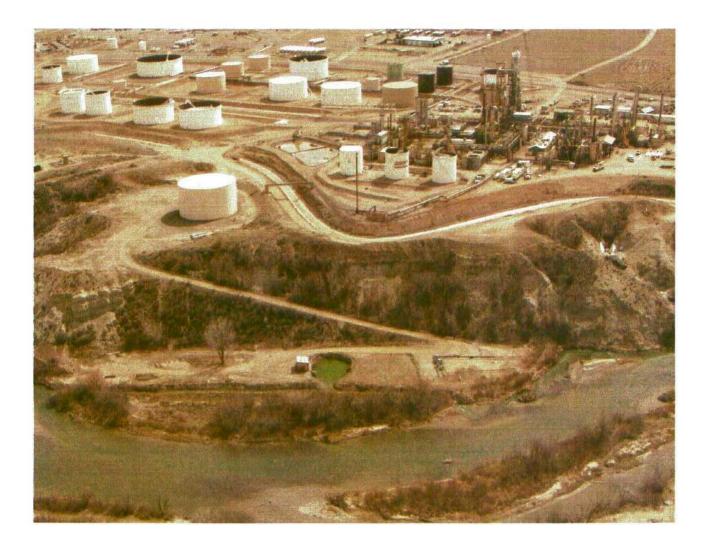
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REPORTS

YEAR(S):

RIVER TERRACE VOLUNTARY CORRECTIVE MEASURES BIOVENTING SYSTEM ANNUAL REPORT

January 2006 through December 2006



SAN JUAN REFINING COMPANY GIANT – BLOOMFIELD REFINERY SUBMITTED: JANUARY 2007



REFINING COMPANY

January 22, 2007

Certified Mail: 7099 3220 0010 2242 5334 7099 3220 0010 2242 5310

Hope Monzeglio New Mexico Environmental Department Hazardous Waste Bureau 2905 Rodeo Park Drive East Bidg 1 Santa Fe, NM 87505 Wayne Price New Mexico Oil Conservation Division Environmental Bureau 1220 South St. Francis Dr Santa Fe, NM 87505

Re: River Terrace Voluntary Corrective Measures Bioventing System Annual Report January 2006 through December 2006

Dear Hope and Wayne,

Giant Refining Company, Bloomfield Refinery submits the River Terrace Voluntary Corrective Measures Bioventing System Annual Report as requested by NMED. This report summarizes data gathered during the initiation of the project (August 2005) as well as start-up through the first year of operation (January 2006 to December 2006).

If you have questions or would like to discuss any aspect of the report, please contact me at (505) 632-4171.

Sincerely

∮ames R. Schmaltz Environmental Manager San Juan Refining Company Bloomfield Refinery

Cc: Robert Wilkinson, USEPA – Region VI Brandon Powell, NMOCD Aztec District Office Ed Riege, Environmental Superintendent – Giant Refinery

PHONE 505-632-8013 FAX 505-632-3911 50 ROAD 4990 P.O. BOX 159 BLOOMFIELD NEW MEXICO 87413

RIVER TERRACE VOLUNTARY CORRECTIVE MEASURES BIOVENTING SYSTEM ANNUAL REPORT

January 2006 through December 2006

Owner:	San Juan Refining Company 23733 North Scottsdale Road Scottsdale, Arizona 85255	(parent corporation)
Operator:	Giant Refining Company P.O. Box 159 Bloomfield, New Mexico 87413	(postal address)
	Giant Refining Company #50 Rd 4990 Bloomfield, New Mexico 87413	(physical address)
Facility Name:	Bloomfield Refinery	
US EPA ID	NMD089416416	
SIC Code	2911	
Submittal Date:	January 25, 2007	

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CONTENTS

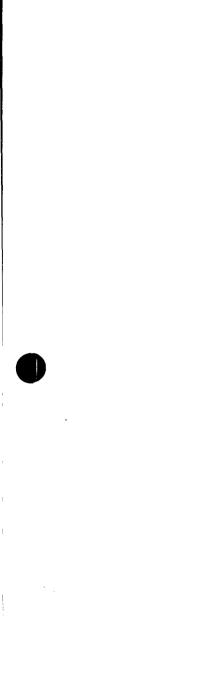
Section	Title
1.0	Executive Summary
2.0	Introduction
3.0	Scope of Activities
4.0	Regulatory Criteria / Groundwater Cleanup Standards
5.0	Monitoring Results
6.0	Summary
7.0	Maps
8.0	Field Methods
9.0	Chemical Analytical Program
10.0	Chemical Analytical Reports

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Section 1.0 Executive Summary



Executive Summary

Construction of the River Terrace Bioventing Project was initiated in August 2005 with the system being put on-line in January 2006. Thirteen temporary piezometers, Monitoring Wells #48 and #49, Dewatering Wells #1 and #2, and 13 bioventing wells were installed within an 11-month period spanning October 2004 through August 2005. A facility plot plan and river terrace project plot plan are provided in Section 7.0

The bioventing system was installed to provide oxygen to the subsurface and support aerobic biodegradation of petroleum hydrocarbons that were identified in soil along the western portion of the river terrace. The project includes a dewatering system to provide an increased vadose zone for bioremedial activity.

A monitoring plan was developed to assess baseline conditions and provide periodic progress information of the bioventing system. Baseline analysis of the groundwater and soil gas is used to evaluate the current site conditions before remediation activities begin. Performance monitoring offers periodic feedback of remediation operation and GAC filter capability. An in situ respiration test observes the rate at which oxygen is depleted and carbon dioxide is generated to determine oxygen utilization and biodegradation rates within the soils.

Monitoring results from the in situ respiration test indicate the presence of active biodegradation within the river terrace area. Field data collected during the initial 12-months of system operation indicate the bioventing system is effectively enhancing bioremedial activity within the western portion of the river terrace area. Soil gas concentrations collected in the field show that the bioventing system provides sufficient oxygen supply to fully oxygenate the subsurface, supporting aerobic biodegradation of hydrocarbons. These results suggest that as treatment progresses, petroleum hydrocarbon concentrations will diminish.Breakthrough of the lead GAC filter did not occur in 2006.

Section 2.0 Introduction

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INTRODUCTION

Owner:	23733	an Refining Company North Scottsdale Road Iale, Arizona 85255	(parent corporation)
Operator:	P.O. Bo	Refining Company ox 159 ield, New Mexico 87413	(postal address)
	#50 Rd	Refining Company 4990 ield, New Mexico 87413	(physical address)
Facility Name:	#50 Rd	ïeld Refinery: I 4990 ïeld, New Mexico 87413	(physical address)
Facility Status	Correc	tive Action/Compliance	
US EPA ID	NMD08	39416416	
SIC Code	2911		
Purpose of Monit	toring:		orrective Measures – Assess Provide Periodic Progress
Type of Monitorir	ng:	Baseline and Periodic Gro Monitoring	oundwater and Soil Vapor

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BACKGROUND INFORMATION

SITE LOCATION AND DESCRIPTION

The Bloomfield Refinery is a crude oil refining facility with a crude capacity of 18,000 barrels per day. It is located approximately 1 mile south of Bloomfield, New Mexico, in San Juan County, latitude N36 41' 87", longitude W107 58' 70". It is further located approximately ½ mile east of State Route 550 on Count Road 4990 (a.k.a. Sullivan Road).

The refinery is located on a bluff 120 feet above the south side of the San Juan River. The top of the bluff is relatively flat and is at an elevation of 5,540 feet above sea level. The geological units that comprise the site include, in order of increasing depth, San Juan River Alluvium, Quaternary apron deposits, Aeolian sand and silt, Jackson Lake Terrace, and the Tertiary Nacimiento Formation. An unnamed arroyo flows toward the San Juan River on the southern and western edges of the site. East of the site, a welldefined arroyo cuts a small canyon from the bluff to the San Juan River. Hammond Ditch lies on the bluff between the limit of the Jackson Lake Terrace and the refinery.

Refinery offices are on the western end of the facility, along with warehouse space, maintenance areas, and a storage yard containing used material (e.g., pipes, valves). Petroleum processing units, located in the northwest portion of the refinery, include the crude unit, fluidized cracking unit, catalytic polymerization unit, and hydrodesulfurization unit. The API Separator is located in the northwestern portion of the site. The aeration lagoons are located in the north central section of the refinery.

In the central portion of the site, aboveground storage tanks (AST's) occupy a large percentage of refinery property. South of the refinery and across Sullivan Road are terminals for loading product and off-loading crude, as well as gas storage and hazardous waste storage.

The Refinery owner is San Juan Refining Company (SJRC) and is operated by Giant Refining Company. The historical and current activities conducted at the refinery are petroleum processing, crude and product storage, crude unloading and product loading, waste management (closed and existing facilities), and offices and non-petroleum material storage

HISTORY OF RIVER TERRACE

1999

Sheet piling was installed along with a bentonite slurry wall adjacent to the San Juan River, at the River Terrace, in order to intercept a small hydrocarbon seep that had been detected in the area.

2004

MW #48 & MW #49 and 8 temporary piezometers were installed to launch a River Terrace Investigation. Several temporary piezometers were drilled on the north side of Hammond Ditch to chart the Naciemento Formation. The development of a slurry wall that will be constructed on the north side of Hammond Ditch to prevent the spread of hydrocarbons to the San Juan River was initiated.

2005

The North Boundary Barrier Wall installation was completed March 2005. In April, five more temporary piezometers were installed at the River Terrace. Dewatering Wells #1 and #2 and thirteen bioventing wells were drilled in August at the River Terrace. Construction of the River Terrace Bioventing Project was initiated in August. The system was put on-line in January 2006.

2006

System monitoring began in January abiding by the guidelines from the River Terrace Voluntary Corrective Measures Monitoring Plan approved by OCD and NMED. The In-Situ Respiration test was conducted in May 2006. Quarterly performance monitoring was carried out in March, June, September, and December of 2006.

Section 3.0 Scope of Activities













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Scope of Activities

The River Terrace Investigation was initiated in October 2004 with the installation of eight Temporary Piezometers (TP #1 – TP #8), MW #48, and MW #49. In April 2005, five additional TP wells were installed (TP #9 – TP #13). In August 2005, two dewatering wells (DW #1 and DW #2) and thirteen bioventing wells (BV #1 – BV #13) were installed. Drill logs and installation diagrams can be found in Section 10.0 – Tabs 4, 5, 6, and 7 of the River Terrace Voluntary Corrective Measure Bioventing System Six Month Start-up Report of August 2006 (RT – Six-Month Report).

Baseline Monitoring

Groundwater

Prior to the start of the bioventing system, baseline groundwater samples were taken from TP #1 through TP #13 (except TP #7), MW #48, and MW #49 during the week of August 8, 2005. These wells were purged and analyzed for BTEX, MTBE (EPA Method 8021B) and Total Petroleum Hydrocarbons (EPA Method 8015B). Field measurements of conductivity, temperature, and pH were taken as well. TP #7 appears to have been completed in the River Terrace barrier wall and does not yield a sufficient water volume.

During the week of August 22, 2005 baseline groundwater samples were collected from DW #1 and DW #2 and analyzed for PAH by EPA Method 8310, VOC by EPA Method 8260B, Dissolved (EPA Method 6010C) and Total (EPA Method 6010, 7470) WQCC Metals, and General Chemistry (EPA Methods106.1, 120.1, 300.0, 310.1).

Total metals (EPA Methods 6010 and 7470) and groundwater field parameters (temperature, pH, conductivity, dissolved oxygen (DO), and oxidation-reduction potential (ORP)) were collected from each of the TP wells (except TP-7) MW #49, and DW #1 during the first week of January 2006 prior to the startup of the dewatering system.

During the week of January 16, 2006 after dewatering conditions stabilized prior to air injection groundwater field parameters (temperature, pH, conductivity, DO, and ORP) were taken from the TP wells (except TP-7), DW #1, and MW #49.

A summary of the baseline groundwater monitoring can be found in Section 5.0 Tab 2 of this report. Chemical analytical reports of baseline data can be found in Section 12.0 of the RT-Six -Month Report submitted August 2006.

<u>Soil</u>

A total of 22 subsurface soil samples were collected from the boreholes of the 13 bioventing (BV #1 - #13) 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 BTEX (EPA Method 8021B), Gasoline Range Organics (EPA Method 8015B), and Diesel Range Organics (EPA Method 8015B).

A summary of the field and analytical results for baseline soil sampling is described in Section 5.0 Tab 3 of the RT-Six -Month Report submitted August 2006. Chemical analytical reports of BV Soil data can be found in Section 12.0 of that report also.

Soil Gas

After dewatering conditions stabilized and prior to starting the air injection system, field parameters and soil gas samples were collected during the week of January 18, 2006 at each of the TP wells (except TP-7), MW #49, DW #1, and BV#1 – BV #13. Vapor-phase organics, oxygen, and carbon dioxide concentrations were monitored using a hand-held photoionization detector (PID) and multi-gas meter. One soil gas sample was collected from each sample location and analyzed for BTEX (EPA Method 8021B) and Gasoline Range Organics (EPA Method 8015B).

A summary of the field and analytical results for baseline soil gas sampling is described in Section 5.0 Tab 1 of this report. Chemical analytical reports of baseline soil gas data can be found in Section 12.0 of the RT-Six -Month Report submitted August 2006. A summary of the field results for baseline BV-Pre-Aeration soil gas sampling is described in Section 5.0 Tab 3 of this report.

Performance Monitoring

Upon completion of baseline monitoring activities, on-going performance monitoring activities were performed to assess the progress of the remediation system in reducing fuel hydrocarbons. Laboratory analysis of groundwater, treated groundwater, and soil gas are included in the on-going performance monitoring. In addition, certain field parameter data are collected using portable gauges and gas meters.

Section 5.0 of this report summarizes the field parameter and samples obtained during system startup and routine performance monitoring.

Pressure Readings

Pressure readings were collected from each of the TP wells (except TP-7), MW #49, and DW #1 using a hand-held Magnahelic gauge and sample port at the top of each well. The pressure readings were recorded weekly during the first month of system operation, monthly during the first quarter and then quarterly thereafter. This data is available in Section 5.0 Tabs 1 in this report.

Groundwater

Following the start-up of the blower, groundwater field parameters of the TP wells (except TP-7), MW #49, and DW #1 were scheduled to be collected for the first four weeks of system operation, monthly for the first quarter, and then quarterly thereafter. However, a malfunction in the system's transformer delayed start of

the weekly monitoring by one week. Subsequently weekly groundwater monitoring (temperature, pH, conductivity, DO, and ORP) was conducted on each of the TP wells (except TP-7), DW #1, and MW #49 from the week of January 30, 2006 through the week of February 20, 2006. First quarter groundwater samples were collected from each of the TP wells (except TP-7), DW #1, and MW #49 during the week of March 6, 2006. Groundwater samples were analyzed for BTEX and MTBE (EPA Method 8021B), GRO and DRO (EPA Method 8015B). MW #49 and DW #1 were also analyzed for Total Lead, Chromium, and Mercury (EPA Method 6010C and 7470). Field measurements included temperature, pH, conductivity, DO, and ORP. Subsequent quarterly monitoring events utilized the same collected the week of June 17, 2006. The third quarter sampling event took place during the week of September 11, 2006. Fourth quarter sampling occurred during the week of December 04, 2006.

TP-#4 data is not available for the third and fourth quarter sampling events. Prior to the third quarter sampling event TP-#4 was inadvertently destroyed by a trackhoe that was cleaning out the freshwater inlet pond adjacent to TP-#4's location.

A summary of the performance monitoring results can be found in Section 5.0 Tab 2. Chemical analytical reports of the first and second quarter performance monitoring data can be found in Section 12.0 of the RT-Six -Month Report submitted August 2006. Third and fourth quarter chemical analytical reports are located in Section 10.0 Tabs 7 and 8 of this report.

Soil Gas

Field measurements of soil gas hydrocarbons (using a PID) and oxygen and carbon dioxide concentrations (using a multi-gas meter) were scheduled to be collected from each of the TP wells (except TP-7), MW #49, and DW #1 weekly for the first four weeks of system operation, monthly for the first quarter, and then quarterly thereafter. Due to the transformer malfunction, weekly monitoring was delayed by one week. Subsequently weekly soil gas field measurements were conducted on each of the TP wells (except TP-7), DW #1, and MW #49 from the week of January 30, 2006 through the week of February 20, 2006.

First quarter samples were collected during the week of March 6, 2006. Soil gas analysis included BTEX (8021B) and GRO (8015B). Field measurements of gas hydrocarbons (using a PID) and oxygen and carbon dioxide concentrations (using a multi-gas meter) were taken. Subsequent quarterly monitoring events utilized the same collection sites, methods, and parameters. Second quarter samples were collected the week of June 17, 2006. The third quarter sampling event took place during the week of September 11, 2006. Fourth quarter sampling occurred during the week of December 04, 2006.

TP-#4 data is not available for the third and fourth quarter sampling events. Prior to the third quarter sampling event TP-#4 was inadvertently destroyed by a trackhoe that was cleaning out the freshwater inlet pond adjacent to TP-#4's location.

A summary of the performance monitoring results can be found in Section 5.0 Tab 1. Chemical analytical reports of the first and second quarter performance monitoring data can be found in Section 12.0 of the RT-Six -Month Report submitted August 2006. Third and fourth quarter chemical analytical reports are located in Section 10.0 Tabs 5 and 6 of this report.

GAC Filter Monitoring

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

GAC filter sampling includes 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 filter change-out frequency.

GAC filter influent samples (GAC Inf) and effluent samples collected downstream of the lag GAC filter (GAC 2 Eff) were collected at system start-up and quarterly thereafter. Effluent samples from the lead GAC filter (GAC 1 Eff) were obtained at system startup and weekly thereafter until such time that breakthrough is detected. Samples were analyzed for BTEX by EPA Method 8021B, GRO and DRO by EPA Method 8015B.

Weekly samples were not acquired from August 3, 2006 to August 24, 2006 and from October12, 2006 to November 28, 2006 because the river pump was down due to an extremely muddy San Juan River. The Dewatering pumps in the Bioventing system are tied into Giant's raw water river pump system. If the river pump is off then the Dewatering pumps will also be off. However, the blower on the Bioventing system continued to operate.

A summary of the GAC filter performance monitoring results is presented in Section 5.0 Tab 4 of this report. Chemical analytical reports are located in Section 10.0 Tab 9 of this report.

In-Situ Respiration

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An in situ respiration test was performed during the week of May 22, 2006 following methods described in the Bioventing System Monitoring Plan Amendment. The respiration rate test consisted of monitoring the rate at which oxygen is depleted and carbon dioxide is generated when the air supply is turned off. Oxygen, carbon dioxide, and volatile organic compounds were monitored at BV #1 through BV #13 and at TP#1, TP#2, TP#5, TP#6, TP#8, and TP #9 using the PID meter and the multi-gas meter. A summary of the in situ test can be found in Section 6.0 of the RT-Six- Month Report submitted August 2006.

Field Data Collection

All water/product levels were measured to an accuracy of 0.01 foot using a Geotech Interface Meter. After determining water levels, purge volumes were calculated.

After sufficient purging (three well volumes), soil gas samples were collected using the vacuum pump. Field measurements of vapor-phase organics (using a PID meter), oxygen, and carbon dioxide concentrations (using a multi-gas meter) were recorded using portable field instruments. Soil gas samples were taken before groundwater purging and sampling.

Prior to soil gas purging, a YSI 550A Dissolved Oxygen Probe was used to determine dissolved oxygen (DO) levels. At least three well volumes were purged from each well prior to groundwater sampling. Electrical conductance, pH, temperature, and oxidation reduction potential were monitored during purging using an Ultrameter 6P. The wells were considered satisfactorily purged when the pH, E.C., and temperature values did not vary by more than 10 percent for at least three measurements.

Field data and analytical results can be found in Section 5.0 – Tabs 1, 2, 3, and 4.

All purged water was collected and disposed of through the refinery wastewater system.

Section 4.0 Regulatory Criteria / Groundwater Cleanup Standards

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TABLE OF NEW MEXICO AND THE U. S. EPA'S GROUNDWATER STANDARDS

PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
General Properties				
non-aqueous phase liquid (NAPL)	NP			
petroleum				
floating product	NP			
undesirable odor (a)	NP			
pH (units) (a)	6 - 9	6.5 - 8.5		
total dissolved solids (TDS) (a)	1000	500		
turbidity		π		
Biological Contaminants				
giardia lambia	tt	Zero		
legionella	tt	Zero		
total coliform	<5%÷	Zero		
viruses	tt	Zero		
Inorganic Contaminants				
aluminum	5.0 (i)	0.05 - 0.2 (a)		
ammonia				30
antimony		0.006	0.006	
arsenic	0.1	0.05	0.05	
asbestos-fibers/liter (longer than 10 um)		7 million	7 million	
barium	1.0	2	2	
beryllium		0.004	0.004	
boron	0.75(i)			0.06
bromate		0.01 (p)	Zero (p)	
cadmium	0.01	0.005	0.005	
chlorate				0.01

PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
chloride (a)	250	250		0.01
chlorine				1
chlorine dioxide				80.0
chlorite		1.0(p)	0.08(p)	
chromium	0.05	0.1	0.1	
cobalt (i)	0.05			
copper		1.3 (al)	1.3	
cyanide	0.2	0.2	0.2	
fluoride	1.6	4.0		
fluoride(a)		2		
iron (a)	1.0	0.3		
lead	0.05	0.015(al)	Zero	
manganese (a)	0.2	0.05		
mercury	0.002	0.002	0.002	
molybdenum	1.0 (i)			0.05
nickel	0.2(i)	0.1	0.1	· .
nitrate - N	10	10	10	
nitrite - N		1	1	
nitrate + nitrite (as N)		10	10	
selenium	0.05	0.05	0.05	
silver	0.05	0.05	0.05	
silver (a)		0.1		
sodium				20
strontium				17
sulfate	600(a)	250 (a) / 400 (p)	400	
thallium		0.002	0.0005	
vanadium				0.02
zinc(a)	10.0	5		
Radioactive Contaminants				
Gross alpha (pCi/L) *		15	Zero	
Gross beta & photon emitters (mren	1/VT) **	4	Zero	

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PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
radium 226 (pCi/L)		20(p)	Zero	
radium 228 (pCi/L)		20(p)	Zero	
radium 226 + 228 (pCi/L)	30	5	Zero	
radon 222 (pCi/L)		300(p)	Zero	
uranium	5	0.02(p)	Zero	
Benzenes				
benzene	0.01	0.005	Zero	
Alkyl Benzenes				
methylbenzene (toluene)	0.75	l (p)/0.04(a)	1	
ethylbenzene	0.75	0.7 (p)/0.03 (a)	0.7	
dimethyl benzene isomers (xylenes)	0.62	10(p)/0.02(a)	10	
vinylbenzene (styrene)		0.1	0.1	
trimethyl benzene isomers		• .		
propyl benzene isomers				
butyl benzene isomers				
Chlorinated Benzenes				
chlorobenzene	tox	0.1	0.1	
o-dichlorobenzene	tox	0.6	0.6	
m-dichlorobenzene	tox			
p-dichlorobenzene	tox	0.075(p)/ 0.005 (a)	0.075	
1,2,4-trichlorobenzene		0.07	0.07	
1,3,5-trichlorobenzene	-			0.04
1,2,4,5-tetrachlorobenzene	tox			
pentachlorobenzene	tox			
hexachlorobenzene	tox	0.001	Zero	
Toluenes				
o-chlorotoluene				0.1
p-chlorotoluene				0.1
2.4-dinitrotoluene (2,4-DNT)	tox			

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PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
2,4,6-trinitrotoluene (TNT)				0.002
isopropyltoluene				
Nitrogenated Benzenes				
aminobenzene (aniline)				
nitrobenzene	tox			
1,3-dinitrobenzene				0.001
Phenols (hydroxybenzenes)	0.005(a)			
phenol (carbolic acid)	tox			4
2-chlorophenol				0.04
2,4-dichlorophenol	IOX			0.02
2,4-dinitro-ó-creosol	tox			
2,4-dimethylphenol				
2-methylphenol				
4-methylphenol				
2-nitrophenol				
dinitrophenols	tox			
2,4,5-trichlorophenol	tox			
2.4.6-trichlorophenol	tox			
2,4.6-trichlorophenol	tox			
pentachlorophenol	tox	0.001(p)/0.03 (a)	Zero	
p-cresol				
Polycyclics				
			,	
acenapthene				
anthracene	tox			
penz(a)anthracene		0.0001(p)	Zero	
penzo(a)pyrene	0.0007	0.0002	Zero	
penzo(b)fluoranthene		0.0002(p)	Zero	
benzo(k)fluoranthene	tox	0.0002(p)	Zero	
chrysene		0.0002(p)	Zero	
dibenz(a)anthracene		0.0003(p)	Zero	
diphenylhydrazine	tox			

PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA IIA (ppm)
luoranthene	tox			
luorene	tox			
ndeno(1.2,3-c,d)pyrene		0.0004(p)	Zero	
naphthalene	tox			0.3
naphthalenes ****	0.03			
phenanthrene	tox			
polychlorinated biphenyls (PCBs)	0.001			
PCBs as decachlorobiphenyl		0.0005	Zero	
pyrene	tox			
Methanes				
chloromethane (methyl chloride)	tox			0.003
dichloromethane (methylene chloride)	0.1	0.005	Zero	
trichloromethane (chloroform)	0.1		Zero(p)	
tetrachloromethane (carbon tetrachloride)	0.01	0.005	Zero	
bromomethane (methyl bromide)	tox			0.01
bromochloromethane				0.09
bromodichloromethane	tox		Zero (p)	
chlorodibromomethane			Zero(p)	0.1
tribromomethane (bromoform)	tox		Zero (p)	
trihalomethanes (THMs) ***		0.1/0.08(p)	Zero	
fluorotrichloromethane (Freon 11)	tox			2
dichlorodifluoromethane (Freon 12)	tox			1
Ethanes				
1,2-dibromoethane (ethylene dibromide, EDB)	0.0001	0.00005	Zero	
1,1-dichloroethane	0.025			
1.2-dichloroethane (ethylene dichloride, EDC)	0.01	0.005	Zero	
1,1,1-trichloroethane (TCA)	0.06	0.2	0.2	
1,1.2-trichloroethane	0.01	0.005	0.003	
1.1.1.2-tetrachloroethane				0.07

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PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
1,1,2,2-tetrachloroethane	0.01			
hexachloroethane	tox			
Ethenes (Ethylenes)				
chloroethane (vinyl chloride)	0.001	0.002	Zero	
1,1-dichloroethene	0.005	0.007	0.007	
cis-1,2-dichloroethene	tox	0.07	0.07	
trans-1,2-dichloroethene	tox	0.1	0.1	
trichloroethene (TCE)	0.1	0.005	Zero	
tetrachloroethene (perchloroethylene, PCE)	0.02	0.005	Zero	
Propanes & Propenes				
1,2-dichloropropane (propylene dichloride, PDC)		0.005	Zero	
1.2,3-trichloropropane				0.04
1.2-dibromo-3-chloropropane (DBCP)		0.0002	Zero	
dichloropropenés	tox			
1.3-dichloropropene	tox			0.01
Aldehydes, Ethers, Furans, & Ketones				
acetone				
bis (2-chloroethyl) ether	tox			
bis (2-chloroisopropyl) ether	tox			0.3
bis (chloromethyl) ether	tox			
dibenzofuran				
p-dioxane (di e thylene dioxide)				0.568
formaldehyde (methanal)				1
isophorone	tox			0.1
methyl ethyl ketone (MEK, 2-butanone)				0.1
methyl tertiary butyl ether (MTBE)	0.1 (a)			0.04
tetrahydrofuran				

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PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppin)	EPA HA (ppm)
Nitrosamines				
N-nitrosodiethylamine	tox			
N-nitrosodimethylamine (NDMA)	tox			
N-nitrosodibutylamine	tox			
N-nitrosodiphenylamine	tox			
N-nitrosopyrrolidine	IOX			
Phthalate Esters				
dibutyl phthalate	tox			
di-2-ethylhexyl phthalate	tox	0.006	Zero	
diethyl phthalate	tox			
dimethyl phthlate	tox			
Explosives		• •		
dinitrophenols	tox			
2,4-dinitrotoluene (2,4-DNT)	tox			
hexahydro-1.3,5-trinitro-s-triazine (RDX)				0.002
НМХ				0.4
nitroglycerin (glycerol trinitrate)				0.005
nitroguanidine				0.7
2,4,6-trinitrotoluene (TNT)				0.002
Other Organics				
acrolein	tox			
acrylamide		tt	Zero	
acrylonitrile	tox			0.004
benzidine	tox			
chloral hydrate		tt (p)	0.04(p)	
chloramine				0.3

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PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	CPA IIA (ppm)
dibromoacetonitrile				0.02
dichloroacetic acid				0.003
dichloroacetonitrile				0.00ó
dichlorobenzidine	tox			
di(2-ethylhexyl)adipate		0.4	0.4	
diisopropyl methylphosphonate				0.6
epichlorohydrin (1-chlor-2,3- epoxypropane)		τι	Zero	
ethylene glycol (1.2-ethanediol)				7
Haloacetic Acids ****		0.06(p)		
dichloroacetic acid			Zero (p)	
trichloroacetic acid			0.3(p)	
hexachlorobutadiene	tox			0.001
hexachlorocyclopentadiene	tox	0.05(p)/0.008 (a)	0.05	
n-hexane				4.0
acifluorfen				0.1
acifluorfen				0.1
alachlor		0.002	Zero	
aldicarb		0.003(p)	0.001	
aldicarb sulfone		0.002(p)	0.001	
aldicarb sulfoxide		0.004(p)	0.001	
aldrin	tox			0.001
ametryn				0.06
ammonium sulfamate				2
arsenal (imazapyr)				
atrazine		0.003	0.003	
baygon				0.003
bentazon				0.02
bromacil				0.09
butylate				0.35
carbary!			•	0.7
carbofuran		0.04	0.04	

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PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
carboxin				0.7
chloramben				0.1
chlordane	tox	0.002	Zero	
chlorothalonil				0.5
chlorpyrifos				0.02
cyanazine				0.01
2,4-D (2,4-dichlorophenoxyacetic acid)		0.07	0.07	
dacthal				4
dalapon		0.2	0.2	
DDT (dichloro diphenyl trichloroethane)	tox			
4,4'-DDD				
4,4'-DDE				
diazinon				0.0006
dicamba				0.2
dieldrin	tox			0.002
dimethrin				2
dinoseb		0.007	0.007	
dioxin		0.00000005	Zero	
diphenamid				0.2
diquat		0.02	0.02	
disulfoton				0.0003
diuron				0.01
endosulfan	tox			
endothall		0.1	0.1	
endrin	tox	0.002	0.002	
ethylene thiourea				0.001
fenamiphos				0.002
fluometuron				0.09
fonofos				0.01
glyphosate		0.7	0.7	
heptachlor	tox	0.0004	Zero	
heptachlor epoxide		0.0002	Zero	
hexazinone				0.2
lindane (gamma-BHC)	tox	0.0002	0.0002	

PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppin)	EPA IIA (ppm)
alpha-BHC	tox			Í
bera-BHC	IOX			
delta-BHC				
malathion .				0.2
maleic hydrazide				4
methomyl				0.2
methoxychlor		0.04	0.04	
methyl chlorophenoxyacetic acid	(MCPA)			0.011
methyl parathion				0.002
metolachlor				0.1
metribuzin				0.2
oxamyl (vydate)		0.2	0.2	
paraquat				0.03
picioram		0.5	0.5	
prometon				0.1
pronamide				0.05
propachlor				0.09
propazine				0.01
propham				0.1
simazine		0.004	0.004	
2,4,5-T (2,4,5-trichlorophenoxya	cetic acid)			0.07
tebuthiuron				0.5
terbacil				0.09
terbufos				0.0009
toxaphene	tox	0.003	Zero	
2,4,5-TP (silvex)		0.05	0.05	
trifluralin				0.005

Abbreviațions

al Action Level that, if exceeded, requires water treatment BHC benzene hexachloride, also called hexachlorocyclohexane DDD 1,1'-(2,2-dichloroethylidene) -bis/4-chlorobenzene DD1 1,1'-(2.2-dichloroetheneylidene) -bis/4-chlorobenzene

HA Health Advisory

HMN octahydro-1.3.5.7-tetranitro-1.3.5.7-tetrazocine

MC1. Maximum Contaminant Level

MCLG Maximum Contaminant Level Goal

mg/L milligrams per liter

mrem/yr millirem per year

mem ede/yr dose committed over a 50-year period to a "reference man" from an annual intake rate of 2 liters drinking water per day

MTBE methyl tertiary butyl ether, a synonym for 2-methoxy-2-methyl propane (the standard includes other ether-based gasoline additives)

NP the contaminant shall Not be Present

pCi/L picocuries per liter

tox a numerical standard has not been established, but the contaminant is listed in a narrative standard of "toxic pollutant" defined in WQCC regulations

2.4.5-TP 2,4,5-trichlorophenoxpropionic acid

u Treatment Technique that public water system operators must adhere to instead of a numerical standard

um micrometer

U.S. EPA Uniter States Environmental Protection Agency

WQCC New Mexico Water Quality Control Commission

Footnotes

* The proposed standard excludes radon 222, radium 226 and uranium activity

** This standard excludes radium 228 activity. Units for the existing standard are mrem/yr.

U.S. EPA has proposed to change the units to mrem ede/yr.

*** The "THMs" standard applies to the sum of chloroform, dichlorobromomethane, dibromochloromethane, and bromoform.

**** This standard applies to the sum of naphthalene and monomethylnaphthalene isomers. ***** This standard applies to the sum of mono-, di-, and trichloroacetic acids, and mono- and dibromoacetic acids.

Use and Applicability of Standards

All New Mexico standards are adopted by the WQCC except for the MTBE and petroleum (floating product and undesirable odor) standards, which are adopted by the New Mexico Environmental Improvement Board.

U.S. EPA's MCLGs are set at levels that would result in no known or anticipated adverse health effects with an adequate margin of safety. MCLGs do not take treatment costs into considerartion and are not enforceable. Health-based proposed MCLs and final enforceable MCLs are set as close to MCLGs as feasible with use of best technology, treatment techniques and other means. U.S. EPA's HAs serve as informal technical guidance to assist Federal. State and Local officials responsible for protecting public health when emergency spills or contamination situations occur. They are not to be construed as legally enforceable Federal standards and are subject to change as new information becomes available. All HAs listed are for lifetime exposures except for p-dioxane (10 day) and n-hexane (7 year).

APPENDIX A

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Appendix A

State of New Mexico Soil Screening Levels

Table A-1 provides State of New Mexico Soil Screening Levels (SSLs), as developed by the New Mexico Environment Department (NMED) Hazardous Waste Bureau (HWB) and the Ground Water Quality Bureau Voluntary Remediation Program for 208 chemicals most commonly associated with environmental releases within the state. These NMED SSLs are derived using default exposure parameter values (as presented in Table A-2) and chemical- and State of New Mexico-specific physical parameters (as presented in Table B-1 of Appendix B). These default values are assumed to be appropriately conservative in the face of uncertainty and are likely to be protective for the majority of site conditions relevant to soil exposures within New Mexico.

However, the NMED SSLs are not necessarily protective of all known human exposure pathways, reasonable land uses or ecological threats. Thus, before applying NMED SSLs at a site, it is extremely important to compare the conceptual site model (CSM) with the assumptions upon which the NMED SSLs are predicated to ensure that the site conditions and exposure pathways match those used to develop the NMED SSLs. If this comparison indicates that the site at issue is more complex than the corresponding SSL scenarios, or that there are significant exposure pathways not accounted for by the NMED SSLs, then the NMED SSLs are insufficient for use in a defensible assessment of the site. A more detailed site-specific approach will be necessary to evaluate the additional pathways or site conditions.

<u>Table A-1</u>

Column 1: Column 2:	The first column in Table A-1 presents the names of the chemicals for which NMED has developed SSLs. The second column presents NMED SSLs predicated on residential soil exposures.
Column 3, 5, 7, and 10:	These columns present indicator categories for the NMED SSL residential, industrial, construction, and tap water basis, whether predicated on carcinogenic effects (ca), noncarcinogenic effects (nc), soil saturation limits (sat) or a non-risk based "max" determination. NMED SSLs predicated on a carcinogenic endpoint reflect age-adjusted child-to-adult exposures. NMED SSLs predicated on a noncarcinogenic endpoint reflect child-only exposures. Detected concentrations above the "sat" value may indicate the presence of nonaqueous phase liquid (NAPL). For certain inorganic and semivolatile organic compounds (SVOCs) that exhibit relatively low toxicity, a non risk- based maximum concentration of 10 ⁵ mg/kg is given when the risk-based SSL exceeds that level. These are noted as "max" in the tables.
Columns 4 and 6:	The fourth and sixth columns present NMED SSLs analogous to Column 1, with the exception that these values correspond to Industrial/Occupational and Construction worker (adult-only) exposures, respectively.
Columns 5 and 7:	The fifth and seventh columns present endpoint bases analogous to Column 3

for the Industrial/Occupational and Construction worker receptor populations, respectively. Unlike the Residential population, noncarcinogenic endpoint notes for these receptor populations are predicated on adult-only exposures.

Column 8: The eighth column notes which chemicals are considered VOCs (for inhalation considerations). Those chemicals not considered VOCs are evaluated within the SSLs relative to inhalation of particulate emissions.

Column 9: Presents the tap water SSL for the residential scenario.

Columns 11 and 12: The ninth column presents NMED SSLs for the migration to groundwater pathway developed using a default dilution attenuation factor (DAF) of 1, which assumes no effective dilution or attenuation. These values can be considered at sites where little or no dilution or attenuation of soil leachate concentrations is expected (e.g., shallow water tables, karst topography). Column 10 presents NMED SSLs for the migration to groundwater pathway developed using a DAF of 20 to account for natural processes that reduce contaminant concentrations in the subsurface.

As noted above, separate NMED SSLs are presented for use in evaluating three discrete potential receptor populations: Residential, Industrial/Occupational, and Construction. Each NMED SSL considers incidental ingestion of soil, inhalation of volatiles (limited to those chemicals noted as volatile organic compounds [VOCs] within Table A-1) or particulate emissions from impacted soil, and dermal contact with soil.

Generally, if a contaminant is detected at a level in soil exceeding the most relevant NMED SSL, and the site-specific CSM is in general agreement with the underlying assumptions upon which the NMED SSLs are predicated, this result indicates the potential for adverse human health effects to occur. Conversely, if no contaminants are detected above the most relevant NMED SSL, this tends to indicate to the user that environmental conditions may not necessitate remedial action of the surface soil or the vadose zone.

A detection above an NMED SSL does not indicate that unacceptable exposures are, in fact, occurring. The NMED SSLs are predicated on relatively conservative exposure assumptions and an exceedance only tends to indicate the potential for adverse effects. The NMED SSLs do not account for additive exposures, whether for carcinogenic or noncarcinogenic endpoints. Section 5 of Part A addresses a methodology by which an environmental manager may determine whether further site-evaluation is warranted, however, this methodology does not replace the need for defensible risk assessment where indicated.

The NMED SSLs address a basic subset of exposures fundamental to the widest array of environmentally-impacted sites within the State of New Mexico. The NMED SSLs cannot address all relevant exposure pathways associated with all sites. The utility of the NMED SSLs depends heavily upon the understanding of site conditions as accurately reflected in the CSM and nature and extent of contamination determinations. Consideration of the NMED SSLs does not preclude the need for site-specific risk assessment in all instances.

Table A-1: NMED Soil Screening Levels

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Residential Soil (mg/kg) End- point 3.73E+03 nc 3.73E+03 nc 1.06E+02 nc 1.06E+02 nc 1.06E+02 nc 1.06E+02 nc 1.06E+02 nc 1.06E+02 nc 2.81E+04 nc 3.31E+01 ca 6.21E+01 ca <	Industrial/ Cccupational Soli (mg/kg) 3.35E+04 3.35E+04 3.34E+02 1.00E+05 1.26E+01 1.48E+03 7.52E-01 1.12E+00 1.00E+05	End- Construction Point (mg/kg) nc 1.41E+04 nc 3.45E+02 max 9.85E+04 ca 5.75E+01			Tap			,
cal Soil (mg/kg) point fifthene 3.73E+03 nc ehyde 1.06E+02 nc ehyde 1.06E+02 nc ehyde 1.06E+02 nc ehone 1.06E+02 nc ehone 1.06E+02 nc ehone 1.06E+01 nc n 2.81E-01 ca n 7.78E+04 nc n 7.78E+04 nc n 7.78E+04 nc n 7.78E+04 nc n 7.78E+04 ca n 7.78E+04 nc n 2.01E-01 ca n 1.56E+04 nc n 1.56E+04 nc n 1.56E+04 nc n 1.6E+00 ca </th <th>- Uccupational 11 Soil (mg/kg) 3.35E+04 3.35E+04 3.35E+04 1.00E+05 1.00E+05 1.48E+03 7.52E-01 1.12E+00 1.00E+05</th> <th></th> <th></th> <th></th> <th>VAL-40 C</th> <th></th> <th></th> <th></th>	- Uccupational 11 Soil (mg/kg) 3.35E+04 3.35E+04 3.35E+04 1.00E+05 1.00E+05 1.48E+03 7.52E-01 1.12E+00 1.00E+05				VAL-40 C			
influence 3.73 ± 03 Inc ehydde $1.06E+02$ Inc e $2.81E+04$ Inc e $4.27E+00$ ca iffile $4.27E+00$ ca henone $1.48E+03$ saft n $2.06E-01$ Inc n $2.38E-01$ ca iffile $2.26E+04$ Inc n $7.78E+04$ Inc iffile $2.30E+01$ ca iffile $2.36E-01$ Inc n $7.78E+04$ Inc n $3.33E+01$ Inc n 9.010 Inc n $0.316E+00$ Inc			boint	voc	(ug/L)	End- point	(mg/kg)	(mg/kg)
lehyde 1.06E+02 nc e $2.81E+04$ nc e $4.27E+00$ ca henone $1.48E+03$ sat n $2.06E-01$ nc enone $2.06E-04$ nc alm $7.78E+04$ nc ene $2.06E+04$ nc w $3.13E+01$ nc m $2.11E-02$ ca a)anthracene $6.21E+01$ ca b)fluoranthene $6.21E+01$ ca m $9.02E-01$ ca f(H			4 nc	×	3.65E+02	ц	2.75E+00	5.49E+01
2.81E+04 nc iftile $4.27E+00$ ca henone $1.48E+03$ sat n $2.06E-01$ nc n $2.06E-01$ nc n $2.06E-01$ nc mm $7.78E+0.01$ nc n $2.06E-01$ nc mm $7.78E+0.01$ nc sene $2.06E-0.01$ nc n $7.78E+0.04$ nc n $7.78E+0.04$ nc n $7.78E+0.04$ nc n $2.06E+0.04$ nc n $3.01E+0.01$ ca n $1.56E+0.04$ nc n $1.56E+0.04$ nc a)Danthracene $6.21E+0.01$ ca e $0.02E-0.11$ ca b)fluoranthene $6.21E+0.00$ ca m $1.56E+0.02$ nc m $0.02E-0.1$ ca henyt $3.16E+0.00$ ca holtoranthene $6.21E+0.00$ ca m 0.0			2 nc	×	1.72E+01	ca		
title 4.27E+00 ca henone 1.48E+03 sat nenone 1.48E+03 sat n 2.06E-01 nc n 7.78E+04 nc n 7.78E+04 nc n 7.78E+04 nc ov 3.13E+01 ca ov 3.13E+01 nc ov 3.13E+01 nc ov 3.13E+01 nc ov 3.13E+01 nc ov 3.13E+01 ca ov 3.13E+01 ca ov 3.13E+01 ca ov 3.06E+03 nc ov 3.16E+00 ca obyrene 6.21E+01 ca obyrene 6.21E+01 ca ohoranthene 6.21E+01 ca ohoranthene 6.21E+01 ca m 1.56E+02 nc m 1.56E+02 nc m 9.02E-01			4 nc	×	5.48E+03	ы	9.55E-01	1.91E+01
henone 1.48E+03 sat n 2.06E-01 nc im 7.78E+04 nc im 7.78E+04 nc w 3.13E+01 ca w 3.13E+01 nc w 3.13E+01 ca w 3.13E+01 ca b)bytene 6.21E+00 ca b)fluoranthene 6.21E+01 ca b)fluoranthene 6.21E+01 ca m 1.56E+02 nc b)fluoranthene 6.21E+01 ca m 1.56E+02 nc h(HCH) 9.02E-01 ca m 1.56E+02 nc m 1.56E+02 nc m 1.56E+02 nc h(HCH) 9.02E-01 ca h(HCH) 3.1			nc	×	3.81E-01	ca	6.68E-05	1.34E-03
1 2.06E-01 nc Im 7.78E+04 nc 2.84E-01 ca 2.80E+04 nc 2.00E+04 nc 2.1 3.13E+01 nc 1.56E+04 nc 1.03E+01 ca a)anthracene 6.21E+00 a)anthracene 6.21E+01 a)bytene 6.21E+01 1.05E+02 nc b)fluoranthene 6.21E+01 1.6E+02 nc hordthene 6.21E+01 1.6E+02 nc 1.6E+03 nc 1.6E+04 ca 1.6E+02 nc 1.16E+02 nc 1.16E+02 nc 1.16E+03 nc 1.16E+03 nc 1.16E+04 ca 1.16E+02 ca 1.16E+03 nc 1.16E+04 ca 1.16E+04 ca 1.16E+04 ca 1.16E+04 ca 1.16E+04 ca <		sat 1.48E+03	3 sat	×	6.08E+02	ž	1.48E-01	2.95E+00
Im 7.78E+04 nc inn 7.78E+04 nc inn 7.78E+04 nc inn 7.78E+04 nc inn 3.13E+01 nc inn 3.13E+01 nc inn 3.13E+01 nc inn 3.13E+01 nc inn 1.56E+04 nc inn 1.3E+01 ca a)anthracene 6.21E+01 ca a)anthracene 6.21E+01 ca a)anthracene 6.21E+01 ca b)fluoranthene 6.21E+01 ca b)fluoranthene 6.21E+01 ca b)fluoranthene 6.21E+01 ca inn 1.56E+02 nc inn 1.56E+02 nc inn 9.02E-01 ca inn 1.56E+02 ca inn 1.56E+02 nc inn 1.56E+02 ca inn 1.56E+02 ca inn 1.56E+02 ca inn 3.16E+00		nc 6.75E-01	ы	×	4.16E-02	ŭ	8.55E-06	1.71E-04
Im 7,78E+04 nc sene 2,20E+04 nc vy 3,13E+01 nc vy 3,13E+01 nc vy 3,90E+00 ca vy 3,90E+04 nc vy 3,90E+00 ca vy 3,90E+04 nc 1,56E+04 nc nc ne 1,03E+01 ca a)anthracene 6,21E+00 ca a)anthracene 6,21E+01 ca b)fluoranthene 6,21E+01 ca b)fluoranthene 6,21E+01 ca m 1,56E+02 nc m 1,56E+02 nc hor 9,02E-01 ca hor 3,16E+00 ca hor 3,16E+00 ca henyl 3,16E+00 ca hor 3,16E+00 ca hor 3,16E+00 ca hor 3,16E+00 ca hor		ca 6.99E+00	0 nc		3.87E-02	g	1.42E-01	2.84E+00
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η 3.13 ± 01 nc 3.00 ± 00 ca a 3.90 ± 00 ca nc a 1.56 ± 04 nc a 1.03 ± 01 ca a 2.11 ± 02 ca a 3.01 ± 01 ca b 0.02 ± 01 ca m 1.56 ± 02 nc m 0.02 ± 01 ca m 0.02 ± 01	IC 1.00E+05	max 8.60E+04	4 nc	×	1.83E+03	ы	8.11E+01	1.62E+03
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a)pyrene 6.21E-01 ca b)fluoranthene 6.21E+00 ca k)fluoranthene 6.21E+01 ca m 1.56E+02 nc m 1.56E+02 nc (HCH) 9.02E-01 ca (HCH) 3.16E+00 ca henyl 3.16E+00 ca horocethyl) ether 3.08E+02 nc horocethyl) ether 2.44E+00 ca hylhexyl) pthate 3.47E+01 ca		ca 2.12E+02	ca Ca	_	9.09E-01	ca	5.43E-01	1.09E+01
Dyllucranthene 6.21E+00 ca M 6.21E+01 ca M 1.56E+02 nc M 1.56E+02 nc M 9.02E-01 ca (HCH) 9.02E-01 ca (HCH) 3.16E+00 ca (HCH) 3.16E+00 ca henyl 3.16E+00 ca horoettyl) ether 3.08E+00 ca thoroettyl) ether 3.47E+01 ca thylhexyl) ptheadal 3.47E+02 ca	a 2.34E+00	ca 2.12E+01	1 ca		9.09E-02	ca	1.39E-01	2.78E+00
Kyltuoranthene 6.21E+01 ca m 1.56E+02 nc (HCH) 9.02E-01 ca (HCH) 3.16E+00 ca (HCH) 3.16E+00 ca (HCH) 3.16E+00 ca (HCH) 3.16E+00 ca henyl 3.08E+00 ca horoethyl) ether 2.44E+00 ca thoroethyl) ether 3.87E+01 ca thylhexyl) phthalate 3.47E+02 ca	a 2.34E+01	ca 2.12E+02	2 ca		9.09E-01	ca	1.68E+00	3.35E+01
m 1.56E+02 nc nc (HCH) 9.02E-01 ca ca (HCH) 3.16E+00 ca ca (HCH) 3.16E+00 ca ca (HCH) 3.16E+00 ca ca henyl 3.08E+03 nc pnc hloroethyl) ether 2.44E+00 ca ca thylhexyl) pththalate 3.47E+01 ca ca	a 2.34E+02	ca 2.12E+03	3 Ca		9.09E+00	g	1.68E+01	3.35E+02
(HCH) 9.02E-01 ca (HCH) 3.16E+00 ca (HCH) 3.16E+00 ca henyl 4.37E+00 ca horoethyl) 3.08E+03 nc hloroethyl) ether 2.44E+00 ca hloroisopropyl) ether 3.87E+01 ca thylhexyl) phthalate 3.47E+02 ca	IC 2.25E+03	nc 5.62E+01	1 nc		7.30E+01	ы	5.77E+01	1.15E+03
(HCH) 3.16E+00 ca henyl 4.37E+00 ca horoethyl) ether 3.08E+03 nc hloroethyl) ether 2.44E+00 ca thylhexyl) puthalate 3.87E+01 ca	a 3.99E+00	ca 3.00E+01	1 Ca		1.05E-01	8	2.13E-04	4.25E-03
4.37E+00 ca henyl 3.08E+03 nc hloroethyl) ether 2.44E+00 ca hloroisopropyl) ether 3.87E+01 ca thylhexyl) puthalate 3.47E+02 ca	a 1.40E+01	ca 5.39E+01	1 nc		3.69E-01	ca	7.61E-04	1.52E-02
henyl 3.08E+03 nc hloroethyl) ether 2.44E+00 ca hloroisopropyl) ether 3.47E+01 ca thylhexyl) phthalate 3.47E+02 ca	a 1.93E+01	ca 8.09E+01	1 nc		5.10E-01	g	9.08E-04	1.82E-02
2.44E+00 ca 3.87E+01 ca 3.47E+02 ca 4.37E+02 ca	lc 2.73E+04	nc 1.17E+04	4 nc	×	3.04E+02	ų	3.61E+00	7.22E+01
r 3.87E+01 ca 3.47E+02 ca 4.37F 03 50	a 7.45E+00	ca 1.05E+02	2 ca	×	9.65E-02	ca	2.77E-05	5.55E-04
3.47E+02 ca	a 1.19E+02	ca 4.53E+02	2 sat	×	2.71E+00	ca	7.21E-04	1.44E-02
	a 1.37E+03	ca 4.66E+03	3 nc		4.74E+01	g	1.07E+03	2.15E+04
2q	ca 1.23E-02	ca 2.32E-01	ca	×	5.09E-04	ca	8.95E-08	1.79E-06
1.56E+04 nc 1	IC 1.00E+05	max 3.09E+04	4 nc		7.30E+03	ž	2.40E+01	4.80E+02
Bromobenzene 3.70E+01 nc 1.3	ic 1.37E+02	nc 1.21E+02	2 nc	×	2.06E+01	ы	1.07E-02	2.14E-01
Bromodichloromethane 1.44E+01 ca 3.72	a 3.72E+01	ca 7.17E+02	2 ca	×	1.78E+00	ca	5.90E-04	1.18E-02

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	Residential	End-	Industrial/ Occupational	End-	Construction Worker Soil	End-	007	Tap Water	End-	DAF 1	DAF 20
Chemical	Soil (mg/kg) 8 51E+00	boint	3 28E+01	boint	(mg/kg) 2 82E+01	1UIOd	א א א	(ug/L) 8.66F+00	boint	(mg/kg) 1 87E-03	(mg/kg) 3.74F-02
1,3-Butadiene	9.93E-01	ca	2.38E+00	ca :	4.59E+00	рс	×	1.26E+00	са		
2-Butanone (MEK)	3.18E+04	nc	4.87E+04	sat	4.87E+04	sat	×	7.06E+03	nc	1.27E+00	2.55E+01
tert-Butyl methyl ether (MTBE)	3.88E+02	ca	9.84E+02	ca	1.96E+04	ca	×	6.14E+01	ca		
n-Butylbenzene	6.21E+01	sat	6.21E+01	sat	6.21E+01	sat	×	6.08E+01	пс	2.70E-01	5.40E+00
sec-Butylbenzene	6.06E+01	sat	6.06E+01	sat	6.06E+01	sat	×	6.08E+01	nc	2.17E-01	4.33E+00
tert-Butylbenzene	1.06E+02	sat	1.06E+02	sat	1.06E+02	sat	×	6.08E+01	nc	2.15E-01	4.30E+00
Cadmium	3.90E+01	ыc	5.64E+02	nc	1.54E+02	ы		1.83E+01	nc	1.37E+00	2.75E+01
Carbon disulfide	4.60E+02	sat	4.60E+02	sat	4.60E+02	sat	×	1.04E+03	ыс	3.95E-01	7.89E+00
Carbon tetrachloride	3.47E+00	g	8.64E+00	ca	1.80E+02	ca	×	1.69E+00	ca	9.74E-04	1.95E-02
Chlordane	1.62E+01	ca	7.19E+01	ca	1.30E+02	ы		1.90E+00	ខ	3.42E-01	6.83E+00
2-Chloroacetophenone	4.25E-02	nc	1.62E-01	nc	1.41E-01	ы	×	5.22E-02	nc	4.37E-05	8.75E-04
2-Chloro-1,3-butadiene	6.32E+00	пс	2.30E+01	nc	2.06E+01	ũ	×	1.43E+01	nc	5.66E-03	1.13E-01
1-Chloro-1,1-difluoroethane	2.11E+02	sat	2.11E+02	sat	2.11E+02	sat	×	8.66E+04	пс	6.28E+01	1.26E+03
Chlorobenzene	1.94E+02	ų	2.45E+02	sat	2.45E+02	sat	×	1.06E+02	ы	5.50E-02	1.10E+00
1-Chlorobutane	1.22E+02	nc	2.99E+02	sat	2.99E+02	sat	×	2.43E+02	пс	9.63E-02	1.93E+00
Chlorodifluoromethane	2.11E+02	sat	2.11E+02	sat	2.11E+02	sat	×	9.75E+04	ПС	7.07E+01	1.41E+03
Chloroethane	6.33E+01	ca	1.54E+02	ca	1.42E+03	sat	×	3.81E+01	ca	9.41E-03	1.88E-01
Chloroform	4.00E+00	ca	9.59E+00	ca	2.16E+02	g	×	1.65E+00	ca	4.12E-04	8.25E-03
Chloromethane	2.18E+01	ca	5.34E+01	ca	2.84E+02	nc	×	1.49E+01	ca	5.02E-03	1.00E-01
b-Chloronaphthalene	3.99E+03	nc	2.78E+04	nc	1.47E+04	ы	×	4.87E+02	nc	1.25E+00	2.51E+01
o-Chloronitrobenzene	1.49E+00	nc	5.48E+00	nc	4.88E+00	nc	×	1.45E-01	пс	3.94E-05	7.88E-04
p-Chloronitrobenzene	1.05E+01	рс	4.23E+01	nc	3.51E+01	g	×	1.20E+00	ы	3.25E-04	6.51E-03
2-Chlorophenol	1.66E+02	рс	8.85E+02	ы	5.86E+02	пс	×	3.04E+01	ы	2.36E-02	4.72E-01
2-Chloropropane	2.83E+02	2 L	7.05E+02	sat	7.05E+02	sat	×	1.76E+02	nc	4.60E-02	9.19E-01
o-Chlorotoluene	2.02E+02	sat	2.02E+02	sat	2.02E+02	sat	×	1.22E+02	uc	5.22E-02	1.04E+00
Chromium III	1.00E+05	max	1.00E+05	тах	1.00E+05	max		5.48E+04	nc	9.86E+07	1.97E+09
Chromium VI	2.34E+02	рс	3.40E+03	р	2.61E+01	ca		1.10E+02	пс	2.10E+00	4.20E+01
Chrysene	6.15E+02	ca	2.31E+03	g	2.12E+04	ca	×	2.91E+01	g	1.74E+01	3.48E+02
Cobalt	1.52E+03	ыc	2.05E+04	ис	6.10E+01	пс		7.30E+02	пс	3.31E+01	6.61E+02
Copper	3.13E+03	วน	4.54E+04	nc	1.24E+04	рс		1.46E+03	nc	5.15E+01	1.03E+03
Crotonaldehyde	7.01E-02	ca	1.70E-01	ca	3.73E+00	ca	×	5.82E-02	ca	1.49E-04	2.99E-03

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Chemical Soil (mg/kg) Cumene (isopropylbenzene) 2.71E+02 Cumene (isopropylbenzene) 2.71E+03 Cyanogen 1.22E+03 Cyanogen 1.71E+03 Cyanogen 2.02E+03 Cyanogen bromide 2.02E+03 Cyanogen chloride 2.02E+03 DDD 2.44E+01 DDE 1.72E+01 DDT 1.72E+01 DDT 1.72E+01 Dibenz(a,h)anthracene 6.21E-01		End-	-Occupational	End-	Worker Soil.	End-		Tap Water	End-	DAF 1	DAF 20
are (isopropylbenzene) ide ogen ogen chloride ogen chloride z(a,h)anthracene		point	Soil (mg/kg)	point	(mg/kg)	point	VOC	(ng/L)	point	(mg/kg)	(mg/kg)
ide ogen ogen chloride ogen chloride z(a,h)anthracene	=+02	nc	3.89E+02	sat	3.89E+02	sat	×	6.78E+02	ę	4.10E+00	8.21E+01
ogen ogen bromide ogen chloride ogen chloride rz(a,h)anthracene	E+03	nc	1.37E+04	nc	4.76E+03	ñ		7.30E+02	ű	7.35E+00	1.47E+02
ogen bromide ogen chloride z(a,h)anthracene	E+03	sat	1.71E+03	sat	1.71E+03	sat	×	1.46E+03	2	2.91E-01	5.82E+00
ogen chloride Z(a,h)anthracene	1+03	sat	2.02E+03	sat	2.02E+03	sat	×	3.29E+03	2	7.76E-01	1.55E+01
iz(a,h)anthracene	1+03	sat	2.02E+03	sat	2.02E+03	sat	×	1.83E+03	лс	4.31E-01	8.62E+00
iz(a,h)anthracene	=+01	ca	1.11E+02	ca	8.07E+02	ca		2.77E+00	g	4.15E+00	8.30E+01
nz(a,h)anthracene	101	8	7.81E+01	ca	5.70E+02	ca		1.95E+00	ន	1.31E+01	2.62E+02
	±+01	ca	7.81E+01	ca	1.38E+02	ų		1.95E+00	ß	7.70E+00	1.54E+02
-	т-01	g	2.34E+00	ca	2.12E+01	ca		9.09E-02	ß	5.18E-01	1.04E+01
Dibenzofuran 1.42E	I.42E+02	ы	1.62E+03	пс	5.52E+02	2	×	1.22E+01	ų	1.44E-01	2.87E+00
3-chloropropane	1.84E+00	nc	9.68E+00	nc	6.48E+00	ы	×	3.47E-01	2	1.49E-04	2.98E-03
Dibromochloromethane 1.48E+01	=+01	ca	3.95E+01	ca	7.16E+02	g	×	1.32E+00	g	3.58E-04	7.16E-03
1,2-Dibromoethane 5.04E-01	E-01	ca	1.31E+00	g	2.48E+01	g	×	5.53E-02	ga	1.20E-05	2.40E-04
1,4-Dichloro-2-butene 1.22E-01	E-01	ca	3.23E-01	g	5.97E+00	g	×	1.19E-02	ca	2.93E-06	5.87E-05
1.2-Dichlorobenzene 3.74E+01	=+01	sat	3.74E+01	sat	3.74E+01	sat	×	4.96E+01	ຍ	1.19E-02	2.37E-01
1,3-Dichlorobenzene 3.26E+0	=+01	nc	3.74E+01	sat	3.74E+01	sat	×	1.83E+01	2	4.36E-03	8.73E-02
1,4-Dichlorobenzene 3.95E+01	5+01	g	1.03E+02	g	1.96E+03	ca	×	4.95E+00	ß	5.49E-03	1.10E-01
3,3-Dichlorobenzidine 1.08E+01	5+01	ca	4.26E+01	eg	3.63E+02	ca		1.47E+00	g	1.86E-03	3.71E-02
ne	I.61E+02	nc	2.11E+02	sat	2.11E+02	sat	×	3.95E+02	22	2.86E-01	5.72E+00
1,1-Dichloroethane 1.40E+03	E+03	nc	1.42E+03	sat	1.42E+03	sat	×	1.22E+03	рс	3.39E-01	6.79E+00
1,2-Dichloroethane 6.04E+00	00+∃	g	1.52E+01	ß	6.42E+01	ы	×	1.22E+00	g	2.85E-04	5.71E-03
cis-1,2-Dichloroethene 7.65E+01	5+01	ы	3.00E+02	ę	2.54E+02	nc	×	6.08E+01	2	1.49E-02	2.99E-01
trans-1,2-Dichloroethene 1.12E+02	Ξ+02	nc	4.29E+02	é	3.70E+02	р	×	1.22E+02	2	3.33E-02	6.67E-01
1,1-Dichloroethene 2.06F	2.06E+02	Ц	7.77E+02	é	6.78E+02	р	×	3.39E+02	2	1.34E-01	2.68E+00
2,4-Dichlorophenol 1.83E+02	5+02	ы	2.05E+03	nc	6.99E+02	ы		1.10E+02	ę	4.31E-02	8.63E-01
<u>ں</u>	6.00E+00	ca	1.49E+01	ca	3.33E+01	рс	×	1.63E+00	g	4.10E-04	8.19E-03
1,3-Dichloropropene 1.20E+01	=+01	ca	3.17E+01	ca	8.98E+01	р	×	3.90E+00	g	1.16E-03	2.31E-02
	101	р	8.26E+01	ы	7.28E+01	ы	×	1.39E+01	5	1.50E-02	3.00E-01
	E-01	ca	1.20E+00	g	1.02E+01	g		4.15E-02	g	1.34E-03	2.68E-02
Diethyl phthalate 4.89E+04	5+04	ъ	1.00E+05	max	1.00E+05	max		2.92E+04	2	1.77E+01	3.54E+02
le	1.00E+05	max	1.00E+05	max	1.00E+05	max		3.65E+05	e	8.36E+01	1.67E+03
Di-n-butyl phthalate 6.11E+03	≣+03	пс	6.84E+04	ž	2.33E+04	2C		3.65E+03	2	1.86E+02	3.72E+03

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NMED Soil Screening Levels June 2006 Revision 4.0

	Residential	End-	Industrial/ Occupational	End-	Construction Worker Soil	End-		Tap Water	End-	DAF 1	DAF 20
Chemical	Soil (mg/kg)	point	Soil (mg/kg)	point	(mg/kg)	point	VOC	(ng/L)	point	(mg/kg)	(mg/kg)
2,4-Dimethylphenol	1.22E+03	2 2	1.37E+04	g	4.66E+03	ų		7.30E+02	ы	3.55E-01	7.11E+00
4,6-Dinitro-o-cresol	6.11E+00	цс	6.84E+01	nc	2.33E+01	ų		3.65E+00	υĽ	3.93E-03	7.85E-02
2,4-Dinitrophenol	1.22E+02	nc	1.37E+03	ы	4.66E+02	ű		7.30E+01	ы	5.25E-02	1.05E+00
2,4-Dinitrotoluene	1.22E+02	пс	1.37E+03	пс	4.66E+02	ų		7.30E+01	ы	2.31E-02	4.62E-01
1,2-Diphenylhydrazine	6.08E+00	ca	2.39E+01	g	2.04E+02	ca		8.30E-01	g	4.48E-03	8.95E-02
Endosultan	3.67E+02	ų	4.10E+03	р	1.40E+03	nc		2.19E+02	ы	7.41E-01	1.48E+01
Endrin	1.83E+01	nc	2.05E+02	пс	6.99E+01	ы		1.10E+01	ų	2.04E-01	4.08E+00
Epichlorohydrin	1.66E+01	nc	6.56E+01	nc	5.54E+01	nc	×	2.03E+00	22	3.62E-04	7.25E-03
Ethyl acetate	2.10E+04	sat	2.10E+04	sat	2.10E+04	sat	×	5.48E+03	2	1.44E+00	2.87E+01
Ethyl acrylate	2.79E+00	g	6.75E+00	g	5.22E+01	sat	×	2.30E+00	g	5.86E-03	1.17E-01
Ethyl chloride	6.33E+01	ca	1.54E+02	ca	1.42E+03	sat	×	3.81E+01	ca	9.41E-03	1.88E-01
Ethyl ether	1.94E+03	sat	1.94E+03	sat	1.94E+03	sat	×	1.22E+03	ų	2.37E-01	4.73E+00
Ethyl methacrylate	5.27E+01	sat	5.27E+01	sat	5.27E+01	sat	×	5.48E+02	ę	1.41E+00	2.81E+01
Ethylbenzene	1.28E+02	sat	1.28E+02	sat	1.28E+02	sat	×	1.34E+03	2	1.01E+00	2.02E+01
Ethylene oxide	2.65E+00	ca	8.07E+00	ca	1.15E+02	g	×	2.41E-01	g	4.27E-05	8.54E-04
Fluoranthene	2.29E+03	nc	2.44E+04	ы	8.73E+03	ы		1.46E+03	ы	2.35E+02	4.69E+03
Fluorene	2.66E+03	ų	2.65E+04	ő	1.02E+04	ы П	×	2.43E+02	р	2.93E+00	5.85E+01
Fluoride	3.67E+03	nc	4.10E+04	пс	1.43E+04	nc		2.19E+03	2	3.29E+02	6.58E+03
Furan	5.53E+00	ц	2.12E+01	nc	1.83E+01	цс	×	6.08E+00	g	1.32E-03	2.63E-02
Heptachlor	1.08E+00	ca	4.26E+00	ca	3.63E+01	ca	_	1.47E-01	ca	3.12E-01	6.24E+00
Hexachlorobenzene	3.04E+00	ca	1.20E+01	g	1.02E+02	ca		4.15E-01	g	3.43E-02	6.86E-01
Hexachloro-1,3-butadiene	1.22E+01	ы	1.37E+02	рс	4.66E+01	ы		7.30E+00	ы	5.90E-01	1.18E+01
Hexachlorocyclopentadiene	3.66E+02	g	4.10E+03	ы	4.31E+02	ы		2.19E+02	ы	6.58E+01	1.32E+03
Hexachloroethane	6.11E+01	ы	6.84E+02	ы	2.33E+02	рu		3.65E+01	ы	1.04E-01	2.09E+00
n-Hexane	3.80E+01	sat	3.80E+01	sat	3.80E+01	sat	×	4.16E+02	ы	8.64E-01	1.73E+01
HMX	3.06E+03	ис	3.42E+04	nc	1.17E+04	ъ		1.83E+03	2	5.39E+00	1.08E+02
Hydrogen cyanide	2.24E+01	рс	8.22E+01	ы	7.33E+01	ы Б	×	6.20E+00	g	1.24E-03	2.47E-02
Indeno(1,2,3-c,d)pyrene	6.21E+00	ca	2.34E+01	ca	2.12E+02	ca		9.09E-01	ca	4.73E+00	9.46E+01
Iron	2.35E+04	é	1.00E+05	тах	9.29E+04	р		1.10E+04	р	2.77E+02	5.54E+03
Isobutanol	1.38E+04	ы	2.26E+04	sat	2.26E+04	sat	×	1.83E+03	р	4.86E-01	9.72E+00
Isophorone	5.12E+03	g	2.02E+04	ca	4.66E+04	ы		6.99E+02	ca	1.70E-01	3.40E+00
Lead	4.00E+02	IEUBK	8.00E+02	IEUBK	8.00E+02	IEUBK					

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	Residential	End-	Industrial/ Occupational₂	End-	Construction Worker Soil	End-	1	Tap Water	End-	DAF 1	DAF 20
Chemical	Soil (mg/kg)	point	Soil (mg/kg)	point	(mg/kg)	point	VOC	(ng/L)	point	(mg/kg)	(mg/kg)
Lead (tetraethyl-)	6.11E-03	пс	6.84E-02	2	2.38E-02	S		3.65E-03	ž	6.33E-07	1.27E-05
Maleic hydrazide	1.61E+03	sat	1.61E+03	sat	1.61E+03	sat	×	3.04E+03	22	8.12E-01	1.62E+01
Manganese	3.59E+03	nc	4.84E+04	nc	1.50E+02	р		1.72E+03	ũ	1.12E+02	2.24E+03
Mercury (elemental)	1.00E+05	тах	1.00E+05	max	9.27E+02	nc				1.05E-01	2.09E-03
Mercury (methyl)	6.11E+00	ы	6.84E+01	nc	2.38E+01	nc		3.65E+00	ы	8.26E-04	1.65E-02
Methacrylonitrile	3.84E+00	ы	2.20E+01	nc	1.37E+01	ő	×	1.04E+00	ы	1.83E-04	3.65E-03
Methomyl	8.44E+01	ыc	3.17E+02	nc	2.78E+02	ű	×	1.52E+02	ы	5.74E-02	1.15E+00
Methyl acetate	3.76E+04	лс	1.00E+05	тах	1.00E+05	тах	×	6.08E+03	ы	1.08E+00	2.15E+01
Methyl acrylate	9.28E+01	nc	1.57E+02	sat	1.57E+02	sat	×	1.83E+02	ы	4.64E-01	9.29E+00
Methył isobutył ketone	5.51E+03	nc	7.01E+03	sat	7.01E+03	sat	×	1.99E+03	ų	7.35E-01	1.47E+01
Methyl methacrylate	2.92E+03	sat	2.92E+03	sat	2.92E+03	sat	×	1.42E+03	2	2.76E-01	5.52E+00
Methyl styrene (alpha)	2.17E+02	sat	2.17E+02	sat	2.17E+02	sat	×	4.26E+02	ы	3.08E-01	6.17E+00
Methył styrene (mixture)	1.39E+02	2	2.17E+02	sat	2.17E+02	sat	x	5.48E+01	ы	3.96E-02	7.93E-01
Methylcyclohexane	7.89E+01	sat	7.89E+01	sat	7.89E+01	sat	×	5.23E+03	nc	2.88E+01	5.77E+02
Methylene bromide	1.79E+02	nc	7.85E+02	ы	6.09E+02	пс	х	6.08E+01	ы	2.72E-02	5.44E-01
Methylene chloride	1.82E+02	ca	4.90E+02	ca	2.63E+03	sat	×	4.22E+01	ca	8.51E-03	1.70E-01
Molybdenum	3.91E+02	nc	5.68E+03	ы	1.55E+03	ы		1.83E+02	ů	3.70E+00	7.40E+01
Naphthalene	7.95E+01	nc	3.00E+02	цс	2.62E+02	ų	×	6.20E+00	ы	1.97E-02	3.94E-01
Nickel	1.56E+03	р	2.27E+04	рс	6.19E+03	ę		7.30E+02	ũ	4.77E+01	9.53E+02
Nitrate	1.00E+05	max	1.00E+05	тах	1.00E+05	тах		5.84E+04	р	1.67E+01	3.35E+02
Nitrite	7.82E+03	ЪС	1.00E+05	max	3.10E+04	ę		3.65E+03	2	7.63E-01	1.53E+01
Nitrobenzene	2.28E+01	nc	1.47E+02	nc	8.28E+01	ğ	×	3.40E+00	ы	9.18E-04	1.84E-02
Nitroglycerin	3,47E+02	ca	1.37E+03	ca	1.17E+04	ca		4.74E+01	g	2.80E-02	5.61E-01
N-Nitrosodiethylamine	3.24E-02	g	1.28E-01	ca	1.09E+00	g		4.42E-03	g	8.73E-06	1.75E-04
N-Nitrosodimethylamine	9.54E-02	g	3.76E-01	ca	1.86E+00	ñ		1.30E-02	ca	1.17E-05	2.34E-04
N-Nitrosodi-n-butylamine	2.69E-01	g	7.28E-01	са	1.24E+01	g	×	1.99E-02	ca	1.12E-05	2.24E-04
N-Nitrosodiphenylamine	9.93E+02	g	3.91E+03	ca	4.66E+03	ы		1.35E+02	ca	2.86E-01	5.71E+00
N-Nitrosopyrrolidine	2.32E+00	g	9.12E+00	ca	7.77E+01	g		3.16E-01	g	1.30E-04	2.60E-03
m-Nitrotoluene	5.69E+02	sat	5.69E+02	sat	5.69E+02	sat	×	1.22E+02	ž	3.30E-02	6.59E-01
o-Nitrotoluene	1.08E+01	g	3.23E+01	ca	4.73E+02	ca	×	4.81E-01	ca	1.30E-04	2.61E-03
p-Nitrotoluene	1.46E+02	ca	4.37E+02	ca	1.55E+03	ų	×	6.51E+00	g	1.76E-03	3.53E-02
Pentachlorobenzene	4.89E+01	ы	5.47E+02	2	1.86E+02	ЪС		2.92E+01	ы	9.37E-02	1.87E+00
	1,031.101	1	1	2							

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NMED Soil Screening Levels June 2006 Revision 4.0

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		-	Industrial/		Construction	-		Tap	-		
Chemical	Soil (mg/kg)	End- point	Soil (mg/kg)	End- point	worker soll (mg/kg)	End- point	VOC	vvater (ug/L)	ena- point	(mg/kg)	uar zu (mg/kg)
Pentachlorophenol	2.98E+01	ca	1.00E+02	ca	1.02E+03	ca		5.53E+00	ca	5.87E-03	1.17E-01
Phenanthrene	1.83E+03	ы	2.05E+04	рс	6.99E+03	ы		1.10E+03	nc	2.32E+01	4.64E+02
Phenol	1.83E+04	nc	1.00E+05	max	6.99E+04	ы		1.10E+04	ы	2.37E+00	4.74E+01
Polychlorinatedbiphenyls											
Aroclor 1016	3.93E+00	ы	4.13E+01	ы	1.50E+01	пс		2.56E+00	nc	1.73E-01	3.45E+00
Aroclor 1221	1.12E+00	nc	8.26E+00	ca	4.28E+00	ű		3.32E-01	g	2.24E-02	4.47E-01
Aroclor 1232	1.12E+00	пс	8.26E+00	ca	4.28E+00	ы		3.32E-01	g	2.24E-02	4.47E-01
Aroclor 1242	1.12E+00	nc	8.26E+00	ca	4.28E+00	ы		3.32E-01	g	2.24E-02	4.47E-01
Aroclor 1248	1.12E+00	nc	8.26E+00	ca	4.28E+00	цс		3.32E-01	ca	2.64E-01	5.28E+00
Aroclor 1254	1.12E+00	nc	8.26E+00	g	4.28E+00	ы		3.32E-01	ca	2.64E-01	5.28E+00
Aroclor 1260	1.12E+00	nc	8.26E+00	ca	4.28E+00	ы		3.32E-01	g	2.64E-01	5.28E+00
n-Propylbenzene	6.21E+01	sat	6.21E+01	sat	6.21E+01	sat	×	6.08E+01	ũ	2.70E-01	5.40E+00
Propylene oxide	2.22E+01	ca	9.33E+01	ca	7.92E+02	ы	×	2.18E+00	g	4.60E-04	9.20E-03
Pyrene	2.29E+03	nc	3.09E+04	nc	9.01E+03	ы	×	1.83E+02	ы	1.86E+01	3.73E+02
RDX	4.42E+01	ca	1.74E+02	ca	6.99E+02	g		6.03E+00	g	1.68E-03	3.36E-02
Selenium	3.91E+02	пс	5.68E+03	nc	1.55E+03	ы		1.83E+02	22	9.52E-01	1.90E+01
Silver	3.91E+02	ы	5.68E+03	ę	1.55E+03	ы		1.83E+02	ы	1.57E+00	3.13E+01
Strontium	4.69E+04	пс	1.00E+05	max	1.00E+05	тах		2.19E+04	nc	7.73E+02	1.55E+04
Styrene	1.00E+02	sat	1.00E+02	sat	1.00E+02	sat	×	1.62E+03	ы	5.23E-01	1.05E+01
1,2,4,5-Tetrachlorobenzene	1.83E+01	ы	2.05E+02	g	6.99E+01	ы		1.10E+01	ы	2.14E-02	4.29E-01
1,1,1,2-Tetrachloroethane	4.32E+01	ca	1.14E+02	ca	2.11E+03	g	×	4.27E+00	ca	1.25E-03	2.50E-02
1,1,2,2-Tetrachloroethane	5.55E+00	ca	1.46E+01	ca	2.71E+02	ca	×	5.46E-01	ca	1.60E-04	3.21E-03
Tetrachloroethene	1.25E+01	g	3.16E+01	ca	1.34E+02	sat	×	4.32E+00	ca	2.87E-03	5.74E-02
Thallium	5.16E+00	nc	7.49E+01	g	2.04E+01	ы		2.41E+00	ЦС	1.72E-01	3.43E+00
Toluene	2.52E+02	sat	2.52E+02	sat	2.52E+02	sat	×	2.27E+03	ы	1.08E+00	2.17E+01
Toxaphene	4.42E+00	ca	1.74E+01	ca	1.48E+02	g		6.03E-01	ca	2.33E-01	4.65E+00
Tribromomethane	6.21E+02	ca	2.46E+03	ca	4.44E+03	ы		2.44E+01	ca	1.73E-01	3.47E+00
1,1,2-Trichloro-1,2,2-trifluoroethane	3.28E+03	sat	3.28E+03	sat	3.28E+03	sat	×	5.92E+04	ы	1.68E+02	3.36E+03
1,2,4-Trichlorobenzene	6.93E+01	uc	2.69E+02	nc	2.30E+02	nc	×	7.16E+00	пс	2.04E-02	4,08E-01
1,1,1-Trichloroethane	5.63E+02	sat	5.63E+02	sat	5.63E+02	sat	×	3.17E+03	ы	1.33E+00	2.65E+01
1,1,2-Trichloroethane	1.19E+01	g	3.02E+01	ca	1.94E+02	пс	×	1.97E+00	ca	4.98E-04	9.95E-03
Trichloroethylene	6.38E-01	ca	1.56E+00	ca	3.36E+01	са	×	2.77E-01	са	1.00E-04	2.00E-03

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			Industrial/		Construction			Tap			
and the second	Residential	End-	Occupational	End-	Worker Soil	End-		Water	End-	DAF 1	DAF 20
Chemical	Soil (mg/kg)	point	Soil (mg/kg)	point	(mg/kg)	point	VOC	(ng/L)	point	(mg/kg)	(mg/kg)
Trichtorofluoromethane	5.88E+02	ы	9.83E+02	sat	9.83E+02	sat	×	1.29E+03	é	1.12E+00	2.23E+01
2,4,5-Trichtorophenot	6.11E+03	ນ ມ	6.84E+04	ы	2.33E+04	nc		3.65E+03	2	7.13E+00	1.43E+02
2,4,6-Trichlorophenol	6.11E+00	2	6.84E+01	nc	2.33E+01	р		3.65E+00	é	7.13E-03	1.43E-01
1,1,2-Trichloropropane	2.53E+01	ų	9.64E+01	пс	8.35E+01	ы	×	3.04E+01	ũ	1.17E-02	2.35E-01
1,2,3-Trichloropropane	8.61E-02	g	2.09E-01	ca	4.57E+00	ca	×	5.53E-02	g	2.07E-05	4.14E-04
1,2,3-Trichloropropene	1.21E+00	22	4.39E+00	nc	3.95E+00	рс	×	2.10E+00	ы	7.88E-04	1.58E-02
Triethylamine	4.90E+01	2C	2.33E+02	nc	1.69E+02	ы	×	1.21E+01	2	2.14E-03	4.29E-02
1,2,4-Trimethylbenzene	5.80E+01	рс	2.13E+02	ŋc	1.90E+02	nc	×	1.23E+01	ű	7.09E-02	1.42E+00
1,3,5-Trimethylbenzene	2.48E+01	2	6.92E+01	sat	6.92E+01	sat	×	1.23E+01	2	1.77E-02	3.55E-01
2,4,6-Trinitratoluene	3.06E+01	ы	3.42E+02	nc	1.17E+02	рс		1.83E+01	ę	5.34E-02	1.07E+00
Vanadium	7.82E+01	υ	1.14E+03	nc	3.10E+02	р		3.65E+01	ပို	3.65E+01	7.30E+02
Vinyt acetate	1.07E+03	ы	3.68E+03	sat	3.52E+03	nc	×	4.12E+02	ę	7.57E-02	1.51E+00
Vinyl bromide	2.85E+00	ca	6.84E+00	ca	1.93E+01	ы	×	1.18E+00	g	4.71E-04	9.41E-03
Vinyl chloride (Child)	2.25E+00	ca					×	4 .28E-01	ca	1.40E-04	2.80E-03
Vinyl chloride (adult)	4.37E+00	ca	1.40E+01	ß	1.82E+02	ß	×	8.33E-01	g	2.72E-04	5.45E-03
m-Xylene	8.20E+01	sat	8.20E+01	sat	8.20E+01	sat	×	2.03E+02	ę	1.03E-01	2.06E+00
o-Xvlene	9.95E+01	sat	9.95E+01	sat	9.95E+01	sat	×	7.30E+03	é	4.07E+00	8.14E+01
Xylenes	8.20E+01	sat	8.20E+01	sat	8.20E+01	sat	×	2.03E+02	ų	1.03E-01	2.06E+00
Zinc	2.35E+04	ы	1.00E+05	max	9.29E+04	ЦС		1.10E+04	ы С	6.82E+02	1.36E+04

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	Default Exposu	re Factors	
Symbol	Definition (units)	Default	Reference
CSF。	Cancer slope factor oral (mg/kg-day)	Chemspec.	IRIS, HEAST, or NCEA
		,	
CSF;	Cancer slope factor inhaled (mg/kg-day)	Chemspec.	IRIS, HEAST, or NCEA
RfD。	Reference dose oral (mg/kg-day)	Chemspec.	IRIS, HEAST, or NCEA
RfDi	Reference dose inhaled (mg/kg-day)	Chemspec.	IRIS, HEAST, or NCEA
TR	Target cancer risk	1E-05	NMED-specific value
THQ	Target hazard quotient	1	US EPA, 1989
BW	Body weight (kg)		
	adult	70	US EPA, 1989
	- child	15	US EPA, 1991
AT	Averaging time (days)	10	00 El A, 1881
		05550	
	carcinogens	25550	US EPA, 1989
	noncarcinogens	ED*365	
SA	Exposed surface area for soil/dust		US EPA, 198 9
04	(cm²/day)		00 El A, 1980
	 adult resident 	5700	US EPA, 1996a
	 adult worker 	3300	US EPA, 1996a
	child	2800	US EPA, 1989
AF	Adherence factor, soils (mg/cm ²)	2000	US EPA, 1989
73	– adult resident	0.07	
		0.07	US EPA, 1996a
	– adult worker	0.2	US EPA, 1996a
	child resident	0.2	US EPA, 1989
	 – construction worker 	0.3	NMED-specific value
ABS	Skin absorption defaults (unitless):		
	 semi-volatile organics 	0.1	US EPA, 1989
	- volatile organics	na	US EPA, 2003a
	- inorganics	na	US EPA, 2000s
IRA	Inhalation rate (m ³ /day)	na	88 El A, 20003
INA		20	10 504 1001
	adult resident	20	US EPA, 1991
	 adult worker 	20	US EPA, 2001a
	child resident	10	Exposure Factors, (US EPA, 1997
IRW	Drinking water ingestion rate (L/day)		
	adult	2	US EPA, 2004b
	child	1	US EPA, 2004b
IRS	Soil ingestion (mg/day)		·
	adult resident	100	US EPA, 1991
	child resident	200	US EPA, 1991
	commercial/industrial worker	100	US EPA, 2001a
	construction worker	330	US EPA, 1991
EF	Exposure frequency (days/yr)		
	residential	350	US EPA, 1991
	commercial/industrial	225	US EPA, 2001a
	 construction worker 	250	NMED-specific value
ED	Exposure duration (years)		,
	- residential	30ª	US EPA, 1991)
	child	6	(US EPA, 1991)
	commercial/industrial	25	(US EPA, 1999)
	 construction worker 	1	NMED-specific value
	Age-adjusted factors for carcinogens		
IFSadj	Ingestion factor, soils ([mg-yr]/[kg-day])	114	US EPA, 2001a
SFSadj	Dermal factor, soils ([mg-yr]/[kg-day])	361	US EPA, 2001a
•			By analogy to RAGS: Part B, (US
InhFadj	Inhalation factor, air ([m³-yr]/[kg-day])	11	EPA, 1991)
			By analogy to RAGS: Part B, (US
IFWadj	Ingestion factor, water ([L-yr]/[kg-day])	1.1	
•		Ober	EPA, 1991)
PEF	Particulate emission factor (m ³ /kg)	Chemspec.	US EPA, 2001a
VFs	Volatilization factor for soil (m ³ /kg)	Chemspec.	US EPA, 2001a
VFw	Volatilization factor for water (L/m ³)	0.5	US EPA, 1991
Csat	Soil saturation concentration (mg/kg)	Chemspec.	US EPA, 2001a

*Exposure duration for lifetime residents is assumed to be 30 years total. For carcinogens, exposures are combined for children (6 years) and adults (24 years). Chem.-spec.- Chemical-specific value na - not applicable

RAGS - Risk Assessment Guidance for Superfund

IRIS - Integrated Risk Information System, USEPA, 2003b

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HEAST – Health Effects Assessment Summary Tables, USEPA, 1997 NCEA – National Center for Environmental Assessment, Office of Research and Development (USEPA, 2003c)

NMED - New Mexico Environment Department

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APPENDIX B

Table B-1: Physical and Chemical Properties

	AANA/	H i	3	C	۵	لا	۲	S	C	KE	CAT
Chemical	(g/mole)	m ³ /mole)	dimensionless)	(cm ² /s)	(cm ² /s)	(cm ³ /g)	(cm ³ /g)	water)	(cm ² /s)	(m ³ /kg)	(mg/kg)
Acenaphthene	154.21	1.6E-04	6.36E-03	4.21E-02	7.69E-06	4.90E+03	7.35E+00	4.24E+00	4.13E-07	1.93E+05	3.19E+01
Acetaldehyde	44	7.8E-05	3.20E-03	1.20E-01	1.40E-05	1.80E+01	2.70E-02	1.00E+06	2.28E-05	2.60E+04	2.01E+05
Acetone	58	3.9E-05	1.60E-03	1.20E-01	1.10E-05	5.80E-01	8.70E-04	1.00E+06	1.40E-05	3.31E+04	1.74E+05
Acrylonitrile	53	8.8E-05	3.60E-03	1.08E-01	1.34E-05	8.50E-01	1.28E-03	7.90E+04	2.64E-05	2.42E+04	1.38E+04
Acetophenone	120	1.1E-05	4.51E-04	6.00E-02	8.70E-06	4.62E+01	6.93E-02	6.10E+03	2.59E-06	7.71E+04	1.48E+03
Acrolein	56	1.2E-04	4.90E-03	1.05E-01	1.22E-05	2.10E+01	3.15E-02	2.10E+05	2.86E-05	2.32E+04	4.31E+04
Aldrin	365	1.7E-04	6.97E-03	1.32E-02	4.86E-06	2.45E+06	3.68E+03	1.80E-01			
Aluminum	26.98	2.4E-02	1.00E+00			1.43E+01	1.50E+03				
Anthracene	178	6.5E-05	2.67E-03	3.24E-02	7.74E-06	2.95E+04	4.43E+01	4.34E-02	2.73E-08	7.51E+05	1.93E+00
Antimony	121.75	2.4E-02	1.00E+00			1.43E+01	4.50E+01				
Arsenic	74.92	7.7E-01	3.16E+01			1.43E+01	2.90E+01				
Barium	137.33	2.4E-02	1.00E+00			1.43E+01	4.10E+01				
Benzene	78.1	5.6E-03	2.28E-01	8.80E-02	9.80E-06	5.89E+01	8.84E-02	1.75E+03	7.30E-04	4.59E+03	5.06E+02
Benzidine	184.23	7.0E-11	2.88E-09	3.40E-02	1.50E-05	2.74E+03	4.11E+00	3.22E+02			
Benzo(a)anthracene	228	3.3E-06	1.37E-04	5.10E-02	9.00E-06	3.98E+05	5.97E+02	9.40E-03			
Benzo(a)pyrene	250	1.1E-06	4.63E-05	4.30E-02	9.00E-06	1.02E+06	1.53E+03	1.62E-03			
Benzo(b)fluoranthene	252.3	1.1E-04	4.55E-03	2.26E-02	5.56E-06	1.23E+06	1.85E+03	1.50E-03			
Benzo(k)fluoranthene	252.3	8.3E-07	3.40E-05	2.26E-02	5.56E-06	1.23E+06	1.85E+03	8.00E-04			
Beryllium	9.01	2.4E-02	1.00E+00			1.43E+01	7.90E+02				
a-BHC	290.85	1.1E-05	4.35E-04	1.42E-02	7.34E-06	1.23E+03	1.85E+00	2.00E+00			
B-BHC	290.85	7.4E-07	3.05E-05	1.42E-02	7.34E-06	1.26E+03	1.89E+00	2.40E-01			
y-BHC	290.85	1.4E-05	5.74E-04	1.42E-02	7.34E-06	1.07E+03	1.61E+00	6.80E+00		1	
1,1-Biphenyl	150	2.9E-04	1.20E-02	4.00E-02	8.20E-06	7.80E+03	1.17E+01	7.50E+00	4.50E-07	1.85E+05	8.91E+01
Bis(2-chloroethvl) ether	140	1.8E-05	7.38E-04	6.92E-02	7.53E-06	7.60E+01	1.14E-01	1.72E+04	2.90E-06	7.29E+04	4.94E+03
Bis(2-chloroisopropyl) ether	170	1.1E-04	4.60E-03	6.30E-02	6.40E-06	6.17E+01	9.25E-02	1.70E+03	1.23E-05	3.53E+04	4.53E+02
Bis(2-ethvlhexvl) phthalate	390.54	1.0E-07	4.18E-06	3.51E-02	3.66E-06	1.51E+07	2.27E+04	3.40E-01			7.70E+03
Bis(chloromethyl) ether	120	2.0E-04	8.20E-03	8.90E-02	9.40E-06	1.20E+00	1.80E-03	2.20E+04	4.55E-05	1.84E+04	3.87E+03
Boron	10.81	2.4E-02	1.00E+00			1.43E+01	3.00E+00				
Bromobenzene	157.02	3.7E-03	1.50E-01	7.30E-02	8.70E-06	2.20E+02	3.30E-01	4.70E+02	2.21E-04	8.36E+03	2.45E+02
Bromodichloromethane	164	1.6E-03	6.56E-02	2.98E-02	1.06E-05	1.00E+02	1.50E-01	6.74E+03	6.31E-05	1.56 <u>E</u> +04	2.23E+03

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	MM (1)	(atm-	H' H'	Da	Dw	K _{ac}	K _d	(mg/L-	D _A	VF Vra ³ /ba)	SAT
Bromomethane	19/1101e1	6.2F-03	2.56E-01	7.28E-02	1.21E-05	9.00E+00	1.35E-02	1.52E+04	9.03E-04	4.13E+03	3.31E+03
1.3-Butadiene	54	1.8E-01	7.30E+00	9.80E-02	1.10E-05	1.20E+02	1.80E-01	7.40E+02	6.24E-03	1.57E+03	9.10E+02
2-Butanone (MEK)	72	2.7E-05	1.10E-03	9.00E-02	9.80E-06	4.50E+00	6.75E-03	2.70E+05	7.91E-06	4.41E+04	4.87E+04
tert-Butyl methyl ether (MTBE)	88.2	5.9E-04	2.40E-02	8.00E-02	1.00E-05	6.00E+00	9.00E-03	1.50E+05	1.11E-04	1.18E+04	2.78E+04
<i>n</i> -Butylbenzene	130	1.3E-02	5.40E-01	7.50E-02	7.80E-06	2.80E+03	4.20E+00	1.40E+01	9.56E-05	1.27E+04	6.21E+01
sec-Butylbenzene	130	1.9E-02	7.70E-01	7.50E-02	7.80E-06	2.20E+03	3.30E+00	1.70E+01	1.70E-04	9.53E+03	6.06E+01
tert-Butylbenzene	130	1.3E-02	5.20E-01	7.50E-02	7.80E-06	2.20E+03	3.30E+00	3.00E+01	1.16E-04	1.15E+04	1.06E+02
Cadmium	112.41	2.4E-02	1.00E+00	-		1.43E+01	7.50E+01				
Carbon disulfide	76	2.9E-02	1.20E+00	1.04E-01	1.00E-05	4.60E+01	6.90E-02	1.19E+03	3.42E-03	2.12E+03	4.60E+02
Carbon tetrachloride	154	3.0E-02	1.25E+00	7.80E-02	8.80E-06	1.74E+02	2.61E-01	7.93E+02	1.76E-03	2.96E+03	4.63E+02
Chlordane	409.8	4.9E-05	1.99E-03	1.18E-02	4.37E-06	1.20E+05	1.80E+02	5.60E-02			
2-Chloroacetophenone	154.59	3.7E-02	1.50E+00	7.20E-02	6.80E-06	3.30E+02	4.95E-01	4.70E+02	1.34E-03	3.39E+03	3.99E+02
2-Chloro-1,3-butadiene	88	3.2E-02	1.30E+00	1.10E-01	1.10E-05	5.00E+01	7.50E-02	7.40E+02	3.75E-03	2.03E+03	2.99E+02
1-Chloro-1,1-difluoroethane	100.5	1.0E-01	4.10E+00	8.00E-02	1.10E-05	5.80E+01	8.70E-02	2.80E+02	4.67E-03	1.82E+03	2.11E+02
Chlorobenzene	113	3.7E-03	1.50E-01	7.30E-02	8.70E-06	2.19E+02	3.29E-01	4.72E+02	2.21E-04	8.34E+03	2.45E+02
1-Chlorobutane	92.57	3.2E-02	1.30E+00	1.10E-01	1.10E-05	5.00E+01	7.50E-02	7.40E+02	3.75E-03	2.03E+03	2.99E+02
Chlorodifluoromethane	86.47	1.0E-01	4.10E+00	8.00E-02	1.10E-05	5.80E+01	8.70E-02	2.80E+02	4.67E-03	1.82E+03	2.11E+02
Chloroethane	65	1.1E-02	4.50E-01	1.00E-01	1.20E-05	1.50E+01	2.25E-02	5.70E+03	1.90E-03	2.85E+03	1.42E+03
Chloroform	120	3.7E-03	1.50E-01	1.04E-01	1.00E-05	3.98E+01	5.97E-02	7.92E+03	6.53E-04	4.86E+03	1.99E+03
Chloromethane	51	2.4E-02	9.80E-01	1.09E-01	6.50E-06	3.50E+01	5.25E-02	8.20E+03	3.29E-03	2.16E+03	2.82E+03
ß-Chloronaphthalene	160	3.2E-04	1.30E-02	3.50E-02	8.80E-06	1.60E+03	2.40E+00	1.20E+01	1.98E-06	8.81E+04	3.09E+01
o-Chloronitrobenzene	153.33	4.4E-05	1.80E-03	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	6.54E-06	4.85E+04	5.69E+02
p-Chloronitrobenzene	153.33	5.1E-05	2.10E-03	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	7.42E-06	4.56E+04	5.69E+02
2-Chlorophenol	130	3.9E-04	1.60E-02	5.01E-02	9.46E-06	4.00E+02	6.00E-01	2.20E+04	1.13E-05	3.69E+04	1.71E+04
2-Chloropropane	78.54	2.3E-03	9.40E-02	8.00E-02	1.00E-05	5.10E+01	7.65E-02	2.70E+03	3.03E-04	7.13E+03	7.05E+02
o-Chlorototuene	172.57	3.4E-03	1.40E-01	7.20E-02	8.70E-06	1.60E+02	2.40E-01	4.70E+02	2.46E-04	7.91E+03	2.02E+02
Chromium III	52						1.80E+06				
Chromium VI	52						1.90E+01				
Chrysene	228.28	9.5E-05	3.88E-03	2.48E-02	6.21E-06	3.98E+05	5.97E+02	1.60E-03	2.10E-09	2.71E+06	9.55E-01
Cobalt	58.93	2.4E-02	1.00E+00			1.43E+01	4.50E+01				
Copper	63.55	2.4E-02	1.00E+00			1.43E+01	3.50E+01				
Crotonaldehyde	70.09	2.4E-01	1.00E+01	9.10E-02	1.00E-05	8.40E+02	1.26E+00	2.00E+01	3.67E-03	2.05E+03	5.27E+01

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	MW Volomici	(atm-	H' (dimonelonlese)	D _a (cm ² /c)	Dw (cm ² /c)	K _{3c} (cm ^{3/n})	K _d (cm ³ /d)	(mg/L- water)	D _A (cm ² /s)	VF (m ³ /ka)	SAT (ma/ka)
Crimena (isonronvlhanzana)	120	1.2E+00	4.90E+01	7.50E-02	7.10E-06	2.20E+02	3.30E-01	6.10E+01	6.22E-03	1.57E+03	3.89E+02
Cvanide	27.03		5.44E-03			2.71E+00	9.90E+00				
Cvanogen	52	5.1E-03	2.10E-01	2.00E-01	1.40E-05	1.40E+00	2.10E-03	8.50E+03	2.20E-03	2.64E+03	1.71E+03
Cvanogen bromide	52	5.1E-03	2.10E-01	9.60E-02	1.00E-05	2.60E+01	3.90E-02	8.50E+03	8.93E-04	4.15E+03	2.02E+03
Cvanogen chloride	52	5.1E-03	2.10E-01	9.60E-02	1.00E-05	2.60E+01	3.90E-02	8.50E+03	8.93E-04	4.15E+03	2.02E+03
DDD	320	4.0E-06	1.64E-04	1.69E-02	4.76E-06	1.00E+06	1.50E+03	9.00E-02			
DDE	318	2.1E-05	8.61E-04	1.44E-02	5.87E-06	4.47E+06	6.71E+03	1.20E-01			
DDT	354.5	8.1E-06	3.32E-04	1.37E-02	4.95E-06	2.63E+06	3.95E+03	2.50E-02			
Dibenz(a.h)anthracene	278.3	1.5E-08	6.03E-07	2.02E-02	5.18E-06	3.80E+06	5.70E+03	2.49E-03			
Dibenzofuran	284.8	1.3E-05	5.33E-04	6.01E-02	1.00E-05	7.76E+03	1.16E+01	3.10E+00	6.20E-08	4.98E+05	3.66E+01
1 2-Dibromo-3-chloropropane	240	1.5E-04	6.00E-03	8.00E-02	8.00E-06	1.70E+02	2.55E-01	1.20E+03	1.24E-05	3.52E+04	5.15E+02
Dibromochloromethane	210	8.5E-04	3.50E-02	2.00E-02	1.00E-05	6.30E+01	9.45E-02	4.40E+03	2.84E-05	2.33E+04	1.20E+03
1.2-Dibromoethane	188	3.2E-04	1.30E-02	7.33E-02	8.06E-06	2.80E+01	4.20E-02	3.40E+03	4.75E-05	1.80E+04	7.37E+02
1.4-Dichloro-2-butene	130	2.7E-04	1.10E-02	7.30E-02	8.10E-06	4.80E+01	7.20E-02	2.80E+03	3.54E-05	2.09E+04	6.91E+02
1,2-Dichlorobenzene	147	1.9E-03	7.79E-02	6.90E-02	7.90E-06	3.80E+01	5.70E-02	1.56E+02	2.36E-04	8.07E+03	3.74E+01
1.3-Dichlorobenzene	147	1.9E-03	7.80E-02	6.90E-02	7.90E-06	3.80E+01	5.70E-02	1.56E+02	2.37E-04	8.07E+03	3.74E+01
1.4-Dichlorobenzene	147	2.4E-03	9.96E-02	6.90E-02	7.90E-06	6.16E+02	9.24E-01	7.38E+01	6.51E-05	1.54E+04	8.19E+01
3 3-Dichlorobenzidine	253.13	4.0E-09	1.64E-07	1.94E-02	6.74E-06	7.24E+02	1.09E+00	3.11E+00			
Dichlorodifluoromethane	120	1.0E-01	4.10E+00	8.00E-02	1.05E-05	5.80E+01	8.70E-02	2.80E+02	4.67E-03	1.82E+03	2.11E+02
1 1-Dichloroethane	66	5.6E-03	2.30E-01	7.42E-02	1.05E-05	5.30E+01	7.95E-02	5.06E+03	6.40E-04	4.90E+03	1.42E+03
1 2-Dichloroethane	66	9.8E-04	4.01E-02	1.04E-01	9.90E-06	3.80E+01	5.70E-02	8.52E+03	1.87E-04	9.07E+03	2.00E+03
cis-1.2-Dichloroethene	67	4.1E-03	1.67E-01	7.36E-02	1.13E-05	3.55E+01	5.33E-02	3.50E+03	5.25E-04	5.42E+03	8.63E+02
trans-1.2-Dichloroethene	26	9.4E-03	3.85E-01	7.07E-02	1.19E-05	3.80E+01	5.70E-02	6.30E+03	1.04E-03	3.85E+03	1.74E+03
1,1-Dichloroethene	67	2.7E-02	1.10E+00	9.00E-02	1.00E-05	6.50E+01	9.75E-02	2.30E+03	2.60E-03	2.43E+03	9.27E+02
2.4-Dichlorophenol	163	3.2E-06	1.30E-04	3.46E-02	8.77E-06	1.47E+02	2.21E-01	4.50E+03			
1.2-Dichloropropane	110	2.7E-03	1.10E-01	7.80E-02	8.70E-06	4.40E+01	6.60E-02	2.80E+03	3.58E-04	6.56E+03	7.07E+02
1.3-Dichloropropene	111	1.8E-02	7.26E-01	6.26E-02	1.00E-05	2.70E+01	4.05E-02	2.80E+03	1.60E-03	3.11E+03	8.43E+02
Dicvclopentadiene	130	1.1E-02	4.40E-01	6.70E-02	1.00E-05	5.70E+02	8.55E-01	1.80E+03	2.86E-04	7.34E+03	1.95E+03
Dieldrin	381	1.5E-05	6.19E-04	1.25E-02	4.74E-06	2.14E+04	3.21E+01	1.95E-01			
Diethyl phthalate	222.2	4.5E-07	1.85E-05	2.56E-02	6.35E-06	2.88E+02	4.32E-01	1.08E+03			
Dimethyl phthalate	194.19	4.1E-07	1.70E-05	5.68E-02	6.29E-06	3.71E+01	5.56E-02	4.00E+03			
Di-n-butyi phthalate	278.34	9.4E-10	3.85E-08	4.38E-02	7.86E-06	3.39E+04	5.09E+01	1.12E+01			

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Chemical	(g/mole)	m³/mole)	(dimensionless)	(cm^2/s)	(cm ² /s)	(cm ³ /g)	(cm ³ /g)	water)	(cm ² /s)	(m ³ /kg)	(mg/kg)
2,4-Dimethylphenol	122.16	2.0E-06	8.20E-05	5.84E-02	8.69E-06	2.09E+02	3.14E-01	7.87E+03			
4,6-Dinitro-o-cresol	198.14	1.4E-06	5.72E-05	2.93E-02	6.91E-06	6.02E+02	9.02E-01	1.98E+02			
2,4-Dinitrophenol	184.11	8.6E-08	3.52E-06	2.73E-02	9.06E-06	3.64E+02	5.46E-01	2.79E+03			
2,4-Dinitrotoluene	182.14	9.3E-08	3.80E-06	2.03E-01	7.06E-06	9.55E+01	1.43E-01	2.70E+02			
1,2-Diphenythydrazine	184.24	4.6E-11	1.90E-09	3.17E-02	7.36E-06	3.48E+03	5.22E+00	2.21E+02			
Endosulfan	406.95	1.1E-05	4.59E-04	1.15E-02	4.55E-06	2.14E+03	3.21E+00	5.10E-01			
Endrin	381	7.5E-06	3.08E-04	1.25E-02	4.74E-06	1.23E+04	1.85E+01	2.50E-01			
Epichlorohydrin	93	3.2E-05	1.30E-03	8.80E-02	9.80E-06	3.50E+00	5.25E-03	6.00E+04	8.88E-06	4.17E+04	1.07E+04
Ethyl acetate	88	1.4E-04	5.70E-03	7.30E-02	9.70E-06	5.90E+01	8.85E-02	8.00E+04	1.81E-05	2.92E+04	2.10E+04
Ethyl acrylate	100.1	2.4E-01	9.80E+00	9.10E-02	8.60E-06	8.40E+02	1.26E+00	2.00E+01	3.63E-03	2.06E+03	5.22E+01
Ethyl chloride	65	1.1E-02	4.50E-01	1.00E-01	1.20E-05	1.50E+01	2.25E-02	5.70E+03	1.90E-03	2.85E+03	1.42E+03
Ethyl ether	74.12	1.3E-05	5.30E-04	7.00E-02	9.30E-06	1.40E+01	2.10E-02	1.00E+04	3.90E-06	6.29E+04	1.94E+03
Ethył methacrylate	114.12	2.4E-01	1.00E+01	9.10E-02	8.60E-06	8.40E+02	1.26E+00	2.00E+01	3.67E-03	2.05E+03	5.27E+01
Ethylbenzene	106.2	7.9E-03	3.23E-01	7.50E-02	7.80E-06	3.63E+02	5.45E-01	1.69E+02	3.36E-04	6.77E+03	1.28E+02
Ethylene oxide	44	7.6E-05	3.10E-03	1.30E-01	1.50E-05	2.20E+00	3.30E-03	1.00E+06	2.72E-05	2.38E+04	1.77E+05
Fluoranthene	202.3	1.6E-05	6.60E-04	3.02E-02	6.35E-06	1.07E+05	1.61E+02	2.06E-01			
Fluorene	166.21	7.8E-05	3.20E-03	6.10E-02	7.88E-06	7.90E+03	1.19E+01	1.90E+00	1.96E-07	2.80E+05	2.28E+01
Fluoride	38	2.4E-02	1.00E+00			1.43E+01	1.50E+02	1.69E+00			
Furan	68	5.4E-03	2.20E-01	1.00E-01	1.20E-05	1.20E+01	1.80E-02	1.00E+04	1.06E-03	3.81E+03	2.18E+03
Heptachlor	373.5	1.1E-03	4.47E-02	1.12E-02	5.69E-06	1.41E+06	2.12E+03	1.80E-01			
Hexachlorobenzene	284.8	1.3E-03	5.41E-02	5.42E-02	5.91E-06	5.50E+04	8.25E+01	6.20E+00			
Hexachloro-1,3-butadiene	260.76	8.1E-03	3.34E-01	5.61E-02	6.16E-06	5.37E+04	8.06E+01	3.23E+00			
Hexachlorocyclopentadiene	272.75	2.7E-02	1.11E+00	1.61E-02	7.21E-06	2.00E+05	3.00E+02	1.80E+00			
Hexachloroethane	236.74	3.9E-03	1.59E-01	2.50E-03	6.80E-06	1.78E+03	2.67E+00	5.00E+01			
n-Hexane	86	1.2E-01	5.00E+00	2.00E-01	7.80E-06	8.90E+02	1.34E+00	1.80E+01	5.01E-03	1.75E+03	3.80E+01
HMX	296.2	1.0E-11	4.10E-10			1.85E+03	2.78E+00	2.56E+03			
Hydrogen cyanide	27	1.3E-04	5.30E-03	1.80E-01	1.80E-05	1.70E+01	2.55E-02	1.00E+06	5.36E-05	1.69E+04	1.99E+05
Indeno(1,2,3-c,d)pyrene	276.3	1.6E-06	6.56E-05	1.90E-02	5.66E-06	3.47E+06	5.21E+03	2.20E-05			
Iron	55.84	2.4E-02	1.00E+00			1.43E+01	2.50E+01				
Isobutanol	74	1.2E-05	4.90E-04	8.60E-02	9.30E-06	6.20E+01	9.30E-02	8.50E+04	3.04E-06	7.12E+04	2.26E+04
Isophorone	138.21	6.6E-06	2.72E-04	6.23E-02	6.76E-06	4.68E+01	7.02E-02	1.20E+04			
Lead	207.2	2.4E-02	1.00E+00			1.43E+01	9.00E+02				

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Chemical	MW (g/mole)	(atm- m³/mole)	H' (dimensionless)	D _a (cm ² /s)	D _w (cm²/s)	K _{oc} (cm ³ /g)	K _d (cm ³ /g)	(mg/L- water)	D _A (cm ² /s)	VF (m ³ /kg)	SAT (mg/kg)
lead (Tetraethyl-)	64.52										
Maleic hydrazide	110	6.6E-03	2.70E-01	9.00E-02	1.10E-05	4.20E+01	6.30E-02	6.00E+03	9.52E-04	4.02E+03	1.61E+03
Manganese	54.94	2.4E-02	1.00E+00			1.43E+01	6.50E+01				
Mercury (elemental)	200.59	2.4E-02	1.00E+00	3.07E-02	6.30E-06	1.43E+01	5.20E+01				
Mercury (methyl)	215.62	1.1E-02	4.67E-01			1.43E+01					
Methacrylonitrile	67.09	8.8E-05	3.60E-03	1.10E-01	1.30E-05	8.40E-01	1.26E-03	7.90E+04	2.66E-05	2.41E+04	1.38E+04
Methomyl	160	3.9E-02	1.60E+00	6.90E-02	1.00E-05	1.50E+01	2.25E-02	1.70E+05	3.03E-03	2.25E+03	6.59E+04
Methyl acetate	74.08	2.0E-05	8.40E-04	1.00E-01	1.00E-05	2.20E+00	3.30E-03	1.00E+06	7.22E-06	4.62E+04	1.77E+05
Methyl acrylate	86.09	2.4E-01	9.80E+00	9.10E-02	8.60E-06	8.40E+02	1.26E+00	6.00E+01	3.63E-03	2.06E+03	1.57E+02
Methyl isobutyl ketone	100	1.4E-04	5.70E-03	7.50E-02	7.80E-06	1.30E+02	1.95E-01	1.90E+04	1.30E-05	3.45E+04	7.01E+03
Methyl methacrylate	100	3.4E-04	1.40E-02	7.70E-02	8.60E-06	1.30E+01	1.95E-02	1.50E+04	5.98E-05	1.61E+04	2.92E+03
Methyl styrene (alpha)	118.18	2.3E-03	9.40E-02	7.10E-02	8.00E-06	3.60E+02	5.40E-01	3.00E+02	9.69E-05	1.26E+04	2.17E+02
Methyl styrene (mixture)	118.18	2.3E-03	9.40E-02	7.10E-02	8.00E-06	3.60E+02	5.40E-01	3.00E+02	9.69E-05	1.26E+04	2.17E+02
Methylcyclohexane	98	4.4E-01	1.80E+01	7.00E-02	9.00E-06	2.20E+03	3.30E+00	1.40E+01	2.37E-03	2.55E+03	7.89E+01
Methylene bromide	170	9.0E-04	3.70E-02	8.00E-02	8.00E-06	1.80E+02	2.70E-01	1.20E+04	6.99E-05	1.48E+04	5.37E+03
Methylene chloride	85	2.2E-03	9.00E-02	1.00E-01	1.20E-05	1.20E+01	1.80E-02	1.30E+04	4.69E-04	5.73E+03	2.63E+03
Molybdenum	95.94	2.4E-02	1.00E+00			1.43E+01	2.00E+01				
Naphthalene	128.16	4.8E-04	1.98E-02	5.90E-02	7.50E-06	2.00E+03	3.00E+00	3.10E+01	3.94E-06	6.25E+04	9.84E+01
Nickel	58.71	2.4E-02	1.00E+00			1.43E+01	6.50E+01				
Nitrate	101.1	2.4E-02	1.00E+00			1.43E+01					
Nitrite	46	2.0E-07	8.38E-06			2.37E+01	3.56E-02				
Nitrobenzene	120	2.4E-05	9.84E-04	7.60E-02	8.60E-06	6.46E+01	9.69E-02	2.10E+03	4.16E-06	6.09E+04	5.68E+02
Nitroglycerin	227.08	6.1E-03	2.50E-01			2.60E+02	3.90E-01	1.80E+03			
N-Nitrosodiethylarnine	102.14	3.7E-06	1.50E-04	6.48E-02	9.13E-06	1.20E+03	1.80E+00	1.06E+05			
N-Nitrosodimethylamine	74.08	1.4E-01	5.90E+00	3.12E-02	6.35E-06	3.82E+01	5.73E-02	1.00E+06			
N-Nitrosodi-n-butylamine	158.2	3.2E-04	1.31E-02	5.80E-02	9.72E-06	2.60E+02	3.90E-01	1.27E+03	1.48E-05	3.23E+04	7.17E+02
N-Nitrosodiphenvlamine	198.23	5.0E-06	2.05E-04	3.12E-02	6.35E-06	1.29E+03	1.94E+00	3.51E+01			7.40E+01
N-Nitrosopyrrolidine	100.2	4.9E-08	2.00E-06			1.59E+02	2.38E-01	1.00E+06			
<i>m</i> -Nitrotoluene	137.1	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.14E-06	6.10E+04	5.69E+02
o-Nitrotoluene	137.13	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.14E-06	6.10E+04	5.69E+02
p-Nitrotoluene	137.1	2.4E-05	9.80E-04	7.60E-02	8.60E-06	6.50E+01	9.75E-02	2.10E+03	4.14E-06	6.10E+04	5.69E+02
Pentachlorobenzene	250.32	7.1E-03	2.90E-01	5.70E-02	6.30E-06	2.00E+03	3.00E+00	8.31E+02			

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								NM	ED Soil Sci	NMED Soil Screening Levels June 2006 Revision 4.0	els 06 1.0
		T						S			
Chemical	MW (a/mole)	(atm- m³/mole)	H' (dimensionless)	Da (cm ² /s)	D _w (cm ² /s)	K _{oc} (cm ³ /g)	K _d (cm ³ /g)	(mg/L- water)	D _A (cm ² /s)	VF (m³/kg) -	SAT (mg/kg)
Pentachlorophenol	266.34	2.4E-08	1.00E-06	5.60E-02	6.10E-06	5.92E+02	8.88E-01	1.95E+03			
Phenanthrene	178.2	2.3E-05	9.40E-04			1.40E+04	2.10E+01	1.15E+00			
Phenoi	94	4.0E-07	1.63E-05	8.20E-02	9.10E-06	2.88E+01	4.32E-02	8.28E+04			
Polychlorinatedbiphenyls	(291.98 - 360.86)										
Aroclor 1016	variable	4.2E-02	1.73E+00	1.75E-02	8.00E-06	4.48E+04	6.72E+01	2.77E-01			
Aroclor 1221	variable	1.8E-08	7.40E-07	1.75E-02	8.00E-06	4.48E+04	6.72E+01	2.77E-01			
Aroclor 1232	variable	1.8E-08	7.40E-07	1.75E-02	8.00E-06	4.48E+04	6.72E+01	2.77E-01			
Aroclor 1242	variable	1.8E-08	7.40E-07	1.75E-02	8.00E-06	4.48E+04	6.72E+01	2.77E-01			
Aroclor 1248	variable	1.8E-08	7.40E-07	5.70E+03	6.00E-01	5.30E+05	7.95E+02	2.77E-01			
Aroctor 1254	variable	1.8E-08	7.40E-07	5.70E+03	6.00E-01	5.30E+05	7.95E+02	2.77E-01			
Aroclor 1260	variable	1.8E-08	7.40E-07	5.70E+03	6.00E-01	5.30E+05	7.95E+02	2.77E-01			
n-Propylbenzene	120.19	1.3E-02	5.40E-01	7.50E-02	7.80E-06	2.80E+03	4.20E+00	1.40E+01	9.56E-05	1.27E+04	6.21E+01
Propylene oxide	58	8.5E-05	3.50E-03	1.20E-01	1.30E-05	2.50E+01	3.75E-02	4.80E+05	2.33E-05	2.57E+04	1.01E+05
Pyrene	200	1.1E-05	4.51E-04	2.72E-02	7.24E-06	6.80E+04	1.02E+02	1.35E-01	4.07E-09	1.95E+06	1.38E+01
RDX	222.12	6.3E-08	2.60E-06			7.00E+01	1.05E-01	5.97E+01			
Selenium	78.96	9.7E-03	3.98E-01			1.43E+01	5.00E+00				
Silver	107.87	2.4E-02	1.00E+00			1.43E+01	8.30E+00				
Strontium	87.62	2.4E-02	1.00E+00			1.43E+01	3.50E+01				
Styrene	100	2.7E-03	1.10E-01	7.10E-02	8.00E-06	9.10E+01	1.37E-01	3.10E+02	2.54E-04	7.78E+03	1.00E+02
1,2,4,5-Tetrachlorobenzene	215.89	1.0E-03	4.10E-02	2.11E-02	8.76E-06	1.19E+03	1.78E+00	5.95E-01			
1,1,1,2-Tetrachloroethane	167.85	3.4E-04	1.41E-02	7.10E-02	7.90E-06	7.90E+01	1.19E-01	2.97E+03	3.68E-05	2.05E+04	8.72E+02
1,1,2,2-Tetrachloroethane	169.86	3.4E-04	1.40E-02	7.10E-02	7.90E-06	7.90E+01	1.19E-01	2.97E+03	3.65E-05	2.05E+04	8.72E+02
Tetrachloroethene	170	1.8E-02	7.54E-01	7.20E-02	8.20E-06	2.70E+02	4.05E-01	2.00E+02	8.54E-04	4.25E+03	1.34E+02
Thallium	204.37	2.4E-02	1.00E+00			1.43E+01	7.10E+01				
Toluene	92	6.6E-03	2.72E-01	8.70E-02	8.60E-06	1.82E+02	2.73E-01	5.26E+02	5.19E-04	5.45E+03	2.52E+02
Toxaphene	414	6.0E-06	2.46E-04	1.16E-02	4.34E-06	2.57E+05	3.86E+02	7.40E-01			
Tribromomethane	252.73	6.6E-04	2.70E-02	1.49E-02	1.03E-05	8.70E+01	6.92E+00	3.10E+03	6.51E-07	1.54E+05	2.20E+04
1,1,2-Trichloro-1,2,2- triftinnoethane	187.38	5.2E-01	2.14E+01	2.88E-02	8.07E-06	1.60E+02	2.40E-01	1.10E+03	2.23E-03	2.63E+03	3.28E+03
1.2.4-Trichlorobenzene	181	1.4E-03	5.82E-02	3.00E-02	8.23E-06	1.78E+03	2.67E+00	3.00E+02	6.53E-06	4.86E+04	8.55E+02
1,1,1-Trichloroethane	130	1.7E-02	7.05E-01	7.80E-02	8.80E-06	1.10E+02	1.65E-01	1.33E+03	1.37E-03	3.35E+03	5.63E+02
1,1,2-Trichloroethane	133	9.1E-04	3.74E-02	7.80E-02	8.80E-06	5.01E+01	7.52E-02	4.42E+03	1.22E-04	1.12E+04	1.12E+03

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	MW	(atın-	ŗ	ڡ	۵	ہے د	¥	(mg/L-	DA	٨F	SAT
Chemical	(g/mole)	m ³ /mole)	(dimensionless)	(cm ^ž /s)	(cm ² /s)	(cm³/g)	(cm³/g)	water)	(cm ² /s)	(m³/kg)	(mg/kg)
Trichloroethylene	131	1.0E-02	4.22E-01	7.90E-02	9.10E-06	9.40E+01	1.41E-01	1.10E+03	9.61E-04	4.00E+03	4.01E+02
Trichlorofluoromethane	140	9.8E-02	4.00E+00	8.70E-02	1.30E-05	1.60E+02	2.40E-01	1.10E+03	4.15E-03	1.93E+03	9.83E+02
2,4,5-Trichlorophenol	197.46	4.4E-06	1.80E-04	2.91E-02	7.03E-06	1.19E+03	1.78E+00	1.20E+03			
2.4.6-Trichlorophenol	197.46	7.8E-06	3.20E-04	3.18E-02	6.25E-06	1.19E+03	1.78E+00	8.00E+02			
1.1.2-Trichloropropane	147.43	2.9E-02	1.20E+00	4.00E-02	9.30E-06	5.10E+01	7.65E-02	2.70E+03	1.29E-03	3.45E+03	1.06E+03
1.2.3-Trichloropropane	147.43	2.7E-02	1.10E+00	7.10E-02	7.90E-06	5.10E+01	7.65E-02	2.70E+03	2.17E-03	2.67E+03	1.03E+03
1.2.3-Trichloropropene	145.42	2.7E-02	1.10E+00	7.10E-02	7.90E-06	5.10E+01	7.65E-02	2.70E+03	2.17E-03	2.67E+03	1.03E+03
Triethvlamine	101.19	9.0E-05	3.70E-03	1.20E-01	1.30E-05	2.20E+00	3.30E-03	1.00E+06	2.92E-05	2.30E+04	1.77E+05
1.2.4-Trimethvlbenzene	120	5.6E-03	2.30E-01	7.50E-02	7.10E-06	3.70E+03	5.55E+00	2.60E-01	3.14E-05	2.21E+04	1.50E+00
1.3.5-Trimethylbenzene	120	7.8E-03	3.20E-01	7.50E-02	7.10E-06	8.20E+02	1.23E+00	4.80E+01	1.75E-04	9.40E+03	6.92E+01
2.4.6-Trinitrotoluene	227.13	4.6E-07	1.90E-05	2.45E-02	6.36E-06	1.83E+03	2.75E+00	1.30E+02			
Vanadium	50.94	2.4E-02	1.00E+00			1.43E+01	1.00E+03				
Vinvl acetate	86	5.1E-04	2.10E-02	8.50E-02	9.20E-06	5.30E+00	7.95E-03	2.00E+04	1.04E-04	1.22E+04	3.68E+03
Vinvl bromide	106.95	6.3E-03	2.60E-01	1.00E-01	1.20E-05	1.30E+02	1.95E-01	1.80E+04	6.84E-04	4.75E+03	7.19E+03
Vinyl chloride	63	2.7E-02	1.11E+00	1.10E-01	1.20E-06	1.86E+01	2.79E-02	2.80E+03	3.87E-03	1.99E+03	9.36E+02
Vinvl chloride	63	2.7E-02	1.11E+00	1.10E-01	1.20E-06	1.86E+01	2.79E-02	2.80E+03	3.87E-03	1.99E+03	9.36E+02
m-Xvlene	106	7.3E-03	3.01E-01	7.00E-02	7.80E-06	2.00E+02	3.00E-01	1.61E+02	4.34E-04	5.96E+03	8.20E+01
o-Xylene	106	5.2E-03	2.13E-01	8.70E-02	1.00E-05	2.40E+02	3.60E-01	1.78E+02	3.48E-04	6.65E+03	9.95E+01
Xylenes	106	7.3E-03	3.00E-01	7.00E-02	7.80E-06	2.00E+02	3.00E-01	1.61E+02	4.33E-04	5.96E+03	8.20E+01
Zinc	65.38	2.4E-02	1.00E+00			1.43E+01	6.20E+01				
Notes:				Honorie Law Constant							

MW – Molecular weight H' – Dimensionless Henry's Law Constant D_w – Diffusivity in water K_d – Soil-water partition coefficient D_A – Apparent diffusivity (calculated for VOCs only) SAT – Soil saturation limit (calculated for VOCs only)

H – Henry's Law Constant
 D_a – Diffusivity in air
 K_{oc} – Soil organic carbon partition coefficient
 S - Solubility in water
 VF – Volatilization factor (calculated for VOCs only)
 VOC – Volatile organic compound

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APPENDIX C

Table C-1: Human Health Benchmarks Used for Calculating SSLs

	CSF。 (mulka-dav ⁻¹	Reference	RfD。 (mo/ka-dav)	Reference	CSF _i (mo/kq-dav) ⁻¹	Reference	RfD ₍ (ma/kq-dav)	Reference	ABS
Acenaphthene	fan Aufaul		6.00E-02	IRIS	10-6-6-1		6.00E-02	route	0
Acetaldehyde					7.70E-03	IRIS	2.60E-03	IRIS	0
Acetone			9.00E-01	IRIS			9.00E-01	route	0
Acrylonitrile	5.40E-01	IRIS	1.00E-03	HEAST	2.40E-01	IRIS	5.71E-04	IRIS	0
Acetophenone			1.00E-01	IRIS			1.00E-01	route	0
Acrolein			5.00E-04	IRIS			5.71E-06	IRIS	0
Aldrin	1.72E+01	IRIS	3.00E-05	IRIS	1.72E+01	IRIS	3.00E-05	route	0.1
Aluminum			1.00E+00	NCEA			1.40E-03	NCEA	0
Anthracene			3.00E-01	IRIS			3.00E-01	route	0
Antimony			4.00E-04	IRIS	ĺ				0
Arsenic	1.50E+00	IRIS	3.00E-04	IRIS	1.51E+01	IRIS			0.03
Barium			2.00E-01	IRIS			2.00E-01	route	0
Benzene	5.50E-02	IRIS	4.00E-03	IRIS	2.70E-02	IRIS	8.60E-03	IRIS	0
Benzidine	2.30E+02	IRIS	3.00E-03	IRIS	2.35E+02	IRIS	3.00E-03	route	0.1
Benzo(a)anthracene	7.30E-01	NCEA			3.10E-01	NCEA			0.13
Benzo(a)pyrene	7.30E+00	IRIS			3.10E+00	NCEA			0.13
Benzo(b)fluoranthene	7.30E-01	NCEA			3.10E-01	NCEA			0.13
Benzo(k)fluoranthene	7.30E-02	NCEA			3.10E-02	NCEA			0.13
Beryllium			2.00E-03	IRIS	8.40E+00	IRIS	5.71E-06	IRIS	0
α-BHC	6.30E+00	IRIS	5.00E-04	NCEA	6.30E+00	IRIS	5.00E-04	route	0.04
B-BHC	1.80E+00	IRIS	2.00E-04	NCEA	1.80E+00	IRIS	2.00E-04	route	0.04
y-BHC	1.30E+00	HEAST	3.00E-04	IRIS	3.00E-04	route	3.00E-04	route	0.04
1,1-Biphenyl			5.00E-02	IRIS			5.00E-02	route	0

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Chemical	CSF。 (mg/kg-day ⁻¹	Reference	RfD。 (mg/kg-day)	Reference	CSF _i (mg/kg-day) ⁻¹	Reference	RfD _i (mg/kg-day)	Reference	ABS
Bis(2-chloroethvl) ether	-	- IRIS		2 1 1	1.16E+00	IRIS			0
Bis(2-chloroisopropyl) ether	7.00E-02	HEAST	4.00E-02	IRIS	3.50E-02	HEAST	4.00E-02	route	0
Bis(2-ethylhexyl) phthalate	1.40E-02	IRIS	2.00E-02	IRIS	1.40E-02	route	2.00E-02	route	0.1
Bis(chloromethyl) ether	2.20E+02	IRIS			2.17E+02	IRIS			0
Boron			2.00E-01	IRIS			5.70E-03	HEAST	0
Bromobenzene			2.00E-02	NCEA			2.90E-03	NCEA	0
Bromodichloromethane	6.20E-02	IRIS	2.00E-02	IRIS	6.20E-02	route	2.00E-02	route	0
Bromomethane			1.40E-03	IRIS			1.43E-03	IRIS	0
1.3-Butadiene					1.05E-01	IRIS	5.71E-04	IRIS	0
2-Butanone (MEK)	-		6.00E-01	IRIS			1.43E+00	IRIS	D
tert-Butyl methyl ether (MTBE)	1.80E-03	Reg 6/prov	8.60E-01	route	1.80E-03	route	8.57E-01	IRIS	0
<i>n</i> -Butylbenzene			1.00E-02	NCEA			1.00E-02	route	0
sec-Butylbenzene			1.00E-02	NCEA			1.00E-02	route	0
tert-Butylbenzene			1.00E-02	NCEA			1.00E-02	route	0
Cadmium			5.00E-04	IRIS	6.30E+00	IRIS			0.001
Carbon disulfide			1.00E-01	IRIS			2.00E-01	IRIS	0
Carbon tetrachloride	1.30E-01	IRIS	7.00E-04	IRIS	5.25E-02	IRIS			0
Chlordane	3.50E-01	IRIS	5.00E-04	IRIS	3.50E-01	IRIS	2.00E-04	IRIS	0.04
2-Chioroacetophenone			8.60E-06	route			8.57E-06	IRIS	0
2-Chloro-1,3-butadiene			2.00E-02	HEAST			2.00E-03	HEAST	٥
1-Chloro-1,1-diftuoroethane			1.40E+01	route			1.43E+01	IRIS	0
Chlorobenzene			2.00E-02	iris			1.70E-02	NCEA	0
1-Chlorobutane			4.00E-02	Reg 6/prov			4.00E-02	route	0
Chlorodifluoromethane			4.10E+01	route			1.43E+01	IRIS	0
Chloroethane	2.90E-03	NCEA	4.00E-01	NCEA	2.90E-03	route	2.86E+00	IRIS	0
Chloroform			1.00E-02	IRIS	8.05E-02	IRIS	1.35E-02	NCEA	0

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Chemical	CSF。 (ma/ka-dav ⁻¹	Reference	RfD。 (ma/kq-dav)	Reference	CSF _i (ma/ka-dav) ⁻¹	Reference	RfD _i (mg/kg-day)	Reference	ABS
Chioromethane	1.30E-02	HEAST	~ ~ ~		6.30E-03	HEAST	2.57E-02	IRIS	0
ß-Chloronaphthalene			8.00E-02	IRIS			8.00E-02	route	0
o-Chloronitrobenzene	9.70E-03	HEAST	1.00E-03	HEAST	9.70E-03	route	2.00E-05	HEAST	0
p-Chloronitrobenzene	6.70E-03	HEAST	1.00E-03	HEAST	6.70E-03	route	1.70E-04	HEAST	0
2-Chlorophenol			5.00E-03	IRIS			5.00E-03	route	0
2-Chloropropane			2.90E-02	route			2.90E-02	HEAST	0
o-Chlorotoluene			2.00E-02	IRIS			2.00E-02	route	0
Chromium III			1.50E+00	IRIS					0
Chromium VI			3.00E-03	IRIS	2.90E+02	IRIS	2.85E-05	IRIS	0
Chrysene	7.30E-03	NCEA			3.10E-03	NCEA			0.13
Cobalt			2.00E-02	NCEA	9.80E+00	NCEA	5.70E-06	NCEA	0
Copper			4.00E-02	HEAST					0
Crotonaldehyde	1.90E+00	HEAST			1.90E+00	route			0
Cumene (isopropylbenzene)			1.00E-01	IRIS			1.14E-01	IRIS	0
Cyanide			2.00E-02	IRIS					0.1
Cyanogen			4.00E-02	IRIS					0
Cyanogen bromide			9.00E-02	IRIS					0
Cyanogen chloride			5.00E-02	IRIS					0
DDD	2.40E-01	IRIS			2.40E-01	route			0.03
DDE	3.40E-01	IRIS			3.40E-01	route			0.03
DDT	3.40E-01	IRIS	5.00E-04	IRIS	3.40E-01	IRIS	5.00E-04	route	0.03
Dibenz(a,h)anthracene	7.30E+00	NCEA			3.10E+00	NCEA			0.13
Dibenzofuran			2.00E-03	NCEA			2.00E-03	route	0
1,2-Dibromo-3-chloropropane	1.40E+00	HEAST	5.70E-05	route	2.40E-03	HEAST	5.70E-05	IRIS	0
Dibromochloromethane	8.40E-02	IRIS	2.00E-02	IRIS	8.40E-02	route	2.00E-02	route	0
1,2-Dibromoethane	2.00E+00	IRIS	9.00E-03	iRIS	2.00E+00	IRIS	2.60E-03	IRIS	0

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1,4-Dichloro-2-butene 1,2-Dichlorobenzene 1,3-Dichlorobenzene	(mg/kg-aay	Reference	(mg/kg-day)	Reference	CSF ₁ (mg/kg-day) ⁻¹	Reference	RfD _i (mg/kg-day)	Reference	ABS
1,2-Dichlorobenzene 1,3-Dichlorobenzene	9.30E+00	route			9.30E+00	HEAST			0
1,3-Dichlorobenzene			9.00E-02	IRIS			6.90E-03	NCEA	0
			3.00E-03	NCEA			3.00E-03	NCEA	0
1,4-Dichlorobenzene	2.40E-02	HEAST	3.00E-02	NCEA	2.20E-02	NCEA	2.29E-01	IRIS	0
3,3-Dichlorobenzidine	4.50E-01	IRIS			4.50E-01	route			0.1
Dichlorodifluoromethane			2.00E-01	IRIS			5.71E-02	HEAST	0
1,1-Dichloroethane			2.00E-01	Reg 6/prov			2.00E-01	Reg 6/prov	0
1,2-Dichloroethane	9.10E-02	IRIS	2.00E-02	NCEA	9.10E-02	IRIS	1.40E-03	NCEA	0
cis-1,2-Dichloroethene			1.00E-02	HEAST			1.00E-02	route	0
trans-1.2-Dichloroethene			2.00E-02	IRIS			2.00E-02	route	0
1.1-Dichloroethene			5.00E-02	IRIS			5.70E-02	IRIS	0
2,4-Dichlorophenol			3.00E-03	IRIS			3.00E-03	route	0.1
1,2-Dichloropropane	6.80E-02	HEAST	1.10E-03	route	6.80E-02	route	1.10E-03	IRIS	0
1,3-Dichloropropene	1.00E-01	IRIS	3.00E-02	IRIS	1.40E-02	IRIS	5.71E-03	IRIS	0
Dicvclopentadiene			8.00E-03	Reg 6/prov			2.00E-03	Reg 6/prov	0
Dieldrin	1.60E+01	IRIS	5.00E-05	IRIS	1.61E+01	IRIS	5.00E-05	route	0.1
Diethvl phthalate			8.00E-01	IRIS			8.00E-01	route	0.1
Dimethyl phthalate			1.00E+01	HEAST		, ,	1.00E+01	route	0.1
Di-n-butyl phthalate			1.00E-01	IRIS			1.00E-01	route	0.1
2,4-Dimethylphenol			2.00E-02	IRIS			2.00E-02	route	0.1
4,6-Dinitro-o-cresol			1.00E-04	prov.			1.00E-04	route	0.1
2.4-Dinitrophenol			2.00E-03	IRIS			2.00E-03	route	0.1
2.4-Dinitrotoluene			2.00E-03	IRIS			2.00E-03	route	0.1
1,2-Diphenylhydrazine	8.00E-01	IRIS			7.70E-01	IRIS			0.1
Endosulfan			6.00E-03	IRIS			6.00E-03	route	0.1
Endrin			3.00E-04	IRIS			3.00E-04	route	0.1

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Chemical	CSF。 (mg/kg-day ⁻¹	Reference	RfD。 (mg/kg-day)	Reference	CSF _i (mg/kg-day) ⁻¹	Reference	RfD _i (mg/kg-day)	Reference	ABS
Epichlorohydrin	9.90E-03	IRIS	2.00E-03	HEAST	4.20E-03	IRIS	2.86E-04	IRIS	0
Ethyl acetate			9.00E-01	IRIS			9.00E-01	route	0
Ethyl acrylate	4.80E-02	HEAST			4.80E-02	route			0
Ethyl chloride	2.90E-03	NCEA	4.00E-01	NCEA	2.90E-03	route	2.86E+00	IRIS	0
Ethyl ether			2.00E-01	IRIS			2.00E-01	route	0
Ethyl methacrylate			9.00E-02	HEAST			9.00E-02	route	0
Ethylbenzene			1.00E-01	IRIS			2.90E-01	IRIS	0
Ethylene oxide	1.00E+00	HEAST			3.50E-01	HEAST			0
Fluoranthene			4.00E-02	IRIS			4.00E-02	route	0.13
Fluorene			4.00E-02	IRIS			4.00E-02	route	0
Fluoride			6.00E-02	IRIS					0.1
Furan			1.00E-03	IRIS			1.00E-03	route	0
Heptachlor	4.50E+00	IRIS	5.00E-04	IRIS	4.55E+00	IRIS	5.00E-04	route	0.1
Hexachlorobenzene	1.60E+00	IRIS	8.00E-04	IRIS	1.61E+00	IRIS	8.00E-04	route	0.1
Hexachloro-1,3-butadiene	7.80E-02	IRIS	2.00E-04	HEAST	7.70E-02	IRIS	2.00E-04	route	0.1
Hexachlorocyclopentadiene			6.00E-03	IRIS			5.71E-05	IRIS	0.1
Hexachloroethane	1.40E-02	IRIS	1.00E-03	IRIS	1.40E-02	IRIS	1.00E-03	route	0.1
n-Hexane			1.10E+01	prov.			5.71E-02	IRIS	0
HMX			5.00E-02	IRIS			5.00E-02	route	0.1
Hydrogen cyanide			2.00E-02	IRIS			8.57E-04	IRIS	0
Indeno(1,2,3-c,d)pyrene	7.30E-01	NCEA			3.10E-01	NCEA			0.13
Iron			3.00E-01	NCEA					0
Isobutanol			3.00E-01	IRIS			3.00E-01	route	0
Isophorone	9.50E-04	IRIS	2.00E-01	IRIS	9.50E-04	route	2.00E-01	route	0.1
Lead									0
Lead (tetraethyl-)			1.00E-07	IRIS					0.1

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Maleic hydrazide	/ma/ka_dav	Reference	(ma/ka-dav)	Reference	(ma/ka-dav)	Reference	(ma/ka-dav)	Reference	ABS
	7 6R\		5.00E-01	IRIS	· · · · ·		5.00E-01	route	0
I Manganese			4.70E-02	Reg 6			1.40E-05	IRIS	0
Mercury (elemental)							8.57E-05	IRIS	0
Mercury (methyl)			1.00E-04	IRIS					0.1
Methacrylonitrile			1.00E-04	IRIS			2.00E-04	HEAST	0
Methomyl			2.50E-02	IRIS			2.50E-02	route	0
Methyl acetate			1.00E+00	HEAST			1.00E+00	route	0
Methyl acrylate			3.00E-02	HEAST			3.00E-02	route	0
Methyl isobutyl ketone			8.00E-02	HEAST			8.57E-01	IRIS	0
Methyl methacrylate			1.40E+00	IRIS			2.00E-01	IRIS	0
Methyl styrene (alpha)			7.00E-02	HEAST			7.00E-02	route	0
Methyl styrene (mixture)			6.00E-03	HEAST			1.00E-02	HEAST	0
Methylcyclohexane			8.60E-01	route			8.60E-01	HEAST	0
Methylene bromide			1.00E-02	HEAST			1.00E-02	route	0
Methylene chloride	7.50E-03	IRIS	6.00E-02	IRIS	1.65E-03	IRIS	8.60E-01	HEAST	0
Molybdenum			5.00E-03	IRIS					0
Naphthalene			2.00E-02	IRIS			8.57E-04	IRIS	0
Nickel			2.00E-02	IRIS					0
Nitrate			1.60E+00	IRIS					0
Nitrite			1.00E-01	IRIS					0
Nitrobenzene			5.00E-04	IRIS			5.71E-04	HEAST	0
Nitroglycerin	1.40E-02	NCEA			1.40E-02	route			0.1
N-Nitrosodiethylamine	1.50E+02	IRIS			1.51E+02	IRIS			0.1
N-Nitrosodimethylamine	5.10E+01	IRIS	8.00E-06	prov.	4.90E+01	JI	8.00E-06	route	0.1
M-Nitrosodi-n-butylamine	5.40E+00	IRIS			5.60E+00	IRIS			0.1
N-Nitrosodiphenylamine	4.90E-03	IRIS	2.00E-02	prov.	4.90E-03	route	2.00E-02	route	0.1

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Chemical	CSF。 (mg/kg-day ⁻¹	Reference	RfD。 (mg/kg-day)	Reference	CSF ₁ (mg/kg-day) ⁻¹	Reference	RfD _i (mg/kg-day)	Reference	ABS
N-Nitrosopyrrolidine	2.10E+00	IRIS			2.14E+00	IRIS			0.1
<i>m</i> -Nitrotoluene			2.00E-02	HEAST			2.00E-02	route	0
o-Nitrotoluene	2.30E-01	prov.	1.00E-02	HEAST	2.30E-01	route	1.00E-02	route	0
p-Nitrotoluene	1.70E-02	prov.	1.00E-02	HEAST	1.70E-02	route	1.00E-02	route	0
Pentachlorobenzene			8.00E-04	IRIS			8.00E-04	route	0.1
Pentachlorophenol	1.20E-01	IRIS	3.00E-02	IRIS	1.20E-01	route	3.00E-02	route	0.25
Phenanthrene (pyrene surrogate)			3.00E-02	IRIS			3.00E-02	route	0.1
Phenol			3.00E-01	IRIS			3.00E-01	route	0.1
Polychlorinatedbiphenyls									
Aroclor 1016	7.00E-02	IRIS	7.00E-05	IRIS	7.00E-02	IRIS	7.00E-05	route	0.14
Aroclor 1221	2.00E+00	IRIS	2.00E-05	IRIS	2.00E+00	IRIS	2.00E-05	route	0.14
Aroclor 1232	2.00E+00	IRIS	2.00E-05	IRIS	2.00E+00	IRIS	2.00E-05	route	0.14
Aroclor 1242	2.00E+00	IRIS	2.00E-05	IRIS	2.00E+00	IRIS	2.00E-05	route	0.14
Aroclor 1248	2.00E+00	IRIS	2.00E-05	IRIS	2.00E+00	IRIS	2.00E-05	route	0.14
Aroclor 1254	2.00E+00	IRIS	2.00E-05	IRIS	2.00E+00	IRIS	2.00E-05	route	0.14
Aroclar 1260	2.00E+00	IRIS	2.00E-05	IRIS	2.00E+00	IRIS	2.00E-05	route	0.14
<i>n</i> -Propylbenzene			1.00E-02	NCEA			1.00E-02	route	0
Propylene oxide	2.40E-01	IRIS	8.60E-03	route	1.30E-02	IRIS	8.57E-03	IRIS	0
Pyrene			3.00E-02	IRIS			3.00E-02	route	0
RDX	1.10E-01	IRIS	3.00E-03	IRIS	1.10E-01	route	3.00E-03	route	0.1
Selenium			5.00E-03	IRIS					0
Silver			5.00E-03	IRIS					0
Strontium			6.00E-01	IRIS					0
Styrene			2.00E-01	IRIS			2.86E-01	IRIS	0
1,2,4,5-Tetrachlorobenzene			3.00E-04	IRIS			3.00E-04	route	0.1
1,1,1,2-Tetrachloroethane	2.60E-02	IRIS	3.00E-02	IRIS	2.59E-02	IRIS	3.00E-02	route	0

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Chemical	CSF _o (mg/kg-day ⁻¹	Reference	RfD。 (mg/kg-day)	Reference	CSF _i (mg/kg-day) ⁻¹	Reference	RfD _i (mg/kg-day)	Reference	ABS
1,4,2,2-Tetrachloroethane	2.00E-01	.IRIS	6.00E-02	NCEA	2.03E-01	IRIS	6.00E-02	route	0
Tetrachloroethylene	5.20E-02	NCEA	1.00E-02	IRIS	2.03E-02	NCEA	1.14E-01	NCEA	0
Thallium			6.60E-05	IRIS					0
Toluene			8.00E-02	IRIS			1.40E+00	IRIS	0
Toxaphene	1.10E+00	IRIS			1.12E+00	IRIS			0.1
Tribromomethane (Bromoform)	7.90E-03	IRIS	2.00E-02	IRIS	3.85E-03	IRIS	2.00E-02	route	0
1,1,2-Trichloro-1,2,2-trifluoroethane			3.00E+01	IRIS			8.57E+00	HEAST	0
1,2,4-Trichlorobenzene			1.00E-02	IRIS			1.00E-03	prov.	0
1,1,1-Trichloroethane			2.80E-01	NCEA			6.30E-01	NCEA	0
1,1,2-Trichloroethane	5.70E-02	IRIS	4.00E-03	IRIS	5.60E-02	IRIS	4.00E-03	route	0
Trichloroethene	4.0E-01	NCEA	3.00E-04	NCEA	4.0E-01	NCEA	1.00E-02	NCEA	0
Trichlorofluoromethane			3.00E-01	IRIS			2.00E-01	HEAST	0
2,4,5-Trichlorophenol			1.00E-01	IRIS			1.00E-01	route	0.1
2,4,6-Trichlorophenol	1.10E-02	IRIS	1.00E-04	NCEA	1.09E-02	IRIS	1.00E-04	route	0.1
1,1,2-Trichloropropane			5.00E-03	IRIS			5.00E-03	route	0
1,2,3-Trichloropropane	2.00E+00	NCEA	6.00E-03	IRIS	2.00E+00	route	1.40E-03	NCEA	0
1,2,3-Trichloropropene			1.00E-02	prov.			2.90E-04	prov.	0
Triethylamine			1.99E-03	route			1.99E-03	IRIS	0
1,2,4-Trimethylbenzene			5.00E-02	NCEA			1.70E-03	NCEA	0
1,3,5-Trimethylbenzene			5.00E-02	NCEA			1.70E-03	NCEA	0
2,4,6-Trinitrotoluene	3.00E-02	IRIS	5.00E-04	IRIS	3.00E-02	route	5.00E-04	route	0.1
Vanadium			1.00E-03	NCEA					0
Vinyl acetate			1.00E+00	HEAST			5.71E-02	IRIS	0
Vinyl bromide (Bromomethene)	1.10E-02	route	8.60E-04	HEAST	1.10E-01	HEAST	8.57E-04	IRIS	0
Vinyl chloride (Child)	1.40E+00	IRIS	3.00E-03	IRIS	3.00E-02	IRIS	2.80E-02	IRIS	0
Vinyl chloride (Adult)	7.20E-01	IRIS	3.00E-03	IRIS	1.54E-02	IRIS	2.85E-02	IRIS	0

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June 2006 Revision 4.0 NMED Soil Screening Levels

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Chemical	CSF _° (mg/kg-day ⁻¹	Reference	RfD。 (mg/kg-day)	Zeference	CSF ₁ (mg/kg-day) ⁻¹ F	Referen	ce (mg/kg-day)	Reference	ABS
<i>m</i> -Xylene			2.00E-01	IRIS			2.86E-02	IRIS	0.1
o-Xylene			2.00E-01	IRIS					0.1
Xylenes			2.00E-01	IRIS			2.86E-02	IRIS	0.1
Zinc			3.00E-01	IRIS					0
Notes:									

CSF0 – Oral cancer slope factor CSF1 – Inhalation cancer slope factor RfD0 – Oral Reference Dose RfD1 – Inhalation Reference Dose r – Route-to-route extrapolation ABS – Dermal absorption coefficient

IRIS – Integrated Risk Information System, USEPA 2006. NCEA – National Center for Environmental Assessment, Office of Research and Development, USEPA 2003c.

VOLUME 2

TIER 1: SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT

PHASE I Scoping Assessment

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1. Introduction

The purpose of an ecological risk assessment is to evaluate the potential adverse effects that chemical contamination has on the plants and animals that make up ecosystems. The risk assessment process provides a way to develop, organize and present scientific information so that it is relevant to environmental decisions.

The New Mexico Environment Department Hazardous Waste Bureau (NMED) has developed a tiered procedure for the evaluation of ecological risk. This procedure is outlined in the *Guidance for* Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment (GAERPC) (NMED, 2000). Briefly, the tiers of the procedure are organized as follows:

PHASE I: QUALITATIVE ASSESSMENT

- Tier I: Screening-Level Ecological Risk Assessment
- Scoping Assessment
- Screening Assessment

PHASE II: QUANTITATIVE ASSESSMENT

• Tier II: Site-Specific Ecological Risk Assessment

As discussed above and illustrated in Figure 1, the Scoping Assessment is the first phase of the Tier I Screening-Level Ecological Risk Assessment process as defined by the NMED GAERPC. This document provides specific procedures to assist the facility in conducting the first step (Scoping Assessment) of the Tier I, Screening-Level Ecological Risk Assessment process outlined in the GAERPC. The purpose of the Scoping Assessment is to gather information, which will be used to determine if there is "any reason to believe that ecological receptors and/or complete exposure pathways exist at or in the locality of the site" (NMED, 2000). The scoping assessment step also serves as the initial information-gathering phase for sites clearly in need of a more detailed assessment of potential ecological risk. This document outlines the methodology for conducting a Scoping Assessment, and includes a Site Assessment Checklist (Attachment A), which serves as tool for gathering information about the facility property and surrounding areas. Although the GAERPC provides a copy of the US EPA Checklist for Ecological Assessment/Sampling (US EPA, 1997), the attached Site Assessment Checklist provides an expanded, user-friendly template, which both guides the user as to what information to collect and furnishes an organized structure in which to enter the information.

After the Site Assessment Checklist has been completed, the assessor must use the collected information to generate a Scoping Assessment Report and Preliminary Conceptual Site Exposure Model (PCSEM). Guidance for performing these tasks is provided in this document, and in the GAERPC. The Scoping Assessment Report and PCSEM are subsequently used to address the first in a series of Technical Decision Points of the tiered GAERPC process. Technical Decision Points are questions which must be answered by the assessor after the completion of certain phases in the process. The resulting answer to the question determines the next step to be undertaken by the

facility. The first Technical Decision Point, as illustrated in Figure 1, is to decide: Is Ecological Risk Suspected?

If the answer to the first Technical Decision Point is "no" (that is, ecological risk is not suspected), the assessor may use the Exclusion Criteria Checklist and Decision Tree (Attachment B) to help confirm or deny that possibility. However, it is unlikely that any site containing potential ecological habitat or receptors will meet the Site Exclusion Criteria.

If ecological risk is suspected, the facility will usually be directed to proceed to the next phase of Tier I, which is a Screening Level Ecological Risk Assessment (SLERA). A SLERA is a simplified risk assessment that can be conducted with limited site-specific data by defining assumptions for parameters that lack site-specific data (US EPA, 1997). Values used for screening are consistently biased in the direction of overestimating risk to ensure that sites that might pose an ecological risk are properly identified. The completed Site Assessment Checklist is a valuable source of information needed for the completion of the SLERA. Instructions for performing a SLERA can be found in the GAERPC and in a number of EPA guidance documents (e.g., US EPA, 1997; US EPA, 1998).

2. Scoping Assessment

The Scoping Assessment serves as the initial information gathering and evaluation phase of the Tier I process. A Scoping Assessment consists of the following steps:

- Compile and Assess Basic Site Information (using Site Assessment Checklist)
- Conduct Site Visit
- Identify Preliminary Contaminants of Potential Ecological Concern
- Develop a Preliminary Conceptual Site Exposure Model
- Prepare a Scoping Assessment Report

The following subsections provide guidance for completing each step of the Scoping Assessment. For additional guidance, readers should refer to the GAERPC (NMED, 2000).

2.1 COMPILE AND ASSESS BASIC SITE INFORMATION

The first step of the Scoping Assessment process is to compile and assess basic site information. Since the purpose of the Scoping Assessment is to determine if ecological habitats, receptors, and complete exposure pathways are likely to exist at the site, those items are the focus of the information gathering. The Site Assessment Checklist (Attachment A) should be used to complete this step. The questions in the Site Assessment Checklist should be addressed as completely as possible with the information available before conducting a site visit.

In many cases, a large portion of the Site Assessment Checklist can be completed using reference materials and general knowledge of the site. A thorough file search should be conducted to compile all potential reference materials. Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) and Facility Investigation (RFI) reports, inspection reports, RCRA Part B Permit

Applications, and facility maps can all be good sources of the information needed for the Site Assessment Checklist.

Habitats and receptors which may be present at the site can be identified by contacting local and regional natural resource agencies. Habitat types may be determined by reviewing land use and land cover maps (EULC), which are available via the Internet at http://www.nationalatlas.gov/scripts. Additional sources of general information for the identification of ecological receptors and habitats are listed in the introduction section of the Site Assessment Checklist (Attachment A).

After all available information has been compiled and entered into the Site Assessment Checklist, the assessor should review the checklist and identify data gaps. Plans should then be made to obtain the missing information by performing additional research and/or by observation and investigation during the site visit.

2.2 SITE VISIT

When performing a Scoping Assessment, at least one site visit should be conducted to directly assess ecological features and conditions. As discussed in the previous section, completion of the Site Assessment Checklist should have begun during the compilation of basic site information. The site visit allows for verification of the information obtained from the review of references and other information sources. The current land and surface water usage and characteristics at the site can be observed, as well as direct and indirect evidence of receptors. In addition to the site, areas adjacent to the site and all areas where ecological receptors are likely to contact site-related chemicals (i.e., all areas which may have been impacted by the release or migration of chemicals from the site) should be observed or visited and addressed in the Site Assessment Checklist. The focus of the habitat and receptor observations should be on a community level. That is, dominant plant and animal species and habitats (e.g., wetlands, wooded areas) should be identified during the site visit. Photographs should be taken during the site visit and attached to the Scoping Assessment Report. Photographs are particularly useful for documenting the nature, quality, and distribution of vegetation, other ecological features, potential exposure pathways, and any evidence of contamination or impact. While the focus of the survey is on the community level, the U.S. Fish and Wildlife Service and the New Mexico Natural Heritage Program should be contacted prior to the site visit. The intent is to determine if state listed and/or federal listed Threatened & Endangered (T&E) species or sensitive habitats may be present at the site, or if any other fish or wildlife species could occur in the area (as indicated in the Site Assessment Checklist, Section IIID). A trained biologist or ecologist should conduct the biota surveys to appropriately characterize major habitats and to determine whether T&E species are present or may potentially use the site. The site assessment should also include a general survey for T&E species and any sensitive habitats (e.g. wetlands, perennial waters, breeding areas), due to the fact that federal and state databases might not be complete.

Site visits should be conducted at times of the year when ecological features are most apparent (i.e., spring, summer, early fall). Visits during winter might not provide as much evidence of the presence or absence of receptors and potential exposure pathways.

In addition to observations of ecological features, the assessor should note any evidence of chemical releases (including visual and olfactory clues), drainage patterns, areas with apparent erosion, signs of

groundwater discharge at the surface (such as seeps or springs), and any natural or anthropogenic site disturbances.

2.3 IDENTIFY CONTAMINANTS OF POTENTIAL ECOLOGICAL CONCERN

Contaminants of Potential Ecological Concern (COPECs) are chemicals which may pose a threat to individual species or biological communities. For the purposes of the Scoping Assessment, <u>all</u> chemicals known or suspected of being released at the site are considered COPECs. The identification of COPECs is usually accomplished by the review of historical information in which previous site activities and releases are identified, or by sampling data which confirm the presence of contaminants in environmental media at the site. If any non-chemical stressors such as mechanical disturbances or extreme temperature conditions are known to be present at the site, they too are to be considered in the assessment.

After the COPECs have been identified, they should be summarized and organized (such as in table or chart form) for presentation in the Scoping Assessment Report.

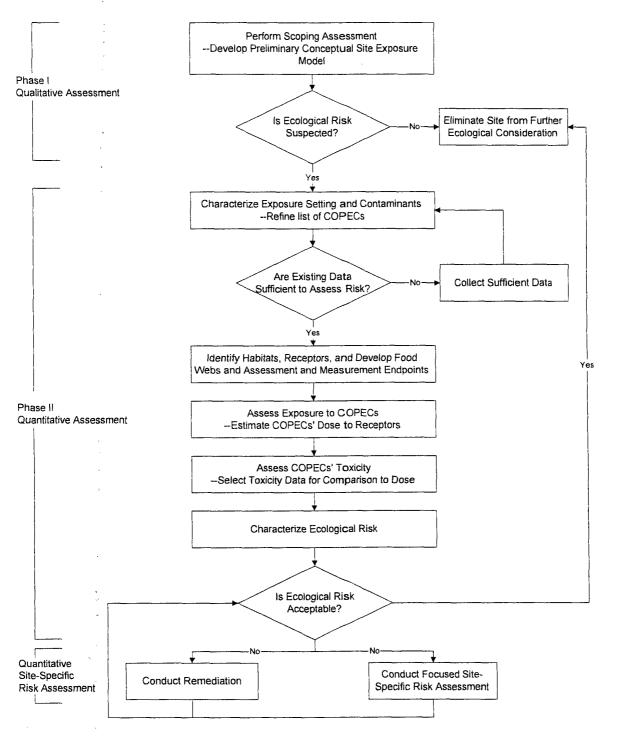
2.4 DEVELOPING THE PRELIMINARY CONCEPTUAL SITE EXPOSURE MODEL

A PCSEM provides a summary of potentially complete exposure pathways, along with potentially exposed receptor types. The PCSEM, in conjunction with the scoping report, is used to determine whether further ecological assessment (i.e., Screening-Level Assessment, Site-Specific Assessment) and/or interim measures are required.

A complete exposure pathway is defined as a pathway having all of the following attributes (US EPA, 1998; NMED, 2000):

- A source and mechanism for hazardous waste/constituent release to the environment
- An environmental transport medium or mechanism by which a receptor can come into contact with the hazardous waste/constituent
- A point of receptor contact with the contaminated media or via the food web, and
- An exposure route to the receptor.

If any of the above components are missing from the exposure pathway, it is not a complete pathway for the site. A discussion regarding all possible exposure pathways and the rationale/justification for eliminating any pathways should be included in the PCSEM narrative and in the Scoping Assessment Report.



Adapted from GAERPC (NMED 2000).

Figure 1. NMED Ecological Risk Assessment Process

The PCSEM is presented as both a narrative discussion and a diagram illustrating potential contaminant migration and exposure pathways to ecological receptors. A sample PCSEM diagram is presented in Figure 2. On the PCSEM diagram, the components of a complete exposure pathway are grouped into three main categories: sources, release mechanisms, and potential receptors. As a contaminant migrates and/or is transformed in the environment, sources and release mechanisms can be defined as primary, secondary, and tertiary.

For example, Figure 2 depicts releases from a landfill that migrate into soils, and reach nearby surface water and sediment via storm water runoff. In this situation, the release from the landfill is considered the primary release, with infiltration as the primary release mechanism. Soil becomes the secondary source, and storm water runoff is the secondary release mechanism to surface water and sediments, the tertiary source.

Subsequent ecological exposures to terrestrial and aquatic receptors will result from this release. The primary exposure routes to ecological receptors are direct contact, ingestion, and possibly inhalation. For example, plant roots will be in direct contact with contaminated sediments, and burrowing mammals will be exposed via dermal contact with soil and incidental ingestion of contaminated soil. In addition, exposures for birds and mammals will occur as they ingest prey items through the food web.

Although completing the Site Assessment Checklist will not provide the user with a ready made PCSEM, a majority of the components of the PCSEM can be found in the information provided by the Site Assessment Checklist. The information gathered for the completion of Section II of the Site Assessment Checklist, can be used to identify sources of releases. The results of Section III, Habitat Evaluation, can be used to both identify secondary and tertiary sources and to identify the types of receptors which may be exposed. The information gathered for completion of Section IV, Exposure Pathway Evaluation, will assist users in tracing the migration pathways of releases in the environment, thus helping to identify release mechanisms and sources.

Once all of the components of the conceptual model have been identified, complete exposure pathways and receptors that have the potential for exposure to site releases can be identified.

For further guidance on constructing a PCSEM, consult the GAERPC (NMED, 2000), and EPA's Office of Solid Waste and Emergency Response's *Soil Screening Guidance: User's Guide* (1996).

2.5 ASSEMBLING THE SCOPING ASSESSMENT REPORT

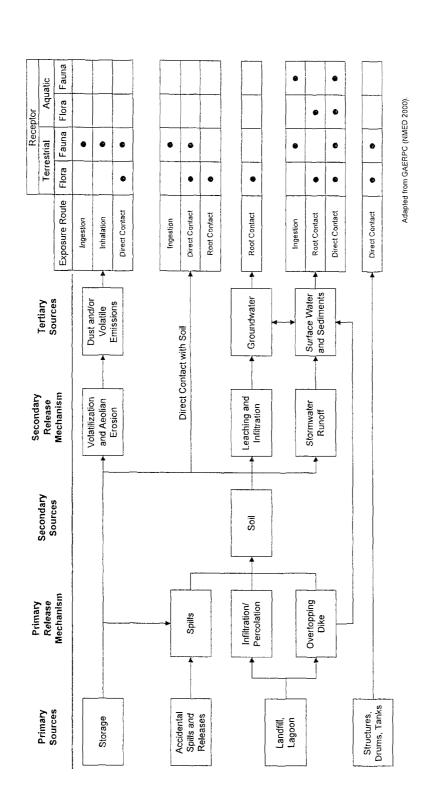
After completion of the previously described activities of the scoping assessment, the Scoping Assessment Report should be assembled to summarize the site information and present an evaluation of receptors and pathways at the site. The Scoping Assessment Report should be designed to support the decision made regarding the first Technical Decision Point (Is Ecological Risk Suspected?). The Scoping Assessment Report should, at a minimum, contain the following information:

- Existing Data Summary
- Site Visit Summary (including a completed Site Assessment Checklist)

- Evaluation of Receptors and Pathways
- Recommendations
- Attachments (e.g. photographs, field notes, telephone conversation logs with natural resource agencies)
- References/Data Sources

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After completion, the Scoping Assessment Report and PCSEM should be submitted to NMED for review and approval. These documents will serve as a basis for decisions regarding future actions at the site.



Example Preliminary Conceptual Site Exposure Model Diagram for a Hypothetical Site Figure 2.

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3. Site Exclusion Criteria

If the assessor believes that the answer to the first Technical Decision Point (Is Ecological Risk Suspected?) is "no" based on the results of the PCSEM and Scoping Assessment Report, it should be determined whether the facility meets the NMED Site Exclusion Criteria.

Exclusion criteria are defined as those conditions at an affected property which eliminate the need for a SLERA. The three criteria are as follows:

- Affected property does not include viable ecological habitat.
- Affected property is not utilized by potential receptors.
- Complete or potentially complete exposure pathways do not exist due to affected property setting or conditions of affected property media.

The Exclusion Criteria Checklist and associated Decision Tree (Attachment B) can be used as a tool to help the user determine if an affected site meets the exclusion criteria. The checklist assists in making a conservative, qualitative determination of whether viable habitats, ecological receptors, and/or complete exposure pathways exist at or in the locality of the site where a release of hazardous waste/constituents has occurred. Thus, meeting the exclusion criteria means that the facility can answer "no" to the first Technical Decision Point.

If the affected property meets the Site Exclusion Criteria, based on the results of the checklist and decision tree, the facility must still submit a Scoping Assessment Report to NMED which documents the site conditions and justification for how the criteria have been met. Upon review and approval of the exclusion by the appropriate NMED Bureau, the facility will not be required to conduct any further evaluation of ecological risk. However, the exclusion is not permanent; a future change in circumstances may result in the affected property no longer meeting the exclusion criteria.

4. Technical Decision Point: Is Ecological Risk Suspected?

As discussed in the beginning of this document, the Scoping Assessment is the first phase of the GAERPC ecological risk assessment process (Figure 1). Following the submission of the Scoping Assessment Report and PCSEM, NMED will decide upon one of the following three recommendations for the site:

- No further ecological investigation at the site, or
- Continue the risk assessment process, and/or
- Undertake a removal or remedial action.

If the information presented in the Scoping Assessment Report supports the answer of "no" to the first Technical Decision Point, and the site meets the exclusion criteria, the site will likely be excused from further consideration of ecological risk. However, this is only true if it can be documented that a complete exposure pathway does not exist and will not exist in the future at the site based on current conditions. For those sites where valid pathways for potential exposure exist or are likely to exist in the future, further ecological risk assessment (usually in the form of a SLERA) will be

required. However, if the Scoping Assessment indicates that a detailed assessment is warranted, the facility would not be required to conduct a SLERA. Instead the facility would move directly to Tier II–Site-Specific Ecological Risk Assessment.

References

Los Alamos National Laboratory (LANL), 1997. Administrative Procedure 4.5, Draft

- New Mexico Environment Department (NMED), 2000. Guidance for Assessing Ecological Risks Posed by Chemicals: Screening-Level Ecological Risk Assessment, Hazardous and Radioactive Materials Bureau, Final, March.
- U.S. Environmental Protection Agency (US EPA), 1996. Soil Screening Guidance: User's Guide. Office of Solid Waste and Emergency Response. Washington, DC. EPA-540-R-96/018. July.
- U.S. EPA, 1997. Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments, Environmental Response Team, Interim Final, June 5.
- U.S.EPA, 1998. Guidelines for Ecological Risk Assessment, Risk Assessment Forum, Final, April. EPA/630/R-95/002F; http://www.epa.gov/ncea/ecorisk.htm.

Section 5.0 Monitoring Results

Title	Tab Number
Soil Gas Monitoring	1
Groundwater Monitoring	2
BV Soil Gas Monitoring – Pre- Aeration	3
GAC Filter Monitoring	4

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Soil Gas Monitoring 2005/2006

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 Carbon Dioxide (%) 	1.3	4.5	NS	0.0	0.0	0.0	0.1	0.1	0.5	0.1	0.3	理論を設定すると言語が	6.4	2.9	NS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NM = Not Measured
k.Óxygen (%)	15.0	3.1	NS	18.1	20.6	20.0	20.6	20.7	18.9	20.6	20.8		4.0	3.0	NS	20.9	20.9	20.7	20.9	20.9	20.9	20.9	20.9	c
(Ndd)	1401.0	191.0	NS	1490.0	1534.0	1534.0	1534.0	1534.0	1452.0	85.5	1146.0	新闻的资源的资源和	1589.0	1490.0	NS	732.0	600.0	399.8	223.6	92.7	23.8	5.4	67.0	mer Malfunction
 Pressure (inches of Water). 	0.00	0.00	NS	0.02	0.08	0.05	0.10	0.30	0.05	0.01	0.02		00.0	00.0	NS	0.05	0.10	0.01	0.19	0.05	0.15	0.01	0.08	NS = Not Sampled due to Transformer Malfunction
Depth to Water (ft)	5.14	7.88	NS	6.28	7.25	7.81	8.15	8.04	6.8	5.68	7.42		6.62	9.12	NS	7.74	9.25	9.73	9.83	9.83	8.27	7.37	9.03	NS = Not Sa
 Purge 2 Volume (L) 	9.4	14.5	NS	11.5	13.0	13.0	14.0	15.0	12.5	10.4	13.5		12.0	16.5	SN	14.2	17.0	18.0	18.0	18.0	15.1	13.4	16.5	
DATE	Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week af 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of 12/04/6	这些时候,这些时候	Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of 12/04/6	
Sampling Activities	Pre-Dewatering	Pre-Aeration	1st Week	2nd Week	3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	4th Quarter		Pre-Dewatering	Pre-Aeration	1st Week	2nd Week	3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	4th Quarter	
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Sample	TP-#1											のためため	TP#2											

ft below TOC = feet below top of casing

PR = Piezometer needs repair - Not Sampled VP = Vacuum Pump Malfunction - Not Sampled

PD = Piezometer Destroyed

NR = Not Required

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RIVER TERRACE

Soil Gas Monitoring 2005/2006

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GRO: (ug/t)	<u>98.6</u>	NR	NS	NR	NR	NR	NR	1,300.0	<5.0	<5.0	<5.0		17.00	WN	NS	NR	NR	NR	NR	19,000.0	80.00	Dd	Da	
Xylene (light)	0.1	NR	NS	NR	NR	NR	NR	23.0	<0.30	<0.10	<0.30		0.29	WN	NS	NR	NR	NR	NR	630.0	12.00	PD	Qd	
Ēthyibēn (ug/t)	<0.05	NR	NS	NR	NR	NR	NR	0.53	<0.10	<0.10	<0.10		0.073	WN	NS	NR	NR	NR	NR	23.0	<1.0	DA	DA	
Toluene (uĝ/L)	<0.05	NR	NS	NR	NR	NR	NR	2.2	<0.10	<0.10	<0.10		0.071	WN	NS	NR	NR	NR	NR	76.0	<1.0	PD	ΡD	
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Carbon bloxide	0.0	MN	NS	0.0	0.0	0.0	PR	0.6	1.0	0.1	0.5		0.0	WN	NS	0.1	0.2	0.2	٩٧	0.6	0.1	PD	DD	NM = Not Measured
Coxygen	17.8	NM -	SN	20.9	20.9	20.9	PR	18.6	20.9	20.9	19.7		16.8	WN	NS	19.3	18.5	18.1	۲P	18.5	20.9	PD	PD	
(Waa): Ste gid 1:	WN	WN	NS	16.5	163.0	227.7	PR	179.8	2.9	6.6	1.3	MARKED	11.9	ŴN	NS	658.0	1534.0	1534.0	VP	1534.0	198.0	ΡD	PD	mer Malfunction
 Pressuită Inchessuită 	0.00	WN	NS	0.00	0.00	0.00	РК	0.00	0.00	0.00	0.00		00.0	WN	NS	00.0	0.00	0.00	0.00	0.00	00.0	ΡD	D	NS = Not Sampled due to Transformer Malfunction
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Pluge Voluma(U)	11.8	WN	NS	12.8	13.0	11.0	PR	15.0	13.2	13.5	14.0		6	WN	NS	10.0	11.0	11.0	12.0	12.0	9.8	Dd	ad	
DATE	Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Vveek of 12/04/6		Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of 12/04/6	
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ft below TOC = feet below top of casing

NR = Not Required

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PD = Piezometer Destroyed

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	Xylene (ùg/L)	38.0	NR	NS	NR	NR	NR	NR	2,000.0	130.0	380.00	1,400.0		210.0	NR	NS	NR	NR	NR	NR	950.0	3.1	0.97	37.0
and the second sec	Ethylben (ug/L)	0.25	NR	NS	NR	NR	NR	NR	55.0	11.0	79.00	14.00		0.36	NR	NS	NR	NR	NR	NR	6.50	<0.10	0.18	2.30
- 10 40 40 50 50 - 10 10 10 10 10 10 10 10 10 10 10 10 10	Toluëne (uĝ/L)	54.0	NR	NS	NR	NR	NR	NR	310.0	15.0	<2.5	15.0		41.0	NR	NS	NR	NR	NR	NR	47.0	0.2	<0.1	<0.50
	Benzenè (<u>ug/L</u>)	0.13	NR	NS	R	NR	NR	NR	0.69	<10	<2.5	6.10		2.70	NR	SN	NR	NR	NR	NR	7.60	<0.1	<0.1	<0.50
	Carbon Dioxide	1.1	0.8	NS	0.0	0.0	0.0	0.0	0.1	1,4	1.4	0.9		1.4	0.8	NS	0.0	0.1	0.2	0.3	0.3	0.5	0.6	0.6
	Oxygen (%)	16.0	7.4	NS	18.1	18.7	20.6	20.6	19.7	18.6	18.6	19.3	大学の教育学校会	16.5	6.2	NS	18.0	18.8	20.2	19.7	20.0	20.6	26.0	19.4
	PID PID	103.5	1202.0	NS	1490.0	1534.0	1534.0	1534.0	1534.0	953.0	137.0	1805.0		350.0	415.0	NS	1359.0	1254.0	1534.0	1534.0	1534.0	56.9	8.1	0.00 160.0
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Soil Gas Monitoring 2005/2006	Purge Volume (L)	8.6	13.8	NS	13.4	13.9	14.0	14.0	14.0	9.6	9.7	11.0		10.4	15.6	NS	14.9	15.0	16.0	16.0	16.0	11.3	11.3	12.0
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PD = Piezometer Destroyed

ft below TOC = feet below top of casing

PR = Piezometer needs repair - Not Sampled VP = Vacuum Pump Malfunction - Not Sampled

NR = Not Required

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Soil Gas Monitoring 2005/2006

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Xylënë (úg/L)	300.0	NR	NS	NR	NR	NR	NR	1,900.0	460.0	0.4	710.0		0.35	NR	NS	NR	NR	NR	NR	0.53	0.62	2.50	3.50	
a Ethylben (ught)	2.9	NR	NS	NR	NR	NR	NR	13.0	2.2	0.1	50.0		0.18	NR	NS	NR	NR	NR	NR	0.063	0.10	0.18	0.16	
Toluëne (uĝti)	31.0	NR	NS	NR	NR	NR	NR	220.0	6.6	<0.10	7.4		0.054	NR	NS	NR	NR	NR	NR	0.085	<0.10	0.21	<0.10	
Benzene (uĝ/L)	6.9	NR	NS	RN	NR	NR	NR	8.8	<2.0	<0.10	<5.0		<0.05	NR	NS	NR	NR	NR	NR	<0.05	<0.10	<0.10	<0.10	
Gárhon Dioxide	8.9	5.2	NS	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.4		0.2	2.0	NS	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.1	NM = Not Measured
Oxygen (%)	4.6	1.3	SN	20.9	20.9	20.7	20.9	20.7	20.9	20.9	20.5		17.2	15.9	NS	20.7	20.9	20.9	20.9	20.6	20.9	20.3	20.9	
e PID (PPM)	1589.0	847.0	NS	1490.0	1534.0	1534.0	1534.0	1534.0	1641.0	11.2	555.0		8.5	0.4	NS	58.3	27.8	18.5	51.4	7.7	13.9	18.3	9.6	ue to Transformer Malfunction
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Dêpth to Natêr	5.61	8.65	NS	7.24	8.38	9.02	9.22	8.92	7.5	6.21	8.21	1899	5.08	5.14	NS	5.22	5.25	5.24	5.28	5.21	5.26	5.48	5.39	NS = Not Sampled d
e Purgé (L) Volume (L)	10.3	15.8	NS	13.2	15.0	16.0	17.0	16.0	13.7	11.3	15.0		11.3	9.4	NS	9.5	9.6	9.5	0.6	10.0	9.0	10.0	10.0	
BATE	Week of 1/09/06	Week of 1/15/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week af 9/11/06	Week of 12/04/6		Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of 12/04/6	
Sampling -	Pre-Dewatening	Pre-Aeration	1st Week	2nd Week	3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	4th Quarter		Pre-Dewatering	Pre-Aeration	1st Week	2nd Week	3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	4th Quarter	
	dU-1	nai2			ette. M tet	st Qi	 L		3	ň		説が動振躍が	qU-	hat2		r f	atter Miter	st QI	L		3	, r		
Sample. Location		:								-			TP.#9											

ft below TOC = feet below top of casing

NR = Not Required

VP = Vacuum Pump Malfunction - Not Sampled PD = Piezometer Destroyed

PR = Piezometer needs repair - Not Sampled

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I Gas Mon	as Mon		Itoring	2005/20 Depth to	e.	PID	Oxygen	Carbon DioXide	Benzene	Toluene	Ethylben	Xyleně	GRO
Mactivities Machine (山) 後期 Activities Machine (山) 後期 Activities Machine (山) Week of 9.3 5.1 5.1	volume (L) = 9.3	<u>≪Volume.(⊔) ≤ 25.</u> 9.3 5.1	5.1	5.08	(incres, or water) = 0.00	aa (rrw) -	17.8	.0.0		າງຂອງ ເມີນ⊷ /ຂອງສ	<0.05	0.28	
Week of 1/16/06	WN		MN		WN	WN	WN	WN	WN	WN	WN	MN	WN
: Week of NS NS	SN		NS		SN	NS	NS	NS	NS	SN	NS	NS	NS
2nd Week of 1130/06 10.0 5.54	10.0	2	5.54		0.00	31.2	18.1	0.8	NR	NR	NR	NR	NR
3rd Week Week of 2/6/06 10.0 5.67	10.0		5.67		0.00	52.5	18.5	0.8	NR	NR	NR	NR	NR
4th Week of 2/13/06 10.0 5.74	10.0		5.74		0.00	110.9	17.6	0.8	NR	NR	NR	NR	NR
Week of Week of 11.0 5.85 2nd Month 2/20/06 11.0 5.85	11.0		5.85		0.00	ΛP	٩٧	ΥP	NR	NR	NR	NR	NR
3rd Month 3/06/06 11.0 5.86	11.0		5.86		0.00	21.9	17.1	1.1	0.069	0.62	0.053	6.1	25.0
Week of 6/17/06 9.6 5.23	9.6	9	5.23		00.0	6.7	20.9	0.0	0.11	0.16	<0.10	0.57	14.0
Week of 9.6 5.26	9.6	6	5.26		00.0	4.7	20.9	0.0	<0.10	<0.10	<0.10	<0.30	<5.0
Week of 12/04/6 10.0	10.0	-	5.57		00.0	18.0		0.7	<0.10		0.2	2.7	22.000
Week of							「「「「」						
Pre-Dewatering 1/09/06 10.2 5.55	10.2 NM		CC.C		U.U.	D MN	WN	WN	WN	WN	WN	MN	WN
SN	SN		NS		NS	NS	NS	NS	NS	NS	NS	NS	NS
2nd Week 1/30/06 11.0 6.03	11.0		6.03		0.00	24.0	20.7	0.3	NR	NR	NR	NR	NR
3rd Week Meek of 2/6/06 11.0 6.1	11.0		6.1		0.00	73.2	20.9	0.3	NR	NR	NR	NR	NR
4th Week 2/13/06 11.0 6.19	11.0		6.19		0.00	65.2	20.2	0.3	NR	NR	NR	NR	NR
2nd Month 2/20/06 12.0 6.29	12.0		6.29	_	0.00	٨P	٨p	٨P	NR	NR	NR	NR	NR
Week of 3rd Month 3/06/06 11.0 6.31	11.0		6.31	ļ	0.00	13.2	20.0	0.4	0.055	0.32	0.053	3.3	13.0
Week of 10.3 5.61	10.3		5.61		0.00	2.6	18.8	1.4	<0.10	<0.10	<0.10	<0.30	<5.0
Week of 9/11/05 10.3 5.69	10.3		5.69		0.00	2.8	19.1	1.4	<0.10	<0.10	0.24	1,5	9.000
Week of 12/04/6 10.0 6.00	10.0		6.00		0.00	2.8	14.4	0.7	<0.10	<0.10	<0.10	<0.10	<5.0

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VP = Vacuum Pump Malfunction - Not Sampled PD = Piezometer Destroyed

ft below TOC = feet below top of casing

NM = Not Measured NR = Not Required

NS = Not Sampled due to Transformer Malfunction

PR = Piezometer needs repair - Not Sampled

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Soil Gas Monitoring 2005/2006

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est (ug/L)	<5.0	WN	NS	NR	NR	NR	NR	000.6	17.000	<5.0	120.00		<5.0	WN	NS	NR	NR	NR	NR	8.6	27.0	<5.0	18.000	
Xylênê (uĝ/t.)	0.32	MN	NS	NR	NR	NR	NR	2.3	0.52	<0.30	24		<0.05	WN	NS	NR	NR	NR	NR	1.6	2.4	<0.30	2.4	
Ethylben (ugit.)	<0.05	WN	NS	NR	NR	NR	NR	0.055	<0.10	0.1	0.28	改正など言語が思い	<0.05	WN	NS	NR	NR	NR	NR	0.085	0.11	<0.10	0.18	
r Ioluene (ug/L)	<0.05	MN	SN	NR	NR	NR	NR	0.21	0.19	<0.10	<0.20		<0.05	WN	NS	NR	NR	NR	NR	0.17	0.48	<0.10	<0.10	
Benzene (úg/L)	<0.05	WN.	NS	NR	NR	NR	NR	0.052	0.12	<0.10	<0.20		<0.05	WN	SN	NR	NR	NR	NR	0.05	0.11	<0,10	<0.10	
Gaitbóil bioxidé	0.0	WN	NS	1.3	1.1	1.1	VP	1.4	0.0	0.0	1.6		0.0	MN	NS	0.7	0.8	0.8	٩٧	1.0	1.0	6.0	1.1	NM = Not Measured
Oxygen (%)	17.8	WN	NS	19.3	19.3	18.8	VP	18.7	20.9	20.9	18.5		17.8	MN	NS	20.0	19.4	19.2	٨P	19.1	18.1	18.6	18.5	ц
(Mad)	0.2	ŴŇ	NS	27.0	122.0	72.5	٩٧	10.1	6.7	5.7	30.3		0.1	MN	SN	24.2	121.0	78.8	νp	12.6	19.5	1.8	13.8	mer Malfunctio
the Pressilite of Water)	0.00	WN	SN	0.00	0.00	0.00	0.00	00.0	0.00	0.00	00.0		0.0	WN	NS	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	NS = Not Sampled due to Transformer Malfunction
Depth to Water	7.38	NN	NS	7.73	62.7	7.86	7.94	7.94	7.44	7.48	7.67		6.24	WZ	NS	6.59	6.64	6.69	6.79	6.78	6.35	6.33	6.51	NS = Not Sa
Purge (L)	13.5	ŴŴ	NS	14.0	14.0	14.0	15.0	15.0	13.6	13.6	0.41		11.4	WN	SN	12.0	12.0	12.0	12.0	12.0	11.6	11.6	11.9	
DÂTE	Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of		Week of 1/09/06	Week of 1/15/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of 12/04/6	
Sampling Activities	Pre-Dewatering	Pre-Aeration	1st Week	2nd Week	3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	Ath Ouerter		2	Pre-Aeration	1st Week		3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	4th Quarter	
	dU-1	Star			istie Mitel	ıD is	L			, ,				hst2			afisi Mitel	ıD is	L	<u> </u>				
Sample	TP-#12	•										建設においた	TP-#13											

PD = Piezometer Destroyed

PR = Piezometer needs repair - Not Sampled VP = Vacuum Pump Malfunction - Not Sampled e6 of 7

NR = Not Required

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Soil Gas Monitoring 2005/2006

GRO	<5.0	NR	NS	NR	NR	NR	NR	28.00	35.0	<5.0	<5.0	建物和通常器运输的	35.00	NR	NS	NR	NR	NR	NR	61.00	8.60	<5.0	<5.0	
Xylene (ug/L)	0.340	NR	NS	NR	NR	NR	NR	8.90	1.4	<0.30	0.46	新生产的	1.20	NR	NS	NR	NR	NR	NR	5.20	0.33	<0.30	<0.30	
Ethylben (ug/L)	0.082	NR	NS	NR	NR	NR	NR	0.06	<0.10	<0.10	<0.10	のないである。	0.59	NR	NS	NR	NR	NR	NR	0.17	<0.10	<0.10	<0.10	
Toluene (ug/L)	<0.05	NR	NS	NR	NR	NR	NR	1.00	<0.10	<0.10	<0.10	46	0.14	NR	NS	NR	NR	NR	NR	0.61	<0.10	<0.10	<0.10	
Benzene (ug/L)	<0.05	NR	NS	NR	NR	NR	NR	<0.05	<0.10	<0.10	<0.10	記録世界が設備になって	0.09	NR	NS	NR	NR	NR	NR	<0.05	<0.10	<0.10	<0.10	
Carbon Dioxide (%)	1.0	0.7	NS	0.7	1.2	1.1	VP	1.0	2.7	2.8	40		7.4	0.2	NS	3.0	4.5	4.2	VP	8.7	4.4	1.3	0.0	NM = Not Measured
Oxygen (%)	17.1	19.8	SN	19.4	19.1	18.7	VP	19.2	16.8	17.7	19.0	「「「「「「「「「「「」」」」	12.7	20.4	NS	15.8	13.9	13.6	VP	6.6	16.6	18.8	20.9	L
DIA (MAA)	0.0	2.0	SN	28.8	51.9	89.4	VP	20.3	16.1	3.5	21		0.0	5.7	NS	252.0	449.0	120.2	۷P	25.4	5.8	7.8	1.1	mer Malfunctio
Pressure (Inches of Water)	0.00	0.00	NS	0.00	00.0	0.00	0.00	0.00	00:0	0.00			00.0	0.00	NS	0.00	00:0	0.00	0.00	00.0	00.0	00.0	0.00	NS = Not Sampled due to Transformer Malfunction
Depth to Water	69.69	10.13	NS	10.04	10.06	10.05	10.11	10.07	9:98	9.38	a 16		6.9	7.84	NS	7.52	7.71	7.89	7.91	7.91	6.49	6.39	5.58	NS = Not Sar
Purge	71.1	74.0	NS	73.0	75.0	73.0	74.0	74.0	73.0	68.0	67.0		113.0	129.0	SN	124.0	127.0	129.0	130.0	130.0	150.0	105.0	92.0	
DATE	Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of		Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Vveek of 12/04/6	
Sampling Activities	Pre-Dewatering	Pre-Aeration	1st Week	2nd Week	3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	Ath Outsider		Pre-Dewatering	Pre-Aeration	1st Week	2nd Week	3rd Week	4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	4th Quarter	
	t-Up	Star			əti bu Mitel	iD te	l						۹U-	het2		r rtno	ətrau Mitel	D 12	ŀ		3	6		
Sample	MW #49											がないないないない	DW #1											

PD = Piezometer Destroyed

VP = Vacuum Pump Malfunction - Not Sampled PR = Piezometer needs repair - Not Sampled

ft below TOC = feet below top of casing

NR = Not Required

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Ground Water Monitoring 2005/2006

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			ïĽ	Field Measurement	Irements						(40.013)	320.75	61.05 K		A HARAN	CLA Meur	
Sample	Sampling	DATE	Depth to Water	Depth to Product		E.C.	Hd	TEMP	D.O	ORP	Benzene	Toluene	Ethylben	Xylene	MTBE	DRO	GRO
Location	Event	Č,	(ft below TOC)	(ft below TOC)	(ft below TOC)	(umhos/cm)		् (°F) े	(mg/L)	(m<)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L) -	(mg/L)	(mg/L)
TP#1	o. Baseline	week of 8/15/05	5.35	NPP	9.38	2034	6.92	70.6	NR	NR	1.40	0.05	3.80	23.00	<0.050	1.90	66.00
11-116,	Pre-Dewatering	Week of 1/09/06	5.14	NPP	9.38	1911	6.93	48.0	4.34	183	NR	R	AR	R	R	NR	NR
	Pre-Aeration	Week of 1/16/06	7.88	NPP	9.38	2116	7.05	49.5	0.19	-333	NR	NR	R	NR	NR	R	NR
	1st Week	Week af 1/23/06	SN	SN	NS	NS	NS	NS	SN	NS	SN	SN	SN	SN	NS	NS	NS
	th on 2nd Week	Week of 1/30/06	6.28	NPP	9.38	1957	6.96	50.1	2.20	70	R	NR	NR	NR	R	NR	NR
i97161	ts 3rd Week	Week of 2/6/06	7.25	NPP	9.38	2284	7.04	50.1	4.21	144	R	NR	NR	NR	NR	NR	NR
D tel	4th Week	Week af 2/13/06	7.81	NPP	9.38	2095	6.98	48.5	11.86	87	NR	NR	NR	R	NR	NR	NR
	2nd Month	Week of 2/20/06	8.15	ЧРР	9.38	2261	7.06	50.7	0.883	66	NR	NR	NR	NR	NR	NR	NR
	3rd Month	Week of 3/06/06	8.04	NPP	9.38	2233	7.04	52.0	0.83	186	1.50 P	<0.050	4.10	-30.00	<0.120	3.80	72.00
]	2nd Quarter	Week of 6/17/06	6.8	ЧРР	9.38	2372	6.96	67.3	0.56	-15	2.60	<0.250	3.30.55	3,18.00	<0.620	4.30	40.00
	3rd Quarter	Week of 9/11/06	5.68	ЧРР	9.38	3053	00'2	72.8	0.71	-50	3.20 12	<0.100	3.80	20.00	<0.250	3.50	98.00
	4th Quarter	Week of 12/04/05	7.42	ddN	9.38	3631	6:99	57.3	WN	96	2.536.51	<0.100	1.3.20	20.00	<0.25	3.30	95.00

NS = Not Sampled due to Transformer Mattunction

PR = Piezometer needs repair - Not Sampled

NR = Not Required

NPP = No Product Present NWP = No Water Present

NM = Not Measured

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Ground Water Monitoring 2005/2006

Field Measurements Field Measurements Field Measurements Field Measurements end Depth to Mate Depth to Mate Depth to Mate Depth to Mate Dot Mate Dot Mate Environ Environ <thenviron< <="" th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th>TOO DOIDON!</th><th>5</th><th></th><th></th><th></th></thenviron<>														TOO DOIDON!	5			
Field Measurements Conspan="6" Conspa="6" Conspoare-Conspoare-Conspa="6" Conspa="6" Conspa="6" Conspa="6" Consp			1									北京の新潟	MOCC	20NMAC ₃ 6:2	13103新在标识		EPA Method 8015B	od 8015B
$ \begin{array}{ $				Ē	eld Measu	rements									40.62			
$ \frac{1}{120} = \frac{1}{1200} = \frac{1}{1200} = \frac{1}{120} = \frac$		Sampling	DATE	Depth to Water (ft below TOC)		Total Well Depth		Hd	TEMP (°F)	D.O (mg/L)	ORP (mV)	Benzene (mg/L)	Section Court	thylben (mg/L)		MTBE (mg/L)	DRÓ (mg/L)	GRO (mg/L)
$ \frac{1}{10000000} = \frac{1}{10000000000000000000000000000000000$	+	Baseline	week of 8/15/05	6.84		9.92		6.85	65.2	R	R		10.70	4:20	25.00	<0.05	1.10	84.00
$ \frac{1}{164} = \frac{1}{1646} + \frac{1}{1660} + \frac{1}{1600} + 1$	U-វានរ	Pre-Dewatening	Week of 1/09/06	6.62	NPP	9.92	2001	6.91	48.3	2.56	178	R	NR	NR	R	R	R	R
$ \frac{151 \ Week}{1000 \ 1000 \$	S	Pre-Aeration	Week of 1/16/06	9.12	ЧРР	9.92	1807	7.01	50.3	1.01	120	NR	R	NR	R	R	R	R
$ \frac{1}{100} \frac{1}{2 \text{ MVeek}} \text{Week of } 7.74 \qquad \text{NPP} \qquad 9.92 \qquad 1694 \qquad 6.96 \qquad 49.4 \qquad 5.64 \qquad 5.54 \qquad \text{NR} \qquad$		1st Week	Week of 1/23/06	SN	NS	SN	SN	SN	NS	SN	SN	SN	SN	SN	NS	NS	NS	NS
Image: Mark of Stole 9.25 NPP 9.92 1477 7.05 49.0 10.02 141 NR			Week of 1/30/06	7.74	ddN	9.92	1694	6.96	49.4	5.64	-531	NR	R	NR	R	R	NR	NR
4th Week Week of 21306 9.73 NPP 9.92 1347 7.03 46.6 18.37 .523 NR		l	Week of 2/6/06	9.25	NPP	9.92	1477	7.05	49.0	10.02	141	R	R	NR	RN	R	R	NR
Znd Month Week of Z22006 9.83 NPP 9.92 1445 7.03 48.7 15.95 70 NR	iQ is	4th Week	Week of 2/13/06	9.73	NPP	9.92	1347	7.03	46.6	18.37	-523	R	R	NR	R	RN	R	NR
h Week of 30605 9.83 NPP 9.92 1802 7.08 53.2 9.48 184 56.201 7.170 0.51 55.005 Notice 8.27 NPP 9.92 3586 6.93 62.8 0.94 -216 7.305 7.400 7.5005 7.4005 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.2405 7.	 	2nd Month	Week of 2/20/06	9.83	ddN	9.92	1445	7.03	48.7	15.95	70	NR	NR	NR	R	R	NR	NR
Week of 61706 8.27 NPP 9.92 3586 6.93 62.8 0.94 -216 3.30 2.40 2.203 5.14.00 01706 7.37 NPP 9.92 2531 7.03 67.4 0.65 -13 3.30 0.27 2.205 3.15.00 Vector 9.03 0.95 57.4 0.65 -13 3.30 0.27 2.205 3.15.00 Vector 9.03 5.35 2.14 177 1.77 1.70 <0.100	L	3rd Month	Week of 3/06/06	9.83	ddN	9.92	1802	7.08	53.2	9.48	184	6.201	1170		5.00	<0.120	9.90	27.00
Week of Priloid 7.37 NPP 9.92 2531 7.03 67.4 0.65 -13 10.330 0.27 2.200 15.005		2nd Quarter	Week of 6/17/06	8.27	ЧРР	9.92	3586	6.93	62.8	0.94	-216		2.40		14:00	<0.120	4.90	42.00
Week of 1204.06 0.10 0.23 53.5 2.14 177 0.100 0.224.06 0.1200		3rd Quarter	Week of 9/11/06	7.37	ЧРР	9.92	2531	7.03	67.4	0.65		12(3)30 A		2.80	15:00	<0.25	1.30	77.00
		4th Quarter	Week of 12/04/06	9.03	ddN	9.92	3548	6.92	53.5	2.14	177	1:70		2,40	12:00	<0.250	1.50	41.00

PR = Piezometer needs repair - Not Sampled

NWP = No Water Present

NR = Not Required

NM = Not Measured

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Ground Water Monitoring 2005/2006

Field Measurements Sampling Date Depth to Water Depth to Water <thdepth th="" to="" water<=""> Depth to Water</thdepth>	PH TEMP 6.95 68.4 6.97 50.3 8.03 NS NS	0.00 3.00 NS NS		Benzene T	37 0,7535	2-0-75 A	0.62.57			
DATE Depth to Mater Depth to Product Total Well me (ft below TOC) (ft below TOC) (ft below TOC) week of Neek of Neek of 10906 6.61 NPP 12.35 no week of Neek of 10906 6.44 NPP 12.35 no week of 10806 6.48 NPP 12.35 efk 10806 6.48 NPP 12.35 efk 10306 6.48 NPP 12.35 efk 10306 NS NS NS veek of 103006 7.01 NPP 12.35 NS efk 20506 7.01 NPP 12.35 NS efk 21306 7.14 NPP 12.35 NS efk 21306 6.15 NPP 12.35 NS efk 21306 6.15 NPP 12.35 NS efk 21306 6.15 NPP 12.35 NS efk 2135 NPP 12.35	28 8 79 20 29 29 20			_						
week of Week of Nuesk of building 6.61 NPP 12.35 Neek of Nuesk of Nuesk of K 6.44 NPP 12.35 N Vieek of Nuesk of K 6.48 NPP 12.35 K Vieek of Vieek of K 6.48 NPP 12.35 K Vieek of Visiols 6.48 NPP 12.35 K Visiols 7.01 NPP 12.35 K Visiols 7.01 NPP 12.35 K Visiols 7.01 NPP 12.35 K Visiols 6.15 NPP 12.35 K Visiols 6.15 NPP 12.35 K Visiols 6.15 NPP 12.35 Visiols 6.15 NPP 12.35 Visiols 8.09 NPP 12.35	2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		NR 234		Toluene E (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
Mveek of Nueked 6.44 NPP 12.35 0n 1/16/05 6.48 NPP 12.35 k 1/15/05 6.48 NPP 12.35 k 1/23/05 NS NS NS k 1/23/05 NS NS NS k 1/23/05 7.01 NPP 12.35 k 1/30/05 7.01 NPP 12.35 k 1/30/05 7.14 NPP 12.35 k 26/05 7.14 NPP 12.35 k 28/06 6.15 NPP 12.35 k 28/06 9.09 NPP 12.35 x 28/06 9.09 NPP 12.35	86		234	<0.005		<0.005	0.0012	<0.0025	<1.0	<0.05
vveck of 11606 6.48 NPP 12.35 k 1/2306 NS NS NS k 1/2306 NS NS NS k 1/2306 7.01 NPP 12.35 k 1/2306 7.01 NPP 12.35 k Vveck of 2606 7.14 NPP 12.35 k Vveck of 2600 6.15 NPP 12.35 vveck of 27306 6.15 NPP 12.35 vveck of 20606 8.09 NPP 12.35	97 SI	3.00 NS	330	NR	NR	NR	NR	NR	NR	NR
Week of 12306 NS NS NS K 12306 7.01 NPP 12.35 K Week of Week of Veek of 25:06 7.14 NPP 12.35 K 25:06 7.14 NPP 12.35 K 21:306 6.15 NPP 12.35 K 21:306 6.15 NPP 12.35 Week of Week of Week of Week of Week of 8.09 NPP 12.35	N ST P	SN	202	NR	NR	NR	NR	R	NR	NR
k Week of 1.3006 7.01 NPP 12.35 k Week of 26/06 7.14 NPP 12.35 k Week of Week of 20306 6.15 NPP 12.35 k Week of 20306 6.15 NPP 12.35 k Week of Week of Week of 30606 8.09 NPP 12.35	04 40		SN	SN	SN	NS	NS	NS	NS	NS
Week of 26,06 7.14 NPP 12.35 K 213,06 6.15 NPP 12.35 K 213,06 6.15 NPP 12.35 Neek of Neek of Week of Neek of Neek of PR PR PR 3,06,05 8.09 NPP 12.35		0.45	217	NR	NR	NR	NR	R	NR	NR
week of week of week of week of week of 6.15 NPP 12.35 NDB PR PR PR NDB/06/05 8.09 NPP 12.35	7.00 48.7	0.52	235	NR	NR	NR	R	NR	R	R
Week of 272006 PR PR Week of 3/06/06 8.09 NPP 12.35	7.03 49.5	0.36	254	NR	NR	NR	NR	R	NR	NR
Week of 30606 8.09 NPP 12.35	PR PR	Я	R	NR	R	R	NR	R	NR	NR
	6.94 47.9	0.21	256	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.05
2nd Quarter 6/17/06 7.23 NPP 12.35 856	6.99 62.1	0.98	179	<0.001	<0.001	<0.001	<0.003	<0.0025	6.15	<0.05
3rd Quarter Week of 7.41 NPP 12.35 779	6.99 68.0	0.33	233	<0.001	<0.001	<0.001	<0.003	<0.0025	0.15	<0.05
4th Quarter 12/04/06 7.77 NPP 12.35 673	7.06 54.8	1.32	242	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.05

PR = Piezometer needs repair - Not Sampled NR = Not Required

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Ground Water Monitoring 2005/2006

			希知 人名法		,			• •			語がためた話	ALTERNATION NOCO ZUNMAC. 0.2.3103 C. NORTHER DESCRIPTION	ZONMAC.0.	Z.3103 2.310		EPA Meth	od 80151
			Ĩ	Field Measurements	Irements						\$0.01	(E0)75.53	50075	360.62 34			
Sample	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	internation E.C.≻ (umhos/cm)	Hd and	TEMP (°F)	D.O. (mg/t.)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
		week of 8/15/05	5.00	ddN	6.49	969	6.88	70.0	R	R	<0.01	<0.01	0.42	0.22	<0.05	5	8.2
	Pre	Veek of 1/09/06	4.96	ddN	6.49	409	6.95	39.7	1.55	231	NR	NR	NR	R	NR	NR	R
		Week of 1/16/06	dMN	NWP	6.49	NWP	MWN	NWP	MWN	NWP	MWN	dWN	NWP	NWP	NWP	NWP	NWP
	1st Week	Week of 1/23/06	SN	SN	SN	NS	NS	NS	SN	SN	SN	SN	SN	NS	NS	SN	NS
		Week of 1/30/06	5:74	ddN	6.49	353	6.94	38.5	0.46	219	R	R	R	R	NR	NR	NR
1971.61	at Week	Week of 2/6/06	6.06	NPP	6.49	356	7.00	41.4	1.94	217	R	RN	R	N	R	NR	NR
in Is		Week of 2/13/06	6.24	NPP	6.49	364	7.02	42.5	2.72	70	NR	NR	NR	NR	NR	NR	NR
, ,	2nd Month	Week of 2/20/06	NWP	NWP	6.49	NWP	NWP	NWP	MWN	NWP	NWP	NWP	NWP	NWP	NWP	NWP	NWP
	3rd Month	Week of 3/06/06	NWP	NWP	6.49	NWP	NWP	NWP	MWN	NWP	NWP	NWP	NWP	NWP	NWP	NWP	NWP
1	2nd Quarter	Week of 6/17/06	5.33	APP	6.49	681	6.95	59.8	0.54	236	<0.010	<0.001	<0.001	5.70	<0.025	1.1000	9.200
<u>L.</u>	3rd Quarter	Week of 9/11/06	WN	WN	WN	MN	WN	WN	WN	WN	WN	WN	WN	WN	WN	WN	WN
	4th Quarter	Week of 12/04/06	WN	WN	WN	WN	NM	NM	WN	WN	WZ	WN	WN	WW	WN	WN	WN

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Ground Water Monitoring 2005/2006

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											のない。	CALL WOCC	MQCC 20NMAC 6.2.3103 编述	2.310344	時代になるないない	EPA Method 8015B	od 8015
			Ĩ	Field Measurements	rements						美0.01部	440.75 av	E=0,75,6	2.0.62			
Sample	Comution	DATE	Conth to Water	Depth to	Total Well	0 4	Hd	TEMP	D. 0	ORP	Benzene	Toluene	Ethylben	Xylene	MTBE	DRO	GRO
Location	Event		(It below TOC)	5	(ft below TOC)	(umhos/cm)		(°F)	(mg/L)	(m)	(mg/L)	(mg/L)	1	/ɓɯ)	(mg/L)	(mg/L)	(mg/L)
TP#5 0		week of 8/15/05	5.91	ddN	8.84	923	6.90	68.7	NR	NR	0.35	<0.005	3.5	21	<0.05	1.2	56
U-116	Pre-Dewatering	Week of 1/09/06	4.7	NPP	8.84	947	6.94	49.0	1.44	-45	R	NR	NR	NR	R	NR	NR
ŧs	Pre-Aeration	Week of 1/16/06	7.5	NPP	8.84	1390	6.97	49.1	0.03	-160	NR	R	NR	NR	NR	NR	N
	1st Week	Week of 1/23/06	SN	SN	NS	NS	NS	SN	SN	NS	SN	NS	NS	SN	NS	SN	NS
		Week of 1/30/06	7.33	ddN	8.84	1222	6.99	51.5	0.94	-151	NR	NR	NR	NR	NR	NR	NR
	st Week	Week of 2/6/06	7,60	NPP	8.84	1330	7.06	51.6	0.98	-132	NR	R	NR	NR	NR	NR	NR
ist Qi	4th Week	Week of 2/13/06	7.73	ddN	8.84	776	7.07	53.2	0.87	-101	R	NR	R	NR	N	NR	NR
·	2nd Month	Week of 2/20/06	7.85	NPP	8.84	770	7.02	52.0	09.0	-67	NR	NR	NR	NR	NR	NR	R
•	3rd Month	Week of 3/06/06	7.81	NPP	8.84	747	7.03	54.1	0.52	-51	÷.0.2	<0.02	0.28	20	<0.05	<1.0	59
<u> </u>	2nd Quarter	Week of 6/17/06	5.24	ddN	8.84	989	6.94	65.3	0.05	39	0.054	<0.001	5.71.6.4		<0.025	<3.0	34
	3rd Quarter	Week of 9/11/06	5.32	ddN	8.84	879	7.09	71.0	0.29	149	<0.01	<0.01	-13.1 B	16 Sa	<0.025	<1.0	110
	4th Ouarter	Week of 12/04/06	5.95	NPP	8.84	1377	6.99	56.0	1.36	229	0.069	<0.050	11.2	210 J	<0.120	<1.0	50

NS = Not Sampled due to Transformer Malfunction NPP = No Product Present

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			-		9 90 9 9 9 9 9			í				EPA EPA	EPA Method 8021B DCC;20NMAC;6;2:31	033626		EPA Method 8015B	od 8015B
			Ĩ	Field Measurements	Irements				• .		0.01	20175	£007579	<u>5 0.62</u>			
Sample	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	Hd	TEMP (°F)	(mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
d	Baseline	week of 8/15/05		ddN	9.94	1128	6.94	68.2	N	R	A 0.28	<0.01	15.82 Ban	12 S12 - S12	<0.05	-	26
——– ป-กย	Pre-Dewatering	Week of 1/09/06	5.63	NPP	9.94	983	6.94	48.6	0.39	87	R	R	R	R	RN	NR	NR
IS	Pre-Aeration	Week of 1/16/06	8.53	ЧРР	9.94	982	7.05	50.6	0.36	44	R	NR	R	NR	R	NR	NR
	1st Week	Week of 1/23/06	SN	SN	SN	SN	NS	NS	SN	NS	NS	NS	SN	NS	NS	NS	NS
	2nd Week	Week of 1/30/06	8.15	NPP	9.94	1401	7.02	52.4	2.83	-202	R	NR	NR	NR	R	R	NR
istisi M 121	[Week of 2/6/06	8.4	NPP	9.94	1573	7.05	50.4	0.89	-129	R	R	R	NR	R	NR	NR
st Qu	[Week af 2/13/06	8.54	ddN	9.94	1336	6.97	49.1	2.59	111	R	R	R	R	R	R	NR
l L	2nd Month	Week of 2/20/06	8.59	ddN	9.94	566	7.05	49.7	2.06	129	NR	NR	NR	NR	NR	NR	NR
	3rd Month	Week of 3/06/06	8.61	NPP	9.94	602	7.35	52.3	0.63	153	<0.001	<0.001	0.18	120.75 x	<0.025	<1.0	2.7
	2nd Quarter	Week of 6/17/06	6.18	ЧРР	9.94	1216	6.98	66.5	0.38	94	<0.001	<0.001	1.4.4	0.35	<0.025	c1.0	9.1
	3rd Quarter	Week of 9/11/06	6.17	ddN	9.94	2698	7.02	69.4	0.76	45	10:027.4	<0.01	0.41	0.045	<0.025	<1.0	5.3
	4th Quarter	Week of 12/04/06	6,61	ddN	9.94	1826	6.95	54.8	1.03	226	0.006	<0.001	<0.001	<0.003	<0.0025	<1.0	0.48
				NS = Not Sa	NS = Not Sampled due to Tra	ransformer Malfunction	nction	z	PP = No Pn	NPP = No Product Present	t.						

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Ground Water Monitoring 2005/2006

955	2	GRO	(mg/L)	84	R	NR	NS	R	NR	R	NR	37	19	57	79
EDA Mathod 8015B			_												
		DRO	(mg/L)	7.8	R	R	SN	R	R	R	NR	18	6.8 9	5.6	1.4
のようなのないの		MTBE	(mg/L)	<0.25	R	NR	NS	R	NR	NR	NR	<0.025	<0.025	<0.025	<0.025
2.3103 ¥ 20	32 0.62 3	Xylené	(mg/L)	25	NR	R	NS	NR	NR	NR	NR	10,4		1.6	12 F
CC 20NMAC 6.2.31	能 0.75種	Ethylben	(mg/L)	13.20	NR	R	NS	R	NR	NR	NR	1.10 P	0.64	0.58	1.30
ELA MOCC	建0.75%	Toluene	(mg/L)	<0.05	R	R	NS	R	R	R	NR	<0.10	<0.100	<0.010	<0.010
EFA MELLIOU 30/215 WOCC 20NMAC 6:2.3103	20.01 M	Benzene	(mg/L)	教に施	NR	R	NS	NR	NR	NR	NR	0.35		<0.01	0.041
		ORP	 (mV) 	NR	345	200	SN	91	89	209	199	228	143	107	187
		0.0	(mg/L)	NR	1.13	0.21	NS	7.49	2.52	1.67	0.81	0.61	0.48	0.43	1.56
		TEMP	(°F)	72.4	49.4	50.9	NS	50.1	51.0	48.6	48.2	52.6	67.6	74.6	57.3
		Hq		6.94	6.98	7.04	SN	6.97	7.08	6.92	6.95	7.03	7.01	7.03	7.04
		E.C.	(umhos/cm)	1934	1802	1769	NS	1704	2077	2024	1627	1613	2032	2977	1855
	Irements	Total Well	(ft below TOC)	9.72	9.72	9.72	NS	9.72	9.72	9.72	9.72	9.72	9.72	9.72	9.72
	Field Measurements	Depth to Product	(ft below TOC)	ddN	ЧРР	NPP	NS	NPP	NPP	NPP	ЧРР	NPP	ddN	ddN	NPP
	Ë	Depth to Water	(ft below TOC)	6.61	5.61	8.23	SN	7.24	8.38	9.02	9.22	8.92	7.5	6.21	8.21
		DATE		week af 8/15/05	Week of 1/09/06	Week of 1/16/06	Week of 1/23/06	Week of 1/30/06	Week of 2/6/06	Week of 2/13/06	Week of 2/20/06	Week of 3/06/06	Week of 6/17/06	Week of 9/11/06	Week of 12/04/06
		Samolino	Event	Baseline	Pre-Dewatering	Pre-Aeration	1st Week	2nd Week		4th Week	2nd Month	3rd Month	2nd Quarter	3rd Quarter	4th Quarter
						s		dtnoi '		D tel			^		
		Sample	Location	TP-#8											

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Total Well EX. PH TetM D0 ORP Bennoes Total Well Wile PRO PRO FO (nig)(1) (min)(1) (min)(1)	Field Measurements
1968 6.92 6.2.8 NR	Depth to Water Depth to 1 of 1 of 1 of 1 of 1 of 1 of 1 of 1
1870 6.91 48.0 11.07 222 NR	5.12 NPP 1
1981 7.00 47.5 0.32 97 NR	5.08 NPP 10
NS NS<	5.14 NPP 10
2029 6.99 48.1 0.62 251 NR	N SN
1999 7.03 45.0 0.84 243 NR	5.22 NPP 10.1
1897 6.93 44.8 1.02 197 NR	5.25 NPP 10.5
1850 6.99 44.4 0.73 198 NR	5.24 NPP 10.91
1944 7.02 47.8 0.75 214 <0.001 <0.003 <0.003 <0.0025 <1.0 1883 7.02 60.6 0.39 169 <0.001	5.28 NPP 10.9
1883 7.02 60.6 0.39 169 <0.001 <0.001 <0.003 <0.0025 <1.0 1809 7.04 64.8 1.09 219 <0.001	5.21 NPP 10.9
1809 7.04 64.8 1.09 219 <0.001 <0.001 <0.003 <0.0025 <1.0 2149 7.06 51.9 1.37 254 <0.001	5.26 NPP 10
2149 7.06 51.9 1.37 254 <0.001 <0.001 <0.003 <0.0025 <1.0	5.48 NPP 10
	5.39 NPP 10

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				-									EPA EPA	EPA Method 8021B 0CC 20NMAC 6.2.31	EPA Method 8021B	の語言なない。	EDA Math	EDA Mathod 8015B
				Ĩ	Field Measurements	Irements						第10.0美	0.7529	\$2.0.75	÷40.62	Halle		
Sample		Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	Hq	TEMP (°F)	D.O (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP#10	<u> </u>		week of 8/15/05	5.10	NPP	9.95	377	6.94	71.2	R	NR	<0.0005	<0.0005	<0.0005	0.0025	<0.0025	<1.0	<0.05
	Ս-րթ	Pre	Week of 1/09/06	5.08	NPP	9.95	390	7.02	42.6	8.31	179	NR	NR	NR	NR	NR	R	NR
	is		Week of 1/16/06	5.09	ddN	9.95	387	7.02	42.4	4.47	182	NR	R	NR	NR	NR	NR	NR
		1st Week	Week of 1/23/06	SN	NS	NS	NS	NS	SN	SN	SN	SN	NS	NS	NS	NS	NS	NS
		2nd Week	Week of 1/30/06	5.54	NPP	9.95	353	6.93	41.2	1.73	201	NR	NR	NR	NR	NR	NR	R
	istisi Mitel		Week of 2/6/06	5.67	NPP	9.95	356	7.00	39.7	3.61	228	NR	R	NR	NR	R	NR	R
	lst Qi	4th Week	Week of 2/13/06	5.74	ddN	9.95	343	00.7	41.2	2.18	107	NR	NR	NR	NR	NR	NR	R
		2nd Month	Week af 2/20/06	5.85	NPP	9.95	352	7.04	41.4	1.83	220	NR	R	NR	Å	R	NR	NR
	l	3rd Month	Week of 3/06/06	5.86	NPP	9.95	355	6.99	42.8	1.72	224	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.05
		2nd Quarter	Week of 6/17/06	5.23	NPP	9.95	325	7.01	59.8	1.52	168	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.05
		3rd Quarter	Week af 9/11/06	5.26	NPP	9.95	395	6.97	62.6	0.45	247	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.05
		4th Quarter	Week of 12/04/06	5.57	NPP	9.95	387	7.00	44.9	1.44	269	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.05

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Ground Water Monitoring 2005/2006

Field Measurements Section Colspan="6">Section Colspan="6">Section Colspan="6">Section Colspan="6">Section Colspan="6">Section Colspan="6">Section Colspan="6">Section Colspan="6"Section Colspa="S																		
Field Measurements Field Measurements Poppin to Water Poppin to Mater Poppin to Mater <th< th=""><th></th><th></th><th></th><th></th><th>, in .</th><th>15</th><th>•</th><th></th><th></th><th></th><th></th><th>的行政的法律</th><th>NOCC</th><th>ZONMAC 6.</th><th>2.3103,05%</th><th></th><th>EPA Method 8015B-</th><th>od 8015B-</th></th<>					, in .	15	•					的行政的法律	NOCC	ZONMAC 6.	2.3103,05%		EPA Method 8015B-	od 8015B-
DATE Depth to Water Depth to Water <thdepth th="" th<="" to="" water<=""><th></th><th></th><th></th><th>Ē</th><th>eld Measu</th><th>Irements</th><th></th><th></th><th></th><th></th><th></th><th>2710:01F</th><th>2-0.75X</th><th>10:75 th</th><th>20.62</th><th></th><th></th><th>athaleer torreader data a' a' a' a' a'</th></thdepth>				Ē	eld Measu	Irements						2710:01F	2-0.75X	10:75 th	20.62			athaleer torreader data a' a' a' a' a'
Baseline week of e1/505 5.67 NPP 9.98 794 6.93 68.2 NR NR <0.0005		Sampling	DATÊ	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)		H	TEMP (°F)	D.O	ORP (mV)	Benzeñe (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
Pre-Dewatering week of 10306 5.55 NPP 9.98 967 6.99 48.3 1.35 150 NR Pre-Dewatering 110306 5.51 NPP 9.98 1041 6.95 47.6 1.30 158 NR Pre-Aeration Week of 154 Week NS		Baseline	week of 8/15/05		NPP	9.98		6.93	68.2	NR	R	<0.0005	<0.0005	<0.0005	0.0028	<0.0025	<1.0	<0.05
$P_{Te-Aeration}$ week of 11 folds 5.51 NPP 9.98 1041 6.95 47.6 1.30 158 NR $Tet-Aeration$ 111 folds NS N		Pre-Dewatening	Week of 1/09/06	5.55	ddN	9.98	967	6.99	48.3	1.35	150	R	R	NR	NR	NR	NR	R
Ist Week of Ist Week of 2nd Week Week of It2006 NS N		Pre-Aeration	Week of 1/16/06	5.51	ЧРР	9.98	1041	6.95	47.6	1.30	158	R	NR	NR	NR	R	NR	NR
Ind Week of 2nd Week of 130 Week of 1300 Week of 1300 Week of 1300 Week of 1300 G 6.03 NPP 9.98 556 6.94 46.8 0.56 194 NR 3rd Week of 2nd Week of 2060G 6.1 NPP 9.98 831 6.97 45.5 1.75 257 NR 4th Week Week of 2060G 6.19 NPP 9.98 805 6.97 45.5 0.88 242 NR 2nd Month Week of 2000 6.19 NPP 9.98 941 7.01 46.2 0.15 240 NR 2nd Month Week of 2000 6.31 NPP 9.98 851 6.92 45.4 0.24 243 6.001 3nd Month Week of 2000 6.31 NPP 9.98 851 6.92 45.4 0.24 243 6.001 3nd Month Week of 2000 6.31 NPP 9.98 851 6.92 45.4 0.24 243 6.001 Modulater Week of 2.60 5.61 0.98 5.51		1st Week	Week of 1/23/06	SN	NS	SN	SN	NS	NS	SN	NS	NS	NS	NS	SN	NS	NS	SN
3rd Week of 3rd Week week of 26:06 6.1 NPP 9.98 831 6.97 45.5 1.75 257 NR 4th Week week of Neek of 2000th 6.19 NPP 9.98 805 6.97 45.5 0.88 242 NR 2nd Month week of 2000th 6.39 NPP 9.98 805 6.97 45.5 0.88 240 NR 3rd Month 20206 6.39 NPP 9.98 851 7.01 46.2 0.15 240 NR 3rd Month 20206 6.31 NPP 9.98 851 6.92 45.4 0.15 240 NR Month 20506 6.31 NPP 9.98 851 6.92 45.4 0.24 243 6.001 Moduater Week of 2.61706 5.61 NPP 9.98 551 6.98 6.77 0.36 269 6.001			Week of 1/30/06	6.03	ddN	9.98	556	6.94	46.8	0.56	194	R	NR	NR	NR	NR	NR	NR
week of beta Week of 21306 6.19 NPP 9.98 805 6.97 45.5 0.88 242 NR h Week of Week of b 6.29 NPP 9.98 941 7.01 46.2 0.15 240 NR h 306006 6.31 NPP 9.98 851 6.92 45.4 0.24 243 <0.001			Week of 2/6/06	6.1	ddN	9.98	831	6.97	45.5	1.75	257	NR	NR	NR	NR	NR	NR	NR
In Week of 2x0005 6.29 NPP 9.96 941 7.01 46.2 0.15 240 NR h Week of 306.06 6.31 NPP 9.96 851 6.92 45.4 0.24 243 <0.001		4th Week	Week of 2/13/06	6.19	ddN	9.98	805	6.97	45.5	0.88	242	R	R	NR	NR	NR	NR	NR
h Week of 306005 6.31 NPP 9.98 851 6.92 45.4 0.24 243 <0.01 · Week of Week of Week of 9.1106 5.61 NPP 9.98 851 6.92 45.4 0.24 243 <0.001	1	2nd Month	Week of 2/20/06	6.29	APP	9.98	941	7.01	46.2	0.15	240	R	NR	NR	NR	R	R	R
Week of 617/06 5.61 NPP 9.98 551 6.98 62.6 1.11 177 <0.001 Week of 911/06 5.69 NPP 9.98 532 7.06 67.7 0.36 269 <0.001	1	3rd Month	Week of 3/06/06	6.31	ddN	9.98	851	6.92	45.4	0.24	243	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.05
Week of 9/11/06 5.69 NPP 9.98 6.32 7.06 67.7 0.36 269	N 1	nd Quarter	Week of 6/17/06	5.61	NPP	9.98	551	6.98	62.6	1.11	177	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
	3	rd Quarter	Week of 9/11/06	5.69	ddN	9.98	632	7.06	67.7	0.36	269	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
Week of th Quarter Week of 12/04/05 6 NPP 9.98 7.38 7.07 52.8 0.97 257 <0.001		th Quarter	Week of 12/04/06	9	NPP	9.98	738	7.07	52.8	0.97	257	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050

NWP = No Water Present PR = Piezometer needs repair - Not Sampled

NPP = No Product Present

NR = Not Required

NS = Not Sampled due to Transformer Malfunction

NM = Not Measured

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Ground Water Monitoring 2005/2006

											ſ		FPA	FPA Method 8021B				
												「「「「「「「」」」」	NOCC	WOCC 20NMAC 6.2.3103	2.3103 - 22	「日本のないない」	EPA Meth	EPA Method 8015B
				ί Ξ	Field Measurement	irements						20.013	第0.75%	10.75 E.	2.0.62			
Sample	Sa N	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth- (ft below TOC)	E.C. (umhos/cm)	Ha	TEMP (°F)	D.O (mg/L)	or Solution	Benzenê (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP#12		Baseline	week of 8/15/05	7.43	NPP	11.79	2143	6.88	64.1	NR	NR	<0.0005	<0.0005	0.00055	0.0042	0.0028	1.00	<0.050
	1U-716	Pre-Dewatering	Week of 1/09/06	7.38	NPP	11.79	1072	6.91	47.1	2.01	244	NR	R	R	AR	NR	R	NR
		Pre-Aeration	Week of 1/16/06	7.41	ddN	11.79	1234	7.06	50.3	2.96	219	R	R	NR	NR	NR	NR	R
		1st Week	Week of 1/23/06	SN	NS	SN	NS	NS	SN	NS	NS	SN	NS	SN	SN	NS	SN	NS
		2nd Week	Week of 1/30/06	7.73	ddN	11.79	1000	6.97	48.4	1.31	226	R	NR	NR	NR	NR	NR	NR
	istisi Mitet	3rd Week	Week of 2/6/06	7.79	ddN	11.79	1008	6.99	47.6	0.62	268	NR	R	R	R	NR	R	NR
	Ist Qi	4th Week	Week of 2/13/06	7.86	NPP	11.79	1001	6.98	47.5	1.25	228	NR	RN	RN	AR	NR	NR	NR
		2nd Month	Week of 2/20/06	7.94	ddN	11.79	1134	7.00	47.6	0.16	217	NR	R	R	NR	R	NR	NR
		3rd Month	Week of 3/06/06	7.94	ddN	11.79	1234	6.91	48.0	0.19	242	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
	2nd	2nd Quarter	Week of 6/17/06	7.44	ddN	11.79	1171	7.00	55.9	0.26	157	<0.001	<0.001	<0.001	<0.003	0.0049	<1.0	<0.050
	3rd	3rd Quarter	Week of 9/11/06	7.48	NPP	11.79	1875	6.98	60.0	0.91	237	<0.001	<0.001	<0.001	<0.003	0.0081	<1.0	<0.050
	4th	4th Quarter	Week of 12/04/06	7.67	APP	11.79	855	6.99	52.8	3.11	252	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
					NS = Not Sa	NS = Not Sampled due to Trar	Transformer Malfunction	ction	Ź	PP = No Pr	NPP = No Product Present	+						

PR = Piezometer needs repair - Not Sampled

NR = Not Required

NM = Not Measured

NWP = No Water Present

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Ground Water Monitoring 2005/2006

										**	Salar Salar	EPA	EPA Method 8021B VOCC-20NMAC 6:2:3103 %33	- 183	A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR	EDA Vet	
	•	•	Ē	Field Measurements	rements	*	•				600133	6.10.75 M	25/j020	\$42.0.62 K			
Sample	Sampling	DATE	Depth to Water (ft below TOC)	Depth to Product (ft below TOC)	Total Well Depth (ft below TOC)	E.C. (umhos/cm)	pH 2	TEMP (°F)	D.O (mg/L)	ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
TP#13 0	a. Baseline	week af 8/15/05	6.27	ЧРР	16.09	1226	6.97	58.4	R	R	<0.0005	<0.0005	<0.0005	0.0037	<0.0025	<1.0	<0.050
 U-1181	Pre-Dewatering	Week of 1/09/06	6.24	ddN	16.09	1098	6.99	51.7	1.19	215	R	R	NR	NR	NR	NR	NR
	Pre-Aeration	Week of 1/16/06	6.27	ddN	16.09	1157	7.03	51.6	2.55	210	NR	NR	R	NR	NR	NR	NR
<u> </u>	1st Week	Week of 1/23/06	SN	SN	NS	SN	NS	NS	NS	SN	NS	NS	NS	SN	SN	SN	NS
	E 2nd Week	Week of 1/30/06	6.59	ddN	16.09	803	6.96	49.5	0.66	195	R	R	R	NR	NR	NR	NR
iətisi	and Week	Week of 2/6/06	6.64	ddN	16.09	717	7.09	49.0	0.44	241	R	¥	RN	NR	R	NR	NR
D 121	4th Week	Week of 2/13/06	6.69	NPP	16.09	573	7.02	48.8	2.25	212	NR	NR	R	NR	NR	NR	NR
,	2nd Month	Week of 2/20/06	6.79	ddN	16.09	478	7.01	46.7	0.49	218	R	NR	NR	NR	NR	NR	NR
	3rd Month	Week of 3/06/06	6.78	ddN	16.09	508	6.90	46.3	0.28	242	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
	2nd Quarter	Week of 6/17/06	6.35	ddN	16.09	526	7.02	58.6	0.28	240	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
L	3rd Quarter	Week af 9/11/06	6.33	ddN	16.09	554	6.98	63.9	0.54	244	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
	4th Quarter	Week of 12/04/06	6.51	NPP	16.09	515	7.08	53.9	0.97	251	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
				NS = Not Sa	NS = Not Sampled due to Trar	ransformer Malfunction	Iction	ž	⊃P = No Prc	NPP = No Product Present							

PR = Piezometer needs repair - Not Sampled

NWP = No Water Present

NR = Not Required

NM = Not Measured

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Ground Water Monitoring 2005/2006

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											単語の語を見た	WQCC.	20NMAC 6	(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	「「「ない」」	EPA Method 8015B	od 8015B
			Ĩ	Field Measurements	Irements						至0.01部	10.75 X	12:023 22:023	10.62			a (na stra Marija a strana
Sample	Sampling	DATE	Depth to Water		1.7-1		Hd	TEMP	D.0	ORP	Benzene (mo/l)	Toluene	Ethylben (mo/L)	Xylene (ma/L)	MTBE (mo/L)	DRO (ma/L)	GRO (ma/L)
MW #49	Event Baseline	week of 8/15/05	(11 below IUC)		16.48	2393	6.96	59.8	NR		0.093	<0.002	0.015	0.0041	<0.002	R	NR
 สุป-ทะ	Pre		69.6	NPP	16.48	1973	6.99	51.7	2.23	123	R	R	RN	NR	R	NR	NR
4S		<u> </u>	9.76	ЧРР	16.48	1852	7.04	53.2	0.34	83	NR	R	R	R	R	R	NR
	1st Week	Week of 1/23/06	SN	SN	NS	NS	NS	SN	SN	NS	SN	NS	SN	NS	NS	NS	NS
		Week af 1/30/06	10.04	ddN	16.48	1868	6.98	51.0	0.54	106	R	NR	R	R	¥	R	NR
197161	a 3rd Week	Week of 2/6/06	10.06	NPP	16.48	1750	7.03	50.5	0.28	190	NR	NR	R	R	R	R	NR
	L	Week of 2/13/06	10.05	ddN	16.48	1497	7.07	50.8	0.37	177	NR	RN	NR	NR	R	NR	NR
۱ ۱	2nd Month	Week of 2/20/06	10.11	ЧРР	16.48	2380	7.07	50.3	1.10	245	R	NR	R	R	R	R	NR
	3rd Month	Week of 3/06/06	10.07	NPP	16.48	961	7.07	51.9	0.33	190	<0.001	<0.001	<0.001	0.0061	<0.0025	<1.0	0.074
	2nd Quarter	Week of 6/17/06	9.98	NPP	16.48	701	7.01	57.9	0.26	181	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	<0.050
L_	3rd Quarter	Week of 9/11/06	9.38	NPP	16.48	1736	7.04	64.4	0.89	234	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	0.23
<u> </u>	4th Quarter	Week of 12/04/06	9.16	NPP	16.48	2356	7.07	56.2	0.78	295	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	0.081
				NS = Not Sa	NS = Not Sampled due to Trar	ransformer Malfunction	ction	z	iPP = No Pri	NPP = No Product Present	+-						

PR = Piezometer needs repair - Not Sampled

NR = Not Required

NM = Not Measured

NWP = No Water Present

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Ground Water Monitoring 2005/2006

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			Ē	Field Measurements		>		* *			調	10.75 m	2015 and a	0.6223		~ EPA. Method 80135	od 8015B
Sample Location	Sampling Event	DATE	Depth to Water (ft below TOC)	Depth to Water Product Depth Total Well Depth to Water Product Depth (it below TOC) (it below TOC)	Total Well Depth (ft below TOC)	E.C.+ (umhos/cm)	PH -	TEMP (°F)	D.0 (mg/L)	, ORP (mV)	Benzene (mg/L)	Toluene (mg/L)	Ethylben (mg/L)	Xylene (mg/L)	MTBE (mg/L)	DRO (mg/L)	GRO (mg/L)
		week of 8/15/05	6.43	ЧРР	15.62	1226	6.97	58.4	R	R	<0.001	<0.001	<0.001	0.0031	<0.001	NR	NR
U-1181	Pre-Dewatering	Week of 1/09/05	6.9	ЧРР	15.62	1405	7.03	54.0	2.42	149	NR	R	R	NR	NR	NR	NR
IS	Pre-Aeration	Week of 1/16/06	7.84	ddN	15.62	1550	7.01	52.4	0.86	46	R	NR	R	NR	NR	R	NR
	1st Week	Week of 1/23/06	SN	SN	SN	SN	SN	SN	SN	SN	NS	SN	NS	NS	NS	SN	NS
	50 2nd Week	Week of 1/30/06	7.52	NPP	15.62	2779	6.9	49.6	1.43	117	NR	NR	R	RR	NR	R	NR
iehei Mitet	a 3rd Week	Week of 2/6/06	1.2.2	NPP	15.62	2488	7.04	48.8	0.53	142	R	R	R	NR	NR	NR	R
let Q	4th Week	Week of 2/13/06	7.89	ЧРР	15.62	2401	7.05	50.3	0.95	54	NR	NR	R	RN	NR	NR	NR
	2nd Month	Week of 2/20/06	16.7	NPP	15.62	1245	7.09	52.3	0.57	188	R	RN	NR	NR	NR	NR	R
l	3rd Month	Week of 3/06/06	7.91	ЧРР	15.62	2118	6.95	50.2	0.75	-64	<0.005	<0.005	0.041	0.23	<0.012	2.2	2.8
	2nd Quarter	Week of 6/17/06	6.49	ЧРР	15.62	2329	6.96	58.0	0.42	143	<0.001	<0.001	0.016	0.12	<0.0025	1.6	0.9
	3rd Quarter	Week of 9/11/06	6.39	AAN	15.62	2067	7.04	66.2	0.30	258	<0.005	<0.005	<0.005	<0.015	<0.012	<1.0	1.2
	4th Quarter	Week of 12/04/06	5.58	NPP	15.62	2789	7.01	52.7	1.24	281	<0.001	<0.001	<0.001	<0.003	<0.0025	<1.0	0.09
				NS = Not Sa	NS = Not Sampled due to Tra	ransformer Malfunction	nction	Ż	PP = No Pr	NPP = No Product Present	Ŧ						

NS = Not Sampled due to Transformer Malfunction

NWP = No Water Present

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Total Metals 2006

	40GFR	141.62												
	Mercury (mg/L)	0.002	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	NR	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
	Silver (mg/L)	10 0 E	<0.050 <0.0050 <0.00020	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NR	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
0 &7470	Se (mg/L)	S (0) (0)	<0.050	<0.050	<0.050		<0.050	<0.050	NR	<0.050	<0.050	<0.050	<0.050	<0.050
EPA Method 6010 &7470	Lead (mg/L)	0.015	0 038		0.014	0.068	0:038	0.014	NR	0)02	<0.0050	0:015	0.0093	0:016
EPA M	Cr (mg/L)		<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	<0.0060	NR	<0.0060	<0.0060	0.0072	<0.006	<0.006
	Cadmium (mg/L)	S [90 0 2 3	<0.0020 <0.0060	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	NR	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
	Bărium (mg/L)	2.2	0.62	0.85	0.11	0.23	0.45	0.46	NR	22	0.38	0.46	0.12	0.2
	Arsenic (mg/L)	S (20:02)	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	NR		<0.020	<0.020	<0.020	<0.020
	Sample			<i>9</i> 2	TP - #3		TP - #5	TP - #6		TP - #8	TP - #9	TP - #10	TP - #11	TP - #12
	Date		Jan-06	Jan-06	Jan-06	Jan-06			Jan-06	Jan-06	Jan-06	Jan-06	Jan-06	Jan-06
	Sampling		Baseline	Baseline Jan-06	eline		Baseline	a)	Baseline	Baseline Jan-06	Baseline	Baseline	Baseline	Baseline

NR = Not Required

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Total Metals 2006

	400ER	14(162-					9 							
	Mercury (mg/l±)	10,002	<0.00020	<0.00020	NR	NR	NR	NR	10:01	0:016	.0.024	0.052	<u>=0:0047</u>	0.00069
	Silver (mg/l:)	20105	<0.0050	<0.0050	NR	NR	NR	NR	<0.0050	NR	NR	NR	NR	NR
0.87470	Se (mg/L)	[]	<0.050	<0.050	NR	NR	NR	NR	<0.050	NR	NR	NR	NR	NR
EPA Method 6010 &7470	Lead (mg/L)	0018	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	NR	<0.0050	<0.0050	<0.0050	<0.0050
EPA Me	(m <u>ġ/Ŀ)</u>	F (0)	<0.006	<0.006	<0.0060	<0.0060	0.006	<0.0060	<0.006	NR	0.0095	<0.0060	0.023	<0.0060
	Cadmium (mg/L)	190000 ×	<0.0020	<0.0020	NR	NR	NR	NR	<0.0020	NR	NR	NR	NR	NR
	Barium (mg/L)	$\sim 2^{-1}$	0.57	0.15	NR	NR	NR	NR	0.45	NR	R	NR	NR	NR
	Arsenic (mg/L)	0.05	<0.020	<0.020	NR	NR	NR	NR	<0.020	NR	NR	NR	NR	NR
	Sample		13	MW - #49					DW - #1					
	Date		Jan-06	Jan-06	Mar-06	Jun-06	Sep-06	Dec-06	Jan-06	Jan-06	Mar-06	Jun-06	Sep-06	Dec-06
	Sampling		Baseline	Baseline	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Baseline	Resample	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter

NR = Not Required

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BV Soil Gas Monitoring - Pre-Aeration

Sample Location	Sampling Activities	Date.	Carbon Dioxide (%)	Oxygen (%)	Organic Vapors (ppm)	Pressure (Inches of water)
BV - 1	Pre-Aeration	1/17/2006	0.0	20.9	30.0	0.0
BV - 2	Pre-Aeration	1/17/2006	0.4	14.3	505.0	0.0
BV - 3	Pre-Aeration	1/17/2006	5.6	13.0	18.5	0.0
BV - 4	Pre-Aeration	1/17/2006	0.0	18.6	224.0	0.0
BV - 5	Pre-Aeration	1/17/2006	0.1	11.3	896.0	0.0
BV - 6	Pre-Aeration	1/17/2006	0.2	18.3	234.0	0.0
BV - 7	Pre-Aeration	1/17/2006	0.0	19.0	255.0	0.0
BV - 8	Pre-Aeration	1/17/2006	0.1	15.1	410.5	0.0
BV - 9	Pre-Aeration	1/17/2006	0.0	14.8	315.0	0.0
BV - 10	Pre-Aeration	1/17/2006	0.0	21.0	262.0	0.0
BV - 11	Pre-Aeration	1/17/2006	0.1	14.6	340.1	0.0
BV - 12	Pre-Aeration	1/17/2006	0.0	17.2	256.0	0.0
BV - 13	Pre-Aeration	1/17/2006	0.1	15.0	727.0	0.0

G	AC Filt	er	N, Jakara	EPA Metho /QCC 20NM/	C 6.2.3103			
Moni	toring	2006	440.31 447.0 1	CCC 20NMA		- Million - III	EPA Meth	
Sample	Sampling	DATE	0.01 Benzene	Toluene	Ethylben	Xylene	DRO	GRO
Location	Event		(mg/L) %,	(mg/L)	素(mg/L)동	(mg/L)	(mg/L)	(mg/L)
GAC INF	Start - Up	01/18/06	0.310	0.044	1.300	6.900	<1.0	17.00
	1st Quarter	03/01/06	0 210.4	0.110	5.1.000	ter door 'shith promision	<1.0	16.00
1	2nd Quarter	06/08/06	0.480	0.039	1.200	- PRODUCED TO LLOCK	<1.0	10.00
	3rd Quaretr	09/13/06	< 0.02	<0.02	0.830	4.100	<1.0	26.00
GAC 2 EFF	4th Quarter	01/18/06	0.029	<0.020	0:590		<1.0	9.80
GAC 2 EFF	Start - Up 1st Quarter	03/01/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
	2nd Quarter	06/08/06	<0.001 <0.001	<0.001	<0.001 <0.001	<0.003 <0.003	<1.0	<0.050
	3rd Quarter	09/13/06	<0.001	<0.001	<0.001	<0.003	<1.0 <1.0	<0.050 <0.050
	4th Quarter	12/13/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
GAC 1 EFF	Start - Up	01/18/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
	<u></u>	01/30/06	< 0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		02/06/06	<0.001	<0.001	<0.001	<0.003	<1.0	< 0.050
		02/14/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		02/21/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		03/01/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		03/08/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		03/15/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		03/24/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		04/03/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		04/10/06	<0.001	0.0021	<0.001	<0.003	<1.0	<0.050
		04/17/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		04/24/06	<0,001	<0.001	<0.001	<0.003	<1.0	<0.050
		05/02/06	<0.001	<0.001	<0.001	<0.003	<1.0	< 0.050
		05/16/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		05/22/06	<0.001 <0.001	<0.001 <0.001	<0.001 <0.001	<0.003 <0.003	<1.0	<0.050
		06/01/06	<0.001	<0.001	<0.001	0.003	<u><1.0</u> <1.0	<0.050 <0.050
		06/08/06	<0.001	<0.001	<0.001	<0.003	<1.0	<0.050
		06/15/06	<0.001	<0.001	0.002	0,006	<1.0	<0.050
	·····	06/21/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		06/27/06	<0.001	<0.001	0.002	0,006	<1.0	<0.050
1		07/06/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		07/13/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		07/20/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		07/27/08	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		08/03/06			Sec.			
		08/10/06	River pumps	off due to extre	mely muddy	rlver - Dewat	ering pumps	off - blower
		08/17/06			Ien o	0		
		08/24/06	Alter Contra	Henry Same			Night (- . *6
		08/29/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		09/13/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		09/20/06	<0.001	<0.001	0.002	0.006	<1.0	< 0.050
		10/06/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
	·	10/12/06	<0.001	<0.001	0.002		<u><1.0</u>	<0.050
		10/12/05			a da antara Antara			
		10/25/06						
		11/01/06	River numos	off due to extre	mely muddy	river - Dewet		off - plower
		11/08/06					anna hannba	Sile Diower
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		11/20/06						a ann a' ann a' a' a' a' a' a' a' a' a' a' a' a' a'
		11/28/06						
		12/04/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		12/13/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		12/20/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050
		12/27/06	<0.001	<0.001	0.002	0.006	<1.0	<0.050

. . . Section 6.0 Summary

Summary

The River Terrace Investigation was initiated in October 2004 with the installation of eight Temporary Piezometers (TP #1 - TP #8), MW #48, and MW #49. In April 2005, five more Temporary Piezometers were drilled (TP #9 – TP #13). During August 2005, Dewatering Wells #1 and #2 were installed. Baseline groundwater monitoring for DW #1 and #2 included EPA Methods 8310 (PAH). 8260B, Dissolved (6010C) and Total (6010, 7470) WQCC Metals, and General Chemistry (106.1, 120.1, 300.0, 310.1). Baseline groundwater monitoring of TP #1 – TP #13 also occurred in August 2005. The TPs were analyzed for Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) by EPA Method 8015B as well as BTEX and MTBE by EPA Method 8021B. MW #48, and MW #49 were analyzed for VOCs by EPA Method 8260B, dissolved metals (EPA Method 6010C), total lead and chromium (EPA Method 6010), and general chemistry (EPA Methods 120.1, 300.0, and 310.1). Field measurements of conductivity, temperature, Total Dissolved Solids (TDS) and pH were taken as well. Thirteen Bioventing wells were also installed in August 2005. Soil from those wells was analyzed for BTEX (8021B), DRO, GRO (8015B), and percent moisture (ASTM 2216).

Construction of the River Terrace Bioventing Project was initiated in August 2005. The system was put on-line in January 2006 at which time the Voluntary Corrective Measure Bioventing Monitoring Plan was followed. DW #2 and MW #48 were set up with pumping systems and used as the de-watering wells and were not included in any of the sampling and analysis proposed in the Bioventing System Monitoring Plan. DW #1 was not used as a de-watering well as it was unable to recharge sufficiently to accommodate pumping requirements. TP -7 was not included in the monitoring program as it appears to have been completed in the River Terrace barrier wall and does not yield sufficient water volume to conduct analysis.

Prior to starting the dewatering pumps, total metals (EPA Methods 6010 & 7470) and groundwater field parameters (temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential) were collected during the first week of January 2006 from each of the TP wells (except TP-7) and MW #49 and DW #1. Depth to groundwater measurements and field parameters (pressure, vapor phase organics, oxygen, and carbon dioxide) and soil gas sampling (BTEX - 8021B and gasoline range organics -8015B) was also collected from the TP wells (except TP-7) and MW #49 and DW #1.

After dewatering conditions stabilized and prior to starting the blower, field measurements of soil gas (pressure, hydrocarbons, oxygen and carbon dioxide), depth to groundwater measurements, and groundwater field parameters (temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential) were taken during the week of January 18, 2006 from each of the TP

wells (except TP-7), MW #49, DW #1. Pre-aeration analysis of BV#1 – BV #13 included depth to groundwater measurements and field measurements of soil gas (pressure, hydrocarbons, oxygen and carbon dioxide).

Groundwater and soil gas field parameters were collected weekly during the first four weeks of system operation, monthly for the first quarter, and then quarterly thereafter. Soil gas field parameters (vapor-phase organics, oxygen, carbon dioxide, and pressure) and groundwater field parameters (temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential) were collected from the TP wells (except TP-7), MW #49 and DW #1. Depth to groundwater and depth to product measurements were also collected prior to sample collection. A malfunction in the system's transformer delayed start of the weekly monitoring. Subsequently weekly monitoring was conducted from the week of January 30, 2006 through the week of February 20, 2006."

First quarter samples were collected during the week of March 6, 2006 from each of the TP wells (except TP-7), MW #49, DW #1. Soil gas analysis included BTEX (8021B) and GRO (8015B). Field measurements of pressure (using a Magnehelic gauge), gas hydrocarbons (using a PID), and oxygen and carbon dioxide concentrations (using a multi-gas meter) were taken. Groundwater samples were analyzed for BTEX and MTBE (8021B), GRO and DRO (8015B). MW #49 and DW #1 were also analyzed for Total Lead, Chromium, and Mercury. Field measurements included temperature, pH, conductivity, dissolved oxygen, and oxidation-reduction potential. Subsequent quarterly monitoring events utilized the same collected the week of June 17, 2006. The third quarter sampling event took place during the week of December 04, 2006.

An in situ respiration test was performed during the week of May 22, 2006 following methods described in the Bioventing System Monitoring Plan Amendment. The respiration rate test consisted of monitoring the rate at which oxygen is depleted and carbon dioxide is generated when the air supply is turned off. Oxygen, carbon dioxide, and volatile organic compounds were monitored at BV #1 through BV #13 and at TP#1, TP#2, TP#5, TP#6, TP#8, and TP #9 using the PID meter and the multi-gas meter.

Analytical results of the groundwater monitoring indicate that the contaminants of concern are primarily benzene, toluene, ethylbenzene, and xylene (BTEX) at TP #1, TP #2, TP #5, TP #6, and TP #8. BTEX results are below WQCC Standards at TP #9, TP #3, TP #10, TP #11, TP #12 and TP #13. Data from TP #4 has been sporadic (the well is dry at times) which could be due to its location. It is situated in an area that was at one time an inlet pond to the River Station, then filled with dredged material and has had disturbance over a period of time. TP-#4 data is not available for the third and fourth quarter sampling events. Prior to the

third quarter sampling event TP-#4 was inadvertently destroyed by a trackhoe that was cleaning out the freshwater inlet pond adjacent to TP-#4's location. TP #7 was not sampled because it appears to have been drilled into the River Terrace barrier wall and does not yield sufficient water volume.

Depth to groundwater measurements collected over the initial 12 months of operation show that the dewatering system is capable of lowering the water table approximately 2 to 3 feet, increasing the vadose zone and allowing for more effective treatment of the soils within the capillary fringe. In addition, pressure data shows that the dewatering effect helps to increase the radius of influence of the air injection system.

The average oxygen concentration detected at the TP wells within the influenced area (TP-1, -2, -5, -6, and -8) before starting the aeration system and while the dewatering system was operational was approximately 4.2 percent by volume. The low oxygen levels indicate the presence of bioremedial activity. The presence of bioremedial activity is also supported by the results of the in situ respiration test as summarized in Section 6.0 of the RT-Six -Month Report submitted August 2006.

The injection of oxygen into the subsurface often results in rapid changing environment conditions. Oxidation-reduction potential (ORP) of groundwater reflects the relative oxidizing or reducing nature of the groundwater system. ORP in groundwater impacted with petroleum hydrocarbons is usually in the range of a strongly reducing environment. However, both DO and ORP levels may fluctuate due to being influenced by the nature of the biologically mediated degredation of contaminants, water chemistry, and sample technique. Therefore ORP readings collected in the field may easily fluctuate from 800 mV (oxygenated) to less than -400 mV (strongly reducing), and DO readings are anticipated to fluctuate throughout the bioremediation process.

The ORP measurements collected at monitoring well MW-49, located along the river side of the river terrace slurry wall, ranged from 83 millivolts (mV) to 295 mV. Similar ORP readings were collected within the same concentration range at piezometers located outside the bioventing system influence area (TP-3, 4, 9-13). ORP measurements collected from monitoring locations within the influenced area (TP-1, 2, 5, 6, and TP-8) ranged between -531 mV and 345 mV. This fluctuation may be attributed to seasonal changes in groundwater temperatures, seasonal variation in groundwater elevation, and variable bioremedial activity within the influenced area.

Once the aeration system was turned on, the average oxygen concentration at TP wells within the influenced area was approximately 20 percent by volume in soil gas, which shows that the influenced area is well oxygenated. An adequate supply of oxygen is critical to an environment in which aerobic organisms can grow and metabolize the petroleum hydrocarbons. Oxygen becomes a limiting

factor if the concentration within the well field lower below 10 percent by volume, which would eventually lower the biodegradation rate. Positive pressure readings collected from monitoring wells within the influence area (TP-1, 2, and 8), in combination with measured high oxygen readings (above 10%) support the notion of a well oxygenated vadose zone that supports aerobic biodegradation activity.

The low concentrations of carbon dioxide detected at the TP wells within the influenced area while the system was operational during the initial 12-months are not indicators of the absence of bioremedial activity. Oxygen is a more reliable indicator than carbon dioxide because of the complex behavior of carbon dioxide with respect to adsorption by calcium minerals and solution/dissolution from groundwater and soil moisture.

The increase in PID readings at some wells is most likely the result of vapor movement within the subsurface as a result of air injection. As air is constantly injected through the BV wells, a slight stripping effect may occur in the vadose zone, increasing field-detected vapor concentrations at monitoring points within and close to the bioventing well field. This would cause an increase in PID readings when compared to baseline conditions. Since the oxygen is plentiful (above 10 percent by volume) throughout the well field, aerobic biodegradation activity will be sustained.

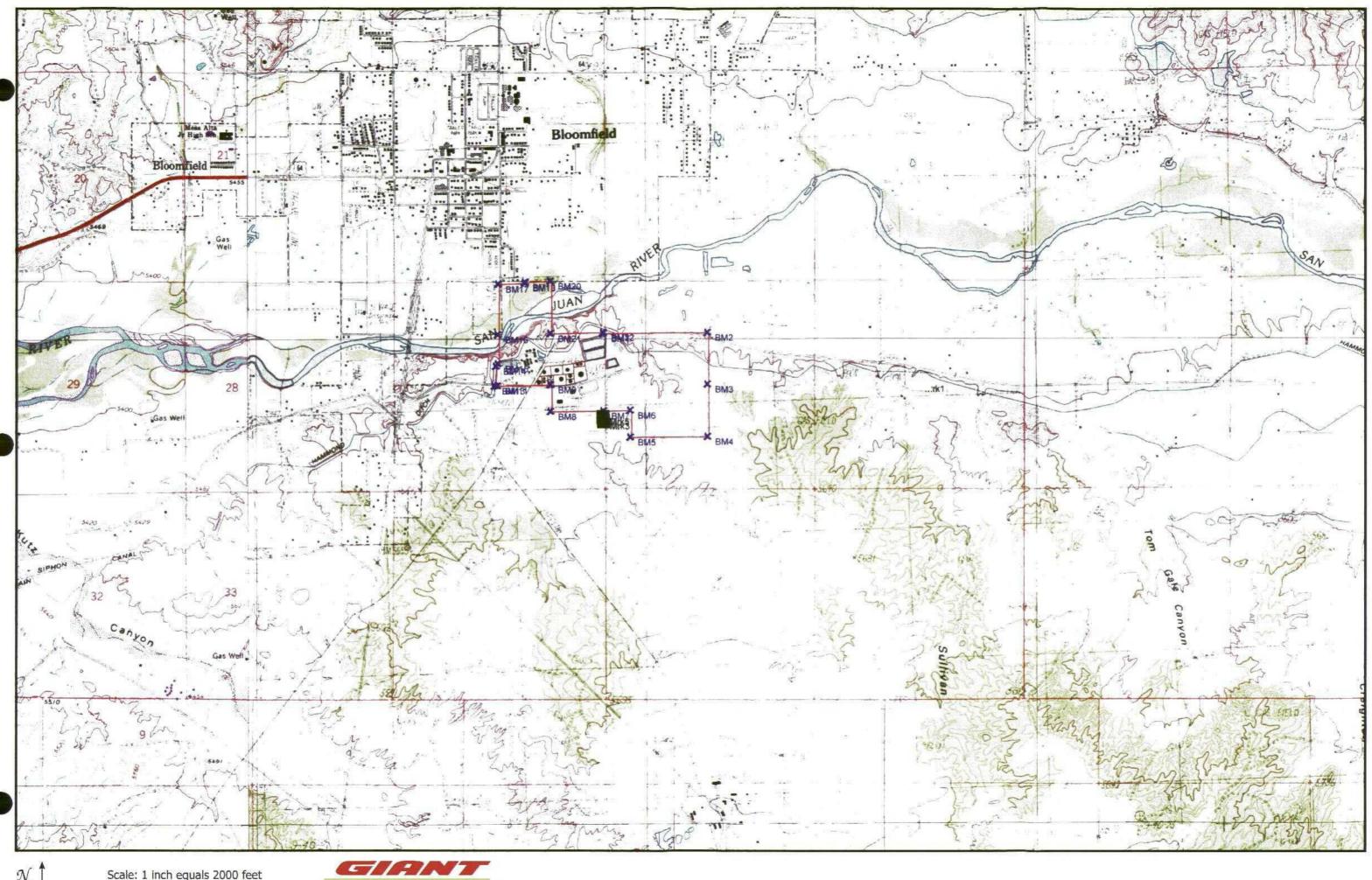
Field data collected during the initial 12-months of system operation indicate the bioventing system is effectively enhancing bioremedial activity within the western portion of the river terrace area. Soil gas concentrations collected in the field show that the bioventing system provides sufficient oxygen supply to fully oxygenate the subsurface, supporting aerobic biodegradation of hydrocarbons.

Performance monitoring will continue on a quarterly basis following the guidelines from the Bioventing System Monitoring Plan. TP #3, TP #9, TP #10, TP #11, TP #12 and TP #13 are located outside the area influenced by the bioventing system and Giant recommends that they be excluded from future performance monitoring.

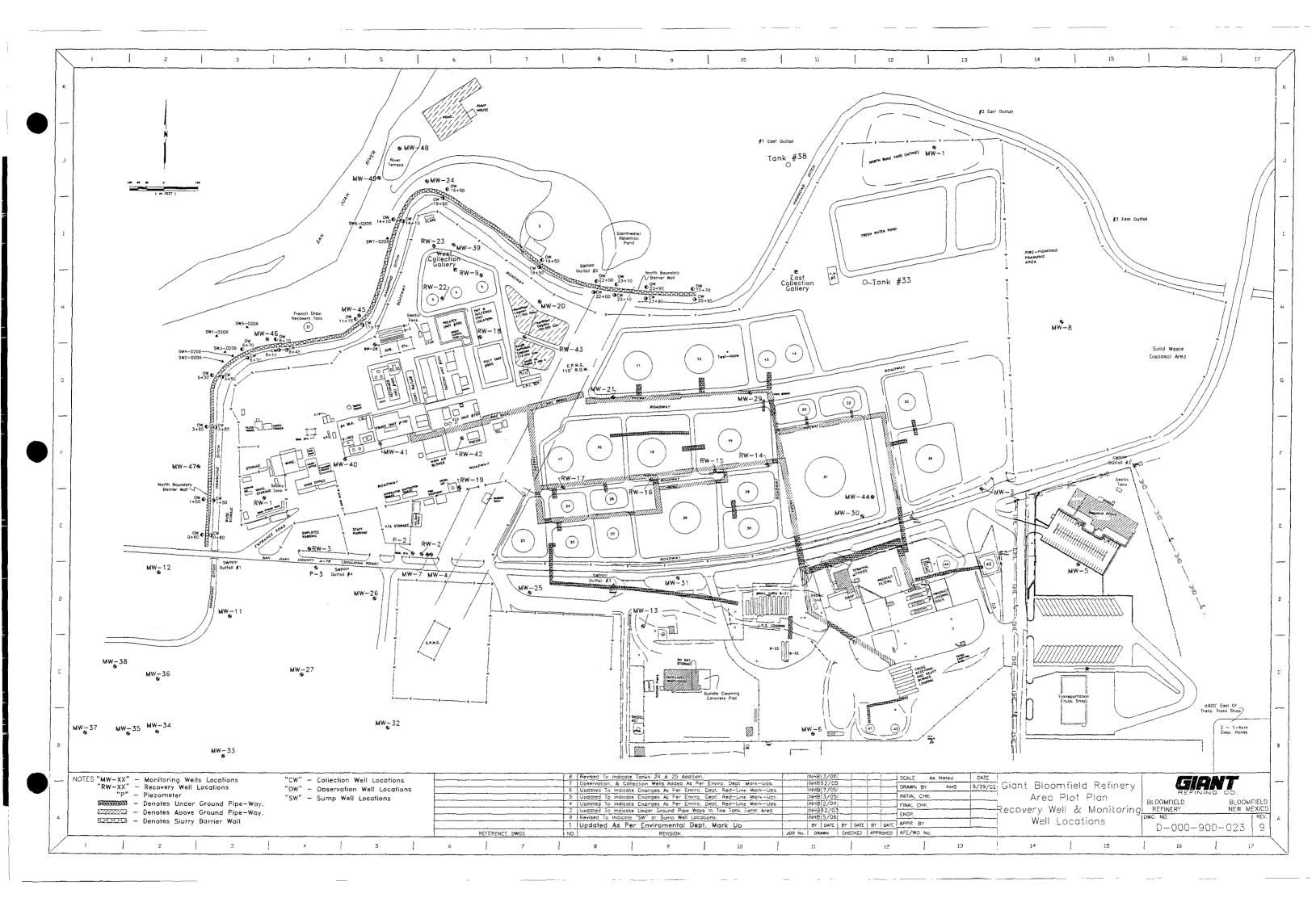
Extracted groundwater is pumped through two GAC filters positioned in series for removal of dissolved-phase hydrocarbons. Treated groundwater will continue to be sampled and analyzed weekly until breakthrough occurs. Although approximately 1,814,500 gallons of groundwater flowed through the filters, breakthrough did not occur in 2006. Once the breakthrough profile is determined, Giant will continue to analyze GAC 1 EFF for BTEX, GRO, and DRO on a monthly basis. GAC INF and GAC 2 EFF will be analyzed quarterly for BTEX, GRO, and DRO.

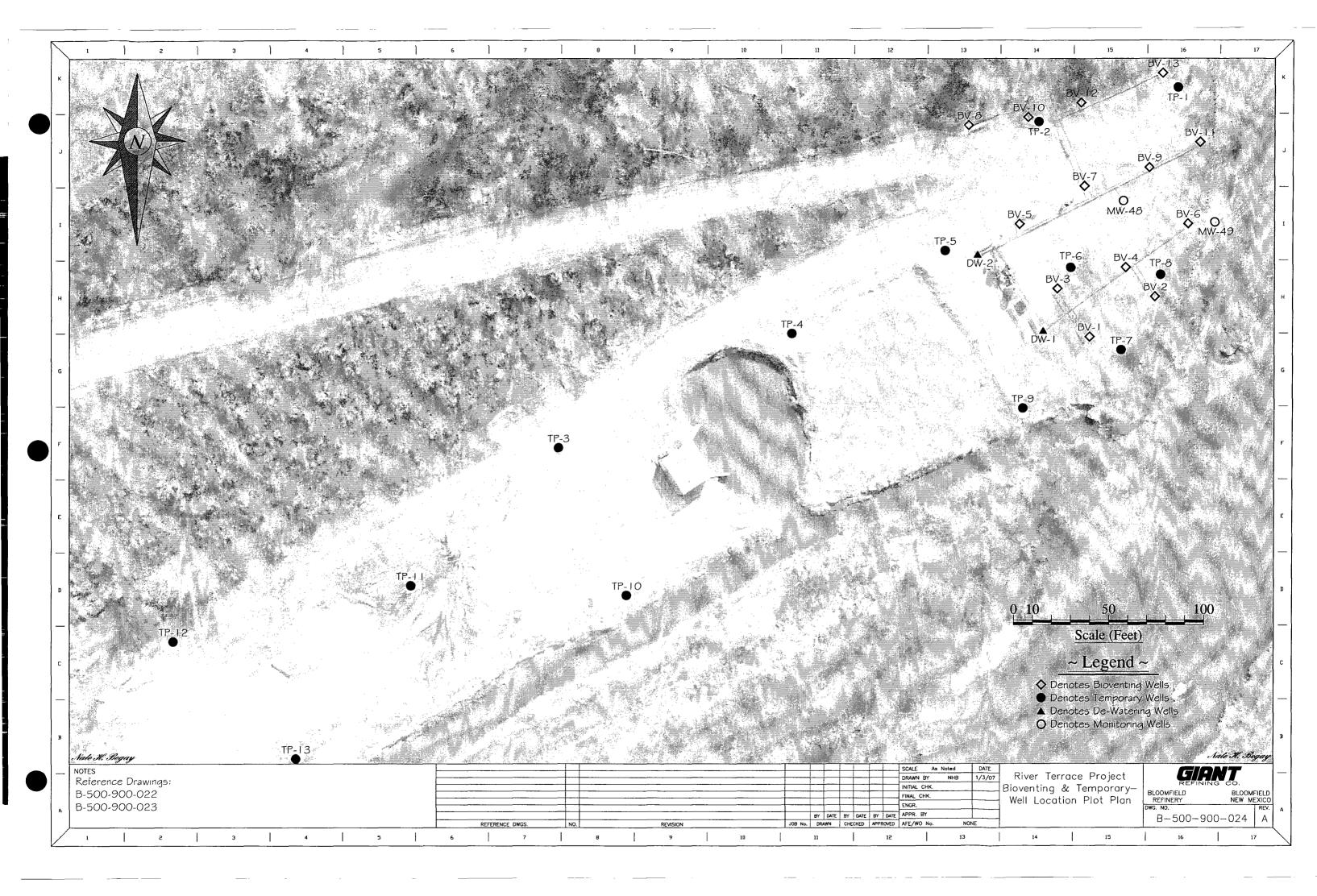
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Title	Figure
Vicinity Map	Figure 1
Facility Site Plan	Figure 2
River Terrace Bioventing Project Plot Plan	Figure 3
Area of Influence	Figure 4











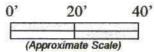


Figure 4: Area Influenced by the Bioventing System (The Western Portion of the River Terrace)

Legend

TP = Temporary Piezometer BV = Biovent Well DW = Dewatering Well MW = Monitoring Well



Field Methods

Soil Gas Sampling

Sampling Procedure

All water/product levels are determined to an accuracy of 0.01 foot using a Geotech Interface Meter. Soil gas samples are taken before groundwater purging and sampling.

Each well is equipped with an air-tight well cap for sample extraction through a sample port at the top of the well casing. Each well has dedicated flexible Teflon Food Grade tubing which extends through both sides of the sample port with one side continuing down into the well casing to approximately 1 foot above the water table. The other end (topside) protrudes from the cap and is available as a connector.

Before purging, pressure is measured by attaching a hand-held Magnahelic Pressure Gauge to the topside tubing.

A portable vacuum pump is used for purging and sample collection. The topside tubing is connected to the suction of the vacuum pump and three purge volumes are withdrawn from the well prior to sample collection. After sufficient purging, a Tedlar bag is attached to the tubing at the discharge end of the pump for sample collection. All samples are properly labeled and placed in a cooler for delivery to the off-site laboratory or for field measurements of vapor-phase organics

Well Purging Technique

A vacuum pump is used to remove stagnant air from the soil gas sampling assembly. Approximately three well volumes are purged from the well before sampling. Purged volumes are determined by using the following equation: Conversion Factor X Depth to Water X 28L/ft3 X Three

The conversion factor is determined by the diameter of the well casing.

Casing	Conversion Factor
6"	0.196L/ft
4"	0.0873L/ft
2"	0.0.0218L/ft
1"	0.0.0055 4 5L/ft

Soil Gas Sampling and Sample Handling Procedure

Equipment and supplies needed for collecting representative soil gas samples include:

- Interface Probe
- Vacuum Pump
- 1 Liter Tedlar Bags
- PID Meter
- RKI Eagle Meter
- Cooler to store Tedlar Bags
- Sharpie Permanent Marker

- Field Paperwork/Logsheet
- Trash container (plastic garbage bag)

Tedlar bags and tubing dedicated for each well are used for field measurements. New Tedlar bags are used for BTEX and GRO collection and analysis. After sufficient purging, samples are collected using the vacuum pump. Field measurements of vapor-phase organics, oxygen, and carbon dioxide concentrations are recorded using portable field instruments. BTEX and GRO samples are labeled immediately with location, date, time, analysis, and sampler and then put in a trash bag and placed in a cooler. The field logsheet is reviewed to verify all entries. Samples are then shipped to the laboratory.

To prevent cross-contamination, procedures include dedicated tubing for each of the wells sampled as well as a five minute purge time of the vacuum pump in ambient air.

Instrument Calibration

The RKI Eagle is a portable gas detection system with sensors for oxygen, carbon dioxide, and methane. Calibration of the instrument is conducted at the beginning of each day of sampling.

The meter is turned on and allowed to warm up. Fill the dedicated Tedlar bags with known calibration gas. One bag is used for the carbon dioxide calibration and the other bag contains the oxygen and methane calibration gasses. Press and hold the AIR/ \blacktriangle button until a tone sounds. The Eagle automatically sets the toxics circuits to zero and the oxygen circuit to 20.9%.

Press and hold the SHIFT /♥ button, then press the DISP/ADJ button. The calibration menu is displayed. Use the AIR/▲ and SHIFT/♥ buttons to place the prompt next to the SINGLE CALIBRATION menu option. Press the POWER/ENTER button to display the Single Calibration menu. Use the AIR/▲ or SHIFT/♥ button to place the prompt next to the channel to calibrate. Press the POWER/ENTER button. Connect the tubing from the Tedlar bag to the Eagle's probe. If necessary, use the AIR/▲ (increase) and SHIFT/♥ (decrease) buttons to adjust the reading to match the concentration listed on the calibration cylinder. Press the POWER/ENTER button to set the span value. Repeat the steps for any other channels you want to calibrate.

The MiniRae 2000 Portable VOC Monitor (PID) is calibrated at the beginning of each day of sampling. Turn on the monitor and wait for the **Ready** message display. Press and hold both (N/-) and (MODE) keys for three seconds to enter programming mode. The first menu item "Calibrate/select Gas?" will be displayed. Press (N/-) to scroll to Fresh Air Cal? And press (Y/-) to select that menu item. Clean ambient air can be used for the "fresh air" calibration. Press (Y/-) to begin the zeroing process.

After zeroing is complete, press (N/-) to scroll to the next menu item. When **Span Cal?** is displayed press (Y/-) to select that menu item. Connect the monitor to a known calibration gas cylinder (isobutylene) after the display shows **Apply gas now!** The monitor will then perform the calibration. When calibration is

completed, turn off the flow of gas, disconnect the cylinder, and exit the programming mode by pressing the **(MODE)** key once.

Groundwater Sampling

L

Groundwater Elevation

All water/product levels are determined to an accuracy of 0.01 foot using a Geotech Interface Meter. The technician records separate phase hydrocarbon, depth to water, and total well depth using this probe.

Water Quality/Groundwater Sampling

Prior to purging, a YSI 550A Dissolved Oxygen Probe is used to determine dissolved oxygen (DO) levels. Water quality parameters are measured using an Ultrameter 6P by the Myron L Company. Electrical conductance, oxidation-reduction potential (ORP), pH, and temperature are monitored during purging.

Well Purging Technique

At least three well volumes are purged from the well. Purge volumes are determined using the following equation:

Well Depth – Casing Height – Depth to Liquid X Conversion Factor X Three. The conversion factor is determined by the diameter of the well casing.

Casing	Conversion Factor
6"	1.50 gal/ft
5"	1.02 gal/ft
4"	0.74 gal/ft
3"	0.367 gal/ft
2"	0.163 gal/ft

Well Sampling and Sample Handling Procedure

Equipment and supplies needed for collecting representative groundwater samples include:

- Interface Probe
- Ultrameter 6P
- YSI 550A Dissolved Oxygen Instrument
- Distilled Water
- Disposable Latex Gloves
- Disposable Bailers
- String/Twine
- Cooler with Ice
- Bottle kits with Preservatives (provided by the contract laboratory)
- Glass Filters and Syringes Jar (usually 4 oz.)
- Sharpie Permanent Marker
- Field Paperwork/Log sheet
- Two 5-gallon buckets
- Trash container (plastic garbage bag)

- Ziploc Bags
- Paper towels

Typically disposable bailers are used for purging and sampling. Each bailer holds one liter of liquid. Three well volumes can be calculated by counting the number of times a well is bailed.

All purged water is poured into a 55-gallon drum designated for sampling events.

After sufficient purging, samples are collected with the bailer and poured into the appropriate sample containers. Two people are usually utilized for sampling. Sampling takes place over a bucket to insure that spills are contained

Samples are labeled immediately with location, date, time, analysis, preservative, and sampler. Then they are put in a Ziploc bag and placed in a cooler holding sufficient ice to keep them cool. The field log sheet is reviewed to verify all entries.

Purge and Decontamination Water Disposal

The Ultrameter 6P, YSI 550A DO Probe, and the interface probe are rinsed with distilled water after every well. The rinse procedure takes place over a bucket to insure that spills are contained.

All rinse and purge water is contained and then disposed of through the refinery wastewater system.

Instrument Calibration

Calibration of the YSI 550A Dissolved Oxygen Instrument occurs at the beginning of each day of sampling. The probe is powered on and allowed to stabilize, which usually takes 15 minutes. Enter the calibration menu. The LCD will prompt you to enter the local altitude in hundreds of feet. When the proper altitude appears on the LCD, press the **ENTER** key.

The LCD will then prompt you to enter the salinity of the water you are about to analyze. After entering the correct salinity, the instrument will return to normal operation.

The Ultrameter 6P instrument calibration occurs at the beginning of each day of sampling. For Conductivity and TDS calibration, the cell is rinsed three times with a 3000 umhos/cm NaCl Standard. The cell cup is refilled with the standard. Either the **COND** or the **TDS** button is pressed and then the **CAL** button is pushed. Press the up or down arrow until the display agrees with the standard. The **CAL** button is pressed to accept the value.

The Ultrameter 6P has an electronic ORP calibration which is automatically calibrated with the 7 pH. The pH sensor well is rinsed three times with 7.0 buffer solution and then refilled again with that buffer. The **pH** button is pressed then the **CAL** button. The up or down arrow is adjusted until the display agrees with the buffer value. The **CAL** button is pushed to accept that value. Repeat the

calibration steps using an acid buffer solution and then again with a base buffer solution.

Section 9.0 Chemical Analytical Program

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hallenvironmental.com

QUALITY ASSURANCE PLAN

October 2004

Revision 6

Fontrol Number: 0000038

Approved By:

Nancy McDuffie Date Laboratory Manager Approved By:

Scott Hallenbeck Date Laboratory Director 1



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1.4

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3.0 Introduction

Purpose of Document

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

Objectives

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

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

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

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

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

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

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

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

4.0 Organization and Responsibility

Company

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

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

Certifications

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

Personnel

Laboratory Manager

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

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Business/ Project Manager

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

Quality Assurance Officer

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

Section Supervisors

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

Senior Analyst

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

Analyst

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

Lab Technician

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

Sample Control Manager

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

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

Delegations in the Absence of Key Personnel

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

Laboratory Personnel Qualification and Training

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

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

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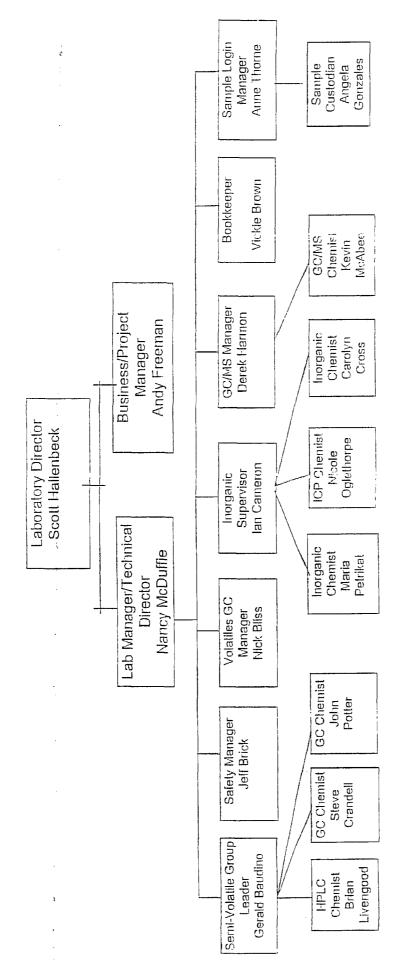


Diagram of organizational Structure

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5.0 Receipt and Handling of Samples

Sampling

Procedures

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

Containers

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

Preservation

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

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

Tables of Standard Holding Times, Preservation, and Containers

Organic Compounds

1610)1110)0191010			a and the second second second second second second second second second second second second second second se	
Purgeable halocarbons and	aqueous	40 mL glass voas, teflon-	HgCl ₂ , or HCl, pH <2;	14 days to analysis
aromatics		lined septum		
Purgeable halocarbons and aromatics	Soil/MeOH*	4 oz. Jar/2- 20 ml VOAs w/ methanol	cool, 4° C	14 days to analysis
Semi-volatiles	aqueous	1 L amber	cool, 4° C	7 days to extract, 40 days after extraction to analyze
Semi-volatiles	soil	8 oz. Jar	cool, 4° C	14 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	aqueous	1 L amber	cool, 4° C	7 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	soil	8 oz. Jar	cool, 4° C	14 days to extract, 40 days after extraction to analyze

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

inorganic Compounds

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Acidity	aqueous	250-mL HDP	cool, 4° C	14 days
Alkalinity	aqueous	250-mL HDP	cool, 4° C	14 days
Ammonia	aqueous	1-L HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Biochemical Oxygen Demand	aqueous	2-L HDP	coo!, 4° C	48 hours
Bromide	aqueous	250-mL HDP	none required	28 days
Chemical Oxygen Demand	aqueous	125-mL HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Chloride	aqueous	125-mL HDP	none required	28 days
Chloride	solid	4-oz jar	none required	28 days
Chiorine, total residual	aqueous	500-mL HDP	none required	analyze immediately
Chromium Vi	aqueous	250-mL HDP	cool, 4° C	24 hours
Chromium VI	solid	8-oz jar	cool, 4° C	as soon as possible
Color	aqueous	125-mL HDP	cool, 4° C	48 hours
Cyanide	aqueous	1-L HDP	cool, 4° C NaOH pH>12	14 days
Cyanide	solid	4-oz jar	cool, 4° C	14 days
Fluoride	aqueous	500-mL HDP	none required	28 days
Hardness	aqueous	250-mL HDP	HNO3 or H2SO4 pH<2	6 months
Hydrogen ion (pH)	aqueous	60-mL HDP	none required	analyze immediately
Hydrogen ion (pH)	solid	4-oz jar	none required	analyze immediately
Kjeldahl and organic nitrogen	aqueous	1-L HDP	cool, 4° C, H₂SO₄ pH<2	28 days

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Mercury	aqueous	250-mL HDP	HNO ₃ pH < 2	
Mercury	han a second second second second second second second second second second second second second second second	8-oz jar	none required	and the second process of the second
Metals (except Cr VI	aqueous	500-mL HDP	HNO3	6 months
and Hg)			pH < 2	
Metals (except Cr VI	solid	8-oz jar		6 months
and Hg)				
Nitrate	aqueous	250-mL HDP	cool, 4° C	48 hours
Nitrate	solid	8-oz jar	cool, 4° C	analyze immediately
Nitrate-Nitrite	aqueous	250-mL HDP	cool, 4° C, H ₂ SO ₄ pH<2	28 days
Nitrate-Nitrite	solid	8-oz jar	cool, 4° C	28 days
Nitrite	aqueous	125-mL HDP	coo!, 4° C	48 hours
Oil and Grease	aqueous	2-L wide-	cool, 4° C,	28 days
		mouth glass	H ₂ SO ₄ pH<2	
Oil and Grease	solid	2-L wide-	cool, 4° C	28 days
		mouth glass		
Organic Carbon	aqueous	125-mL HDP	cool, 4° C,	28 days
			HCI or H ₂ SO ₄	
			pH<2	
Organic Carbon	solid	4-oz jar	cool, 4º C	28 days
Orthophosphate	aqueous	125-mL HDP	Cool, 4° C	48 hours
Phenolics	aqueous	1-L Boston	cool, 4° C,	28 days
		Round	H ₂ SO ₄ pH<2	
Phenolics	solid	8-oz jar	cool, 4° C	28 days
		(glass only)		
Phosphorous	aqueous	1-L Boston	cool, 4° C	48 hours
(elemental)		Round		
Phosphorous (total)	aqueous	125-mL HDP	cool, 4° C,	28 days
*			H ₂ SO ₄ pH<2	
Residue, total	aqueous	250-mL HDP	cool, 4° C	7 days
Residue,	aqueous	250-mL HDP	cool, 4º C	7 days
filterable(TDS)				
Residue, non-	aqueous	250-mL HDP	cool, 4° C	7 days
filterable (TSS)		Line to off One		10 hours
Residue, settleable	aqueous	Imhoff Cone	cool, 4° C	48 hours
Residue, volatile	aqueous	250-mL HDP	cool, 4° C	7 days

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

Sample Custody

Chain-of-Custody Form

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

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

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

Receiving Samples

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

Logging in Samples and Storage

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

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

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

Disposal of Samples

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

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

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

Dete: Time: Relinquished By: (Signature)	Date: Time: Relinquished By: (Signature)						Date Isne Matur Sample 1.11. Ma.		Fa), #:	Phone #:			Address:	UIER.	CHAIN OF-CUSTODY RECORD
Hemarks:	Remarks:		·				Number/Valime	Preservative	Sample Température:	Sampler:		Project Manager:	Project #:		
	Remarks:						BTEX TPH EDB EDC B311 RCR Catic Anio B0B B26	(+ M Meth (Meth (Meth (Meth D (PN) A 8 M ons (N ns (N 1 Pes 0 (VO	MBE + ad BO hod 41 hod 50 hod 80 A or P, steis ia, K, C Cl. NO ticides	TPH [58 M 8.1) 04.1)	's (802 Gesoline OD (Ges PO, SC 's (806)	a Only) /Diesel)	ANALYSIS HEAUEST		ANALL ENVIRONMENTAL ANALYSIB LABORATORY 4901 Hewkins NE, Suite D Albuquerque, New Maxico 87109

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6.0 Analytical Procedures

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

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

List of Procedures Used

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

Organic Analysis

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

Gas Chromatographic/Mass Spectrometric Methods

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

Inorganic Analysis

	Altile of Method					
310.1	Alkalinity					
350.3	Ammonia					
300.0/300.1	Anions (aqueous)					
9065	Anion (soil)					
120.1	Electrical Conductivity					
3500	Ferrous Iron					
351.2	Total Kjeldhal Nitrogen (TKN)					
9095	Paint Filter					
150.1	рН					
420.3	Phenois					
160.1	Total Dissolved Solids (TDS)					
160.2	Total Suspended Solids (TSS)					
180.1	Turbidity					
Metals						
200.7/6010C	ICP Metals					
7470	Mercury (aqueous)					
7471	Mercury (soil)					

Preparative Methodologies

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

7.0 Calibration

Instrument Calibration

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

Standards

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

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

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

Procedures

Reagents

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

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

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

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

Analytical balance

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

pH Meter

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

Thermometers

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

Refrigerators/Freezers

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

Ovens

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

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

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

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

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

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

Other Analytical Instrumentation and Equipment

The conductivity probe constant shall be determined prior to use.

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

8.0 Maintenance

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

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

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

Maintenance Date Maintenance Description Maintenance Performed by Initials

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

9.0 Quality Control

Internal Quality Control Checks

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Precision, Accuracy, Detection Levels

Precision

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

Accuracy

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

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

%Recovery = {(concentration* recovered)/(concentration* added)} X 100

*or amount

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

Detection Limit

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

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

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

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

MDL = s * t (99%)

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

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

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

Quality Control Parameter Calculations

Mean

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

Average = $(\Sigma x_i) / n$

 $x_1 =$ the value x in the Ith trial n = the number of trials

Standard Deviation

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

Standard deviation = s = $\left[\sum (x_1 - average)^2 / (n - 1)\right]^{\frac{1}{2}}$

Percent Recovery (MS, MSD, LCS and LCSD)

Percent Recovery = <u>(Spike Sample Result – Sample Result)</u> X100 (Spike Added)

Confidence Intervals

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

The formula is:

confidence interval = $x \pm s * s$ -dist

Student's t Distribution

#values 10 16 20 24 36 41 66 61 124 \ge 124										
95 %	2.262	2 145 2	093 2.064	2.042 2.021	2.000 1.980) 1.960				
99%	3.250	2.977 2.	861 2.797	2.750 2.704	2.660 2.617	<u>/ 2.576 </u>				

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

RPD (Relative Percent Difference)

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

RPD = 2 x (Sample Result - Duplicate Result) X 100(Sample Result + Duplicate Result)

10.0 Data Reduction, Validation, Reporting, and Record Keeping

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

Data Reduction

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

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

Validation

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

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

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

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

Reports and Records

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

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

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

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

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11.0 Corrective Action

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

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

Assure that proper procedures were followed.

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

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

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

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

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

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

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

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

12.0 Quality Assurance Audits, Reports and Complaints

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

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

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

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

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

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

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

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

Complaints

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

Internal and External Reports

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

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

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

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

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Section 10.0 Chemical Analytical Reports

Title	Tab Number
Soil Gas Third Quarter 2006	5
Soil Gas Fourth Quarter 2006	6
Groundwater Third Quarter 2006	7
Groundwater Fourth Quarter 2006	8
GAC Filter Monitoring 2006	9

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COVER LETTER

Monday, September 18, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 3rd Quarter 2006-VS

Order No.: 0609106

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory, Inc. received 6 sample(s) on 9/12/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			C	lient Sample ID:	TP-#2	2		
ab Order: 0609106					Collection Date:	9/11/2006 10:00:00 AM			
Project:	River Terrace - 3rd Quart	er 2006-VS			Date Received:	9/12/2	9/12/2006		
Lab ID:	0609106-01				Matrix:	AIR			
Analyses	· · · · · · · · · · · · · · · · · · ·	Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB		
Gasoline Range	e Organics (GRO)	ND	5,0		µg/L	1	9/15/2006 10:49:33 AM		
Surr: BFB		90.0	84.5-129		%REC	1	9/15/2005 10:49:33 AM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	0.10		μg/L	1	9/15/2006 10:49:33 AM		
Toluene		ND	0.10		µg/∟	1	9/15/2006 10:49:33 AM		
Ethylbenzene		ND	0.10		µg/L	1	9/15/2006 10:49:33 AM		
Xyienes, Total		ND	0.30		µg/L	1	9/15/2006 10:49:33 AM		
Surr: 4-Brom	ofluorobenzene	80.8	80-116		%REC	1	9/15/2006 10:49:33 AM		

Qualifiers:

٠

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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Date: 18-Sep-06

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Date: 18-Sep-06

CLIENT: Lab Order:				С	Client Sample ID:				
Project:	0000000				Date Received:	9/11/2006 10:25:00 AM			
Lab ID:	0609106-02				Matrix:				
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB		
Gasoline Range	Organics (GRO)	920	100		μαιΓ	20	9/15/2006 11:19:38 AM		
Surn: BFB		105	84.5-129		%REC	20	9/15/2006 11:19:38 AM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		29	2.0		μg/L	20	9/15/2006 11:19:38 AM		
Toluene		ND	2.0		µg/L	20	9/15/2006 11:19:38 AM		
Ethylbenzene		36	2.0		µg/L	20	9/15/2006 11:19:38 AM		
Xylenes, Total		170	6.0		µg/L	20	9/15/2006 11:19:38 AM		
Current d. Daman	ofluorobenzene	95.0	80-116		%REC	20	9/15/2006 11:19:38 AM		

Qualifiers:

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- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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CLIENT: Lab Order: Project:	erder: 0609106 Collection Date et: River Terrace - 3rd Quarter 2006-VS Date Received		•	: 9/11/2006 10:45:00 AM			
Lab ID:	0609106-03				Matrix:	AIR	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RA	NGE					Analyst: NSB
Gasoline Range	e Organics (GRO)	17	5.0		µg/L	1	9/15/2006 11:49:50 AM
Surr: BFB		126	84.5-129		%REC	1	9/15/2006 11:49:50 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	0.10		µg/L	1	9/15/2006 11:49:50 AM
Toluene		ND	0.10		μg/L	1	9/15/2006 11:49:50 AM
Ethylbenzene		0.18	0.10		μg/L	1	9/15/2006 11:49:50 AM
Xylenes, Total		0.97	0.30		µg/L	1	9/15/2006 11:49:50 AM
Surr: 4-Brom	ofluorobenzene	87.6	80-116		%REC	1	9/15/2006 11:49:50 AM

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation rangeJ Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 18-Sep-06

ND Not Detected at the Reporting Limit

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CLIENT:	San Juan Refining				lient Sample ID:	TP_#8	
Lab Order:	0609106			ų,			2006 11:10:00 AM
Project:	River Terrace - 3rd Quarter	r 2006-VS	S		Date Received:		
Lab ID:	0609106-04				Matrix:		
Analyses]	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSE
Gasoline Range	e Organics (GRO)	14	5.0		µg/L	1	9/15/2006 12:20:15 PM
Surr: BFB		101	84.5-129		%REC	1	9/15/2006 12:20:15 PN
EPA METHOD	8021B: VOLATILES						Analyst: NSE
Benzene	•	ND	0.10		µg/L	1	9/15/2006 12:20:15 PM
Toluene		ND	0.10		µg/L	1	9/15/2006 12:20:15 PM
Ethylbenzene		0.13	0.10		µg/L	1	9/15/2006 12:20:15 PM
Xylenes, Total		0.43	0.30		µg/L	1	9/15/2006 12:20:15 PM
Surr: 4-Brom	ofluorobenzene	89.5	80-116		%REC	1	9/15/2006 12:20:15 PM

Date: 18-Sep-06

Qualifiers:

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- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609106 River Terrace - 3rd Quar 0609106-05	ter 2006-VS		,	Client Sample ID: Collection Date: Date Received: Matrix:	9/11/2 9/12/2	2006 12:35:00 PM
Analyses	1.	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Rang	e Organics (GRO)	1200	120		µg/L	25	9/15/2006 12:50:32 PM
Surr: BFB		98.6	84.5-129		%REC	25	9/15/2006 12:50:32 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	2.5		µg/L	25	9/15/2006 12:50:32 PM
Toluene		ND	2.5		µg/L	25	9/15/2006 12:50:32 PM
Ethylbenzene		79	2.5		μg/L	25	9/15/2006 12:50:32 PM
Xylenes, Total		380	7.5		µg/L	25	9/15/2006 12:50:32 PM

80-116

%REC

94.8

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 18-Sep-06

25

9/15/2006 12:50:32 PM

ND Not Detected at the Reporting Limit

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Qualifiers:

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E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

Value exceeds Maximum Contaminant Level

В

CLIENT:	San Juan Refining			C	lient Sample ID:	TP-#1	1		
Lab Order: 0609106					Collection Date:		9/11/2006 12:50:00 PM		
Project: River Terrace - 3rd Q		rter 2006-VS			Date Received:	9/12/2006			
Lab ID:	0609106-06				Matrix:	AIR			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB		
Gasoline Range	e Organics (GRO)	9.0	5.0		µg/L	1	9/15/2006 1:50:56 PM		
Surr: BFB		97.8	84.5-129		%REC	1	9/15/2006 1:50:56 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	0.10		µg/L	1	9/15/2006 1:50:56 PM		
Toluene		ND ·	0.10		µg/L	1	9/15/2006 1:50:56 PM		
Ethylbenzene		0.24	0.10		µg/L	1	9/15/2006 1:50:56 PM		
Xylenes, Total		1.5	0.30		µg/L	1	9/15/2006 1:50:56 PM		
Surr: 4-Brom	ofluorobenzene	91.8	BO-116		%REC	1	9/15/2006 1:50:56 PM		

Date: 18-Sep-06

Qualifiers:

Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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QA/QC SUMMARY REPORT

Client: San Juan R Project: River Terra	efining ce - 3rd Qua	rter 2006-V	S					Work (Order:	0609106
Analyte	Result	Units	PQL	%Rec	LowLimit Hig	phLimit	%RPD	RPD	Limit C)ual
Method: SW8015 Sample ID: 0609106-05A DUP		DUP	**************************************		Batch ID:	R20703	Analysis I	Dale:	9/15/20	06 1:20:43 PM
Gasoline Range Organics (GRO)	1205	µg/L	120				0.833	27.	8	
Method: SW8021 Sample ID: 0609106-05A DUP		DUP			Batch ID:	R20703	Analysis I	Dale:	9/15/20	061:20:43 PM
Benzene	ND	րց/Լ	2.5				0	25	5	
Toluene	ND	µg/L	2.5				D	25	5	
Ethylbenzene	86.10	µg/L	2.5				8.87	25	5	
Xylenes, Total	415.5	μg/L	7.5				8.21	25	5	

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits

7/8

Page 1

San	nple Receipt Ch	ecklist		
Client Name SJR		Date and Time I	Received:	9/12/2006
Work Order Number 0609106		Received by	GLS	
	Dale	- 2-04	i 	
Matrix Carrier na	me <u>UPS</u>			
Shipping container/cooler in good condition?	Yes 🗹		Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗹	No 🗆	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes 🗋		N/A	
Chain of custody present?	Yes 🗹	No 🗔		
Chain of custody signed when relinquished and received?	Yes 🗹			
Chain of custody agrees with sample labels?	Yes 🗹			
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 lime?	Yes 🗹	No 🗆		
Water - VOA vials have zero headspace? No VOA vials	submitted 🗹	Yes 🗆		
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌	N/A 🗹	
Container/Temp Blank temperature?		4° C ± 2 Acceptat	ole	
		If given sufficient	time to cool.	
COMMENTS:				
		العام موجع المعالية المعالم المعالية المعالم المعالية المعالية المعالية المعالية المعالية المعالية المعالية الم		
Client contacted Date contacted	•	reisi	on contacted	
Contacted by: Regarding	ى يې مېر د ورو و و و و و و و و و و و و و و و و			
Comments:	• ••• •••• • •	···· • · ··· · · · · · · · · · · · · ·		
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Corrective Action				
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	8/8			

	(V ar V) вовдервен то геладив niA	``
HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com		
HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 161. 505.345.3875 Fax 505.345.4 www.hallenvironmental.com NALYSIS REQUEST		
ANE Scice D Facto Facto B Facto Fac	(ADV) 80358 (ADV-ims2) 0758	
HALL ENVIRONME ANALYSIS LABORA 4901 Hawkins NE, Suite D Albuquerque, New Mexico 8 1el, 505.345.3975 Fax 50 www.hallenvironmental.com NALYSIS REQUEST	8081 Pescicides / PCB's (8082)	
vkins I Vkins I Viron V Vkins I Viron V V	Aniona (F, Cl, NO ₂ , NO ₂ , PO ₄ , SO ₄)	
ALY ALY 1 Haw 105.3 105.		
HALL EN ANALYSI 4901 Hawkin Albuquerque, Tel. 505.345. www.hallenvir	(FDB bodtaM) 203 (HA9 or PA)	
	EDB (Method 504.1)	
	(1.814 bodiaM) H9T	
		iii
		Remarks:
5		
age: 1940 Qm-2006-VS	HEAL NO. HEAL NO. ()(609106	05-01-0
104/10C Package: Level 4 11 Level 4 11	2 July 2	
100 x		All All All All All All All All All All
ID PIC		HBV: 10 AA
		Received By: Kignature)
Dether: Project Name: River	Project Manager: Sarhpfer: An A Sample Temgeratu Sample Temgeratu Sample Temgeratu Number/Volume	
CHAIN-OF-CUSTODY RECORD	UM VIM Sample I.D. No. Sample I.D. No. Sample I.D. No. TP-#2 TP-#2 TP-#6 TP-#6 TP-#5 TP-#5	Refinduished By, (Signature) Lund CN Lund CN Charl
E-CUSTOD	$\begin{array}{c c} Blothfeld \\ Blothfeld \\ Bg4l3 \\ Bg4l3 \\ Bg4l3 \\ Bg4l3 \\ Bg4l3 \\ Bg4l3 \\ Bg4l3 \\ Bg4l3 \\ Bg6l \\ Bg6$	Refinduishe
CHAIN-OF-	Bloomfree Bloomfree B1413 B7413 SDS-636 SDS-636 SDS-636 10280 10280 1100 11235 1235 1235 1235 1235 1235 1235 123	Time: ToS
Chent: SAN	Phone #:	9 <u>11-06</u> Date:



COVER LETTER

Monday, September 18, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 3rd QTR-2006-VS

Order No.: 0609130

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 9/13/2006 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,

100

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			Client Sample II		: TP #12			
Lab Order:	0609130				Collection Date:	9/12/2006 8:20:00 AM			
Project:	River Terrace - 3rd QTR-20	06-VS			Date Received:	9/13/2	9/13/2006		
Lab ID:	0609130-01				Matrix:	AIR			
Analyses	R	esult	PQL	Qual	Unițs	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB		
Gasoline Rangi	e Organics (GRO)	ND	5.0		µg/∟	1	9/15/2006 2:21:20 PM		
Surr: BFB		95.6	84.5-129		%REC	1	9/15/2006 2:21:20 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	0.10		µg/L	1	9/15/2006 2:21:20 PM		
Toluene	· .	ND	D.1 0		µg/L	1	9/15/2006 2:21:20 PM		
Elhylbenzene		0.10	0.10		μg/L	1	9/15/2006 2:21:20 PM		
Xylenes, Total		ND	0.30		µg/L	1	9/15/2006 2:21:20 PM		
Surr: 4-Brom	ofluorobenzene	86.9	80-116		%REC	1	9/15/2006 2:21:20 PM		

Date: 18-Sep-06

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 7

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609130 River Terrace - 3rd QTF 0609130-02	R-2006-VS		C	lient Sample ID: Collection Date: Date Received: Matrix:	9/12/2006 9:10:00 AM 9/13/2006				
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed			
EPA METHOD	8015B: GASOLINE RANG	5					Analyst: NSB			
Gasoline Range	a Organics (GRO)	ND	5.0		µg/L	1	9/15/2006 2:51:45 PM			
Surr. BFB		98.6	84.5-129		%REC	1	9/15/2006 2:51:45 PM			
EPA METHOD	8021B: VOLATILES						Analyst: NSB			
Benzene		ND	0.10		µg/L	1	9/15/2006 2:51:45 PM			
Toluene		ND	D.1D		µg/L	1	9/15/2006 2:51:45 PM			
Elhylbenzene		ND	0.10		μg/L	1	9/15/2006 2:51:45 PM			
Xylenes, Total		ND	0.30		µg/L	1	9/15/2006 2:51:45 PM			
Sur: 4-Brom	olluorobenzene	89.8	80-116		%REC	1	9/15/2006 2:51:45 PM			

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Date: 18-Sep-06

ND Not Detected at the Reporting Limit

Page 2 of 7

CLIENT:	San Juan Refining			C	lient Sample ID:	TP #1	0		
Lab Order:	0609130				Collection Date:	9/12/2006 9:35:00 AM			
Project:	River Terrace - 3rd QTR-)TR-2006-VS			Date Received:	9/13/2006			
Lab ID:	0609130-03				Matrix:	AIR			
Analyses	· · · · · · · · · · · · · · · · · · ·	Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB		
Gasoline Range	Organics (GRO)	ND	5.0		µg/L	1	9/15/2006 3:22:00 PM		
Surr: BFB		96.5	84.5-129		%REC	1	9/15/2006 3:22:00 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene '		ND	0.10		µg/L	1	9/15/2006 3:22:00 PM		
Toluene		ND	0.10		µg/∟	1	9/15/2006 3:22:00 PM		
Ethylbenzene		ND	0.10		µg/L	1	9/15/2006 3:22:00 PM		
Xylenes, Total		ND	0.30		μg/L	1	9/15/2006 3:22:00 PM		
Surr: 4-Brom	ofluorobenzene	87.0	80-116		%REC	1	9/15/2006 3:22:00 PM		

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Ounli	fiers:

J

* Value exceeds Maximum Contaminant Level

E 🚏 Value above quantitation range

Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 18-Sep-06

ND Not Detected at the Reporting Limit

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4

Date: 18-Sep-06

CLIENT: San Juan Refining Client Sample ID: TP #3 Lab Order: 0609130 Collection Date: 9/12/2006 10:20:00 AM **Project:** River Terrace - 3rd QTR-2006-VS Date Received: 9/13/2006 Matrix: AIR Lab ID: 0609130-04 Analyses Result PQL Qual Units DF **Date Analyzed** EPA METHOD 8015B: GASOLINE RANGE Analyst: NSB Gasoline Range Organics (GRO) ND 5.0 µg/L 1 9/16/2006 10:27:18 PM Surn BFB 83.6 72.2-129 %REC 1 9/16/2006 10:27:18 PM EPA METHOD 8021B: VOLATILES Analyst: NSB Benzene ND 0.10 9/16/2006 10:27:18 PM µg/L 1 Toluene ND 0.10 µg/∟ 9/16/2006 10:27:18 PM 1 Ethylbenzene ND 0.10 9/16/2006 10:27:18 PM µg/L 1 Xylenes, Total ND 0.30 µg/L 1 9/16/2006 10:27:18 PM Surr: 4-Bromofluorobenzene 82.9 80-116 %REC 9/16/2006 10:27:18 PM 1

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 4 of 7

CLIENT:	San Juan Refining			DW #	DW #1				
Lab Order:	0 609130				Collection Date:	9/12/2006 12:40:00 PM			
Project:	River Terrace - 3rd QTR-	2006-VS			Date Received:	9/13/2006			
Lab ID:	0609130-05			•	Matrix:	AIR			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB		
Gasoline Range	e Organics (GRO)	ND	5.0		µg/L	1	9/16/2006 11:27:45 PM		
Surn BFB		85.1	72.2-129		%REC	1	9/16/2006 11:27:45 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	0.10		μg/L	1	9/16/2006 11:27:45 PM		
Toluene		ND	0.10		μg/L	1	9/16/2006 11:27:45 PM		
Ethylbenzene		ND .	0.10		μg/L	1	9/16/2006 11:27:45 PM		
Xylenes, Total		ND	0.30		µg/L	1	9/16/2006 11:27:45 PM		
Surr: 4-Brom	ofluorobenzene	82.8	80-116		%REC	1	9/16/2006 11:27:45 PM		

Qualifiers:

- Value exceeds Maximum Contaminant Level
 E Value above quantitation range
- J Analyte detected below quantitation limits
- 5 Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 18-Sep-06

ND Not Detected at the Reporting Limit

Page 5 of 7

Hall Environmenta	Analysis I	Laboratory,	Inc.
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Date: 18-Sep-06

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609130 River Terrace - 3rd QTR-2 0609130-06	006-VS		С	lient Sample ID: Collection Date: Date Received: Matrix:	9/12/2 9/13/2	2006 1:20:00 PM
Analyses	I	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	5.0		µg/L	1	9/15/2006 6:55:17 PM
Surn BFB		92.6	84.5-129		%REC	1	9/15/2006 6:55:17 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	0.10		µg/∟	1	9/15/2006 6:55:17 PM
Toluene		ND	0.10		µg/L	1	9/15/2006 6:55:17 PM
Ethylbenzene		ND	0.10		µg/L	1	9/15/2006 6:55:17 PM
Xylenes, Total		ND	0.30		μg/L	1	9/15/2006 6:55:17 PM
Surr: 4-Brom	ofluarobenzene	82.0	80-116		%REC	1	9/15/2006 6:55:17 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
-) Analyte delected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 6 of 7

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609130 River Terrace - 3rd Q7 0609130-07	FR-2006-VS			lient Sample ID: Collection Date: Date Received: Matrix:	9/12/2 9/13/2	2006 2:10:00 PM
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB
Gasoline Range	e Organics (GRO)	140	5.0		µg/L	1	9/15/2006 7:25:59 PM
Surr: BFB		114	84.5-129		%REC	1	9/15/2006 7:25:59 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	0.10		µg/L	1	9/15/2006 7:25:59 PM
Toluene		0.21	0.10		µg/L	1	9/15/2006 7:25:59 PM
Ethylbenzene		0.18	0.10		µg/L	1	9/15/2006 7:25:59 PM
Xylenes, Total		2.5	0.30		µg/L	1	9/15/2006 7:25:59 PM
Surr: 4-Brom	ofiuorobenzene	94.1	80-116		%REC	1	9/15/2006 7:25:59 PM

Date: 18-Sep-06

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Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- 5 Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

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H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 7 of 7

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QA/QC SUMMARY REPORT

Client: San Juan Rei Project: River Terrac	-	R-2006-VS					Wor	k Order: 0609130
Analyte	Result	Units	PQL	%Rec	LowLimit Hig	hLimit	%RPD RI	PDLimit Qual
Method: SW8015								
Sample ID: 0609106-05A DUP		DUP			Batch ID:	R20703	Analysis Date:	9/15/20061:20:43 PM
Gasoline Range Organics (GRO) Sample ID: 0609130-04A DUP	1205	μg/L DUP	120		Batch ID:	R20705	0.833 Z Analysis Date:	27.8 9/16/2006 10:57:30 PM
Gasoline Range Organics (GRO)	ND	µg/L	5.0				0	27.B
Method: SW8021								
Sample ID: 0609106-05A DUP		DUP			Batch ID:	R20703	Analysis Date:	9/15/2006 1:20:43 PM
Benzene	ND	µg/∟	2.5				٥	25
Toluene	ND	μg/L	2.5				D	25
Ethylbenzene	86.10	µg/L	2.5				8.87	25
Xylenes, Total	415.5	µg/∟	7.5				8.21	25
Sample ID: 0609130-04A DUP		DUP			Batch ID:	R20705	Analysis Date:	9/16/2006 10:57:30 PM
Benzene	ND	µg/L	0.10				0	25
Toluene	ND	μg/L	0.10				٥	25
Ethylbenzene	ND	µg/L	0.10				D	25
Xylenes, Total	ND	µg/L	0.30				0	25

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

5 Spike Recovery outside accepted recovery limits

8/9

Page 1

Sam	ple Receipt Che	ecklist		
Client Name SJR		Date and Time	Received:	9/13/2006
Work Order Number 0609130		Received by	GLS	
Checklist completed by Signalure	eq. Date	13-06		
Matrix Carrier nan	ne <u>UPS</u>			
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 🗹	Νο 🗔		
Samples in proper container/bottle?	Yes 🗹	No 🗔		
Sample containers intact?	Yes 🗹			
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 s	submitted 🗹	Yes	No 🗌	
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌	N/A	
Container/Temp Blank temperature?		4° C ± 2 Accepta	ble	
		lf given sufficient	lime to cool.	
COMMENTS:				
:				
Client contacted Date contacted:		Pers	on contacted	
Contacted by: Regarding		<u></u>		and a subscription defines () - the foreigned fragmers and the
Comments: Ac- CH TP-	# 3 10	Hertion -	time is	107 mi
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Corrective Action		······································	Brindalf in a haff in a ¹ er fa ² 19. Malay say say say ya a say sa	
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QA/ QC Package: Std 🗖 Level 4 🗍	Other:	、	River Terrice State-2006-VS			Project Manager:		Sadipter. A Arido / Shelly and	Sample Temperature:	Preservative	HEAL NO. HEAL NO. HEAL NO. HEAL NO.	[-Tedlor			5		_			Received By: (Signature) 01-2-1 Repeived By: (Signature) 00.
	UNAIN-UF-GUALUNI AEUUNU	Client: AN JUAN KANNAS		Address # 50 Rd 4990	Blown Sich NM	413 (1)		19/h-2C22-033-0/6/	111		Date lime Matrix Sample I.U. No.	9-12-06 8204 6455 7D-412	910A 710-#13	017-011 -4520	2000 AL AL AL				<	Date: Time: RelinglyIshed By: (Signature) 9-12-0lo Zpm (w/W W Tol O- Date: Time: Relinquished By: (Signature)

- 1



COVER LETTER

Monday, December 11, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 4th Quarter 2006 - VS

Dear Cindy Hurtado:

Order No.: 0612041

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 12/5/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#8	3		
Lab Order:	0612041				Collection Date:	12/4/2006 10:20:00 AM			
Project:	River Terrace - 4th Qu	uarter 2006 - 1	VS		Date Received:	12/5/2006			
Lab ID: 0612041-01					Matrix:	AIR			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RAN	GE			-		Analyst: NSB		
Gasoline Range	e Organics (GRO)	4700	250		µg/L	50	12/6/2006 10:32:49 AM		
Surr: BFB		114	84.5-129		%REC	50	12/6/2008 10:32:49 AM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	5.0		μg/L	50	12/6/2006 10:32:49 AM		
Toluene		7.4	5.0		μg/L	50	12/6/2006 10:32:49 AM		
Elhylbenzene		50	5.0		µg/L	50	12/6/2006 10:32:49 AM		
Xylenes, Total		710	15		µg/L	50	12/6/2006 10:32:49 AM		
Sur: 4-Brom	ofluorobenzene	91.0	70.2-105		%REC	50	12/6/2006 10:32:49 AM		



*

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 1/6
- B Analyte detected in the associated Method Blank

Date: 11-Dec-06

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit



CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0612041 River Terrace - 4th Qu 0612041-02	arter 2006 - 3	VS	C	lient Sample ID: Collection Date: Date Received: Matrix:	12/4/2006 11:00:00 AM 12/5/2006			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANG	θE					Analyst: NSB		
Gasoline Range	e Organics (GRO)	320	25		µg/L	5	12/6/2006 3:40:40 PM		
Surr. BFB		143	84.5-129	S	%REC	5	12/6/2006 3:40:40 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	0.50		µg/L	5	12/6/2006 3:40:40 PM		
Toluene		ND	0.50		µg/L	5	12/6/2006 3:40:40 PM		
Ethylbenzene		2.3	0.50		µg/L	5	12/6/2006 3:40:40 PM		
Xylenes, Total		37	1.5		µg/L	5	12/6/2006 3:40:40 PM		
Sur: 4-Brom	ofluorobenzene	93.8	70.2-105		%REC	5	12/6/2006 3:40:40 PM		

Date: 11-Dec-06

Qualifiers:

*

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Page 2 of 4

CLIENT:	San Juan Refining			C	lient Sample ID:	TP-#1			
Lab Order: 0612041				Collection Date:			12/4/2006 1:05:00 PM 12/5/2006		
Project: River Terrace - 4th (uarter 2006 - VS			Date Received:				
Lab ID:	0612041-03				Matrix:	AIR			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD 80	15B: GASOLINE RANG	GE					Analyst: NSB		
Gasoline Range (Organics (GRO)	8000	250		µg/L	50	12/6/2006 11:34:37 AM		
Surr. BFB		129	84.5-129		%REC	50	12/6/2006 11:34:37 AM		
	21B: VOLATILES						Analyst: NSB		
Benzene	· •	ND	5.0		µg/L	50	12/6/2006 11:34:37 AM		
Toluene		8.3	5.0		µg/L	50	12/6/2006 11:34:37 AM		
Ethylbenzene		140	5.0		µg/L	50	12/6/2006 11:34:37 AM		
Xylenes, Total	•	1000	15		μg/L	50	12/6/2006 11:34:37 AM		
Surr: 4-Bromof	luprobenzene	97.1	70.2-105		%REC	50	12/6/2006 11:34:37 AM		

Date: 11-Dec-06

Oun	lifiers:	

- * Value exceeds Maximum Contaminant Level
 E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 3/6
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#2	2
Lab Order:	0612041				Collection Date:	12/4/2	2006 1:40:00 PM
Project: River Terrace - 4th Q		uarter 2006 - V	VS		Date Received:	12/5/2006	
Lab ID:	0612041-04	, , ,			Matrix:	AIR	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	015B: GASOLINE RAN	GE					Analyst: NSB
Gasoline Range	Organics (GRO)	120	5.0		µg/L	1	12/6/2008 12:05:08 PM
Surr: BFB		136	84.5-129	S	%REC	1	12/6/2006 12:05:08 PM
EPA METHOD	3021B: VOLATILES						Analyst: NSB
					- H	-	
Benzene	,	0.11	0.10		μg/L	1	12/6/2006 12:05:08 PM
Benzene Toluene		0.11 ND	0.10 0.10		hā\r hā\r	1	12/6/2006 12:05:08 PM 12/6/2006 12:05:08 PM
					• =	1 1 1	
Toluene		ND	0.10		µg/L	1 1 1	12/6/2006 12:05:08 PM

Date: 11-Dec-06

Qualifiers:

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Value exceeds Maximum Contaminant Level Е Value above quantitation range

J

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits S

в Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

4/6

Page 4 of 4

QA/QC SUMMARY REPORT

Client: San Juan Re	-							
Project: River Terrad	e - 4th Qua	rter 2006 - V	/S				Work	Order: 0612041
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPI	DLimit Qual
Method: SW8015								
Sample ID: 5ML RB		MBLK			Batch	ID: R21693	Analysis Date:	12/6/2006 8:42:28 AM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0					
Sample ID: 2.5UG GRO LCS		LCS			Batch	ID: R21693	Analysis Date:	12/6/2006 8:43:39 PM
Gasoline Range Organics (GRO)	25.10	mg/Kg	5.0	98.0	69.5	120		
Method: SW8015								
Sample ID: 5ML RB		MBLK			Batch	ID: R21693	Analysis Date:	12/6/2005 8:42:28 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS		LCS			Batch	ID: R21693	Analysis Date:	12/6/2006 6:43:39 PM
Gasoline Range Organics (GRO)	0.5020	mg/L	0.050	100	80	115	•	
Method: SW8021							······································	
Sample ID: 5ML RB		MBLK			Batch	ID: R21693	Analysis Date:	12/6/2008 8:42:28 AN
Benzene	ND	µg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
1,2,4-Trimethylbenzene	ND	hð\r	1.0					
1,3,5-Trimethylbenzene	ND	µg/L	1.0					
Sample ID: 100NG BTEX LCS		LCS			Batch	ID: R21693	Analysis Date:	12/6/2006 5:42:33 PM
Benzene	18.21	µg/L	1.0	91.0	85.9	113		
Toluene	18.34	μg/L	1.0	91.7	86.4	113		
Ethylbenzene	17.85	μg/L	1.0	89.2	83.5	118		
Xylenes, Total	37.37	µg/L	3.0	93.4	83.4	122		
1,2,4-Trimethylbenzene	16.78	µg/L	1.0	83.9	83.5	115		
1,3,5-Trimelhylbenzene	17.39	µg/L	1.0	86.9	85.2	113		

Qualifiers:

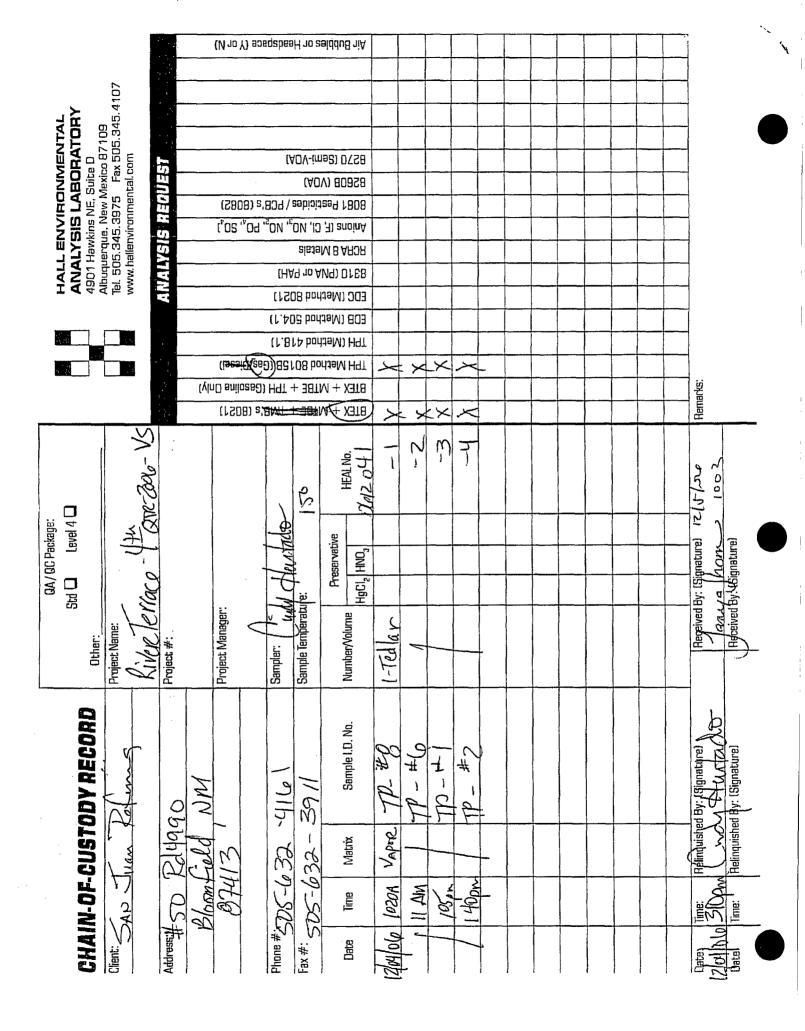
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 5/6

Page 1

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	Sample Receipt Ch	lecklist		
Client Name SJR		Date and Time	Received:	12/5/2006
Work Order Number 0612041		Received by	AT	
Checklist completed by	<u>/2</u> Date	15/06		
Matrix Ca	rrier name <u>UPS</u>			
Shipping container/cooler in good condition?	Yes 🗹		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 🗹	Na 🗆		
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 VC	A vials submitted	Yes 🗌	No 🗌	
Water - pH acceptable upon receipt?	Yes	No 🗆	N/A	
Container/Temp Blank temperature?		4° C ± 2 Accepta		
COMMENTS:		lf given sufficien	t time to cool.	
Client contacted Date co	ntacted:	Pers	son contacted	
Conlacted by: Regard	ing			
Comments:				
		•		
			·	
Corrective Action				
	6/6			





COVER LETTER

Monday, December 11, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 4th Quarter 2006-VS

Order No.: 0612061

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 12/6/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#1	13	
Lab Order:	0612061				Collection Date:		12/5/2006 10:25:00 AM	
Project: River Terrace - 4th		Quarter 2006-VS			Date Received:		2006	
Lab ID:	0612061-01				Matrix:	AIR		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: GASOLINE RAI	NGE					Analyst: NSB	
Gasoline Range	e Organics (GRO)	18	5.0		µg/L	1	12/6/2006 12:36:11 PM	
Surr: BFB		108	84.5-129		%REC	1	12/6/2006 12:36:11 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	0.10		µg/L	1	12/6/2006 12:36:11 PM	
Toluene		ND	0.10		hð\r	1	12/6/2006 12:36:11 PM	
Ethylbenzene	· · · · ·	0.18	0.10		µg/L	1	12/6/2006 12:36:11 PM	
Xylenes, Total		2.4	0.30		µg/L	1	12/6/2006 12:36:11 PM	
Surr: 4-Brom	ofiuorobenzene	80.3	70.2-105		%REC	1	12/6/2006 12:36:11 PM	

Date: 11-Dec-06

Qualifier	5:
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- Value exceeds Maximum Contaminant Level Ε Value above quantitation range
- 1 Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits S
- в Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

1/6

Page 1 of 4

Date: 11-Dec-06

CLIENT: San Juan Refining Client Sample ID: TP-#10 Lab Order: 0612061 Collection Date: 12/5/2006 10:55:00 AM **Project:** River Terrace - 4th Quarter 2006-VS Date Received: 12/6/2006 Matrix: AIR Lab ID: 0612061-02 Analyses Result DF PQL Qual Units Date Analyzed EPA METHOD 8015B: GASOLINE RANGE Analyst: NSB Gasoline Range Organics (GRO) 22 5.0 µg/L 1 12/6/2008 1:06:57 PM Sunt BFB 114 84.5-129 %REC 12/6/2006 1:06:57 PM 1 EPA METHOD 8021B; VOLATILES Analyst: NSB Benzene ND 0.10 µg/L 12/6/2006 1:08:57 PM 1 Taluene ND 0.10 µg/L 1 12/6/2006 1:08:57 PM Ethylbenzene 0.20 0.10 µg/L 1 12/6/2008 1:08:57 PM Xylenes, Total 2.7 0.30 µg/L 1 12/6/2006 1:06:57 PM Surr: 4-Bromofluorobenzene 84.9 70.2-105 %REC 12/6/2006 1:06:57 PM 1

Qun	lifiers:
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* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

2/6

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 2 of 4

CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#5		
Lab Order:	0612061				Collection Date:	12/5/2006 1:25:00 PM		
Project:	River Terrace - 4th	Quarter 2006-VS			Date Received:	12/6/2	2006	
Lab ID:	0612061-03				Matrix:	AIR		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: GASOLINE RA	ANGE					Analyst: NSB	
Gasoline Range	a Organics (GRO)	8900	250		µg/L	50	12/6/2006 1:37:49 PM	
Surr: BFB		113	84.5-129		%REC	50	12/6/2006 1:37:49 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene	ζ	6.1	5.0		µg/L	50	12/6/2006 1:37:49 PM	
Toluene		15	5.0		µg/L	50	12/6/2006 1:37:49 PM	
Ethylbenzene		14	5.0		µg/L	50	12/6/2006 1:37:49 PM	
Xylenes, Total		1400	30		μg/L	100	12/6/2006 2:39:06 PM	
Surr: 4-Brom	olluorobenzene	93.B	70.2-105		%REC	50	12/6/2006 1:37:49 PM	

Date: 11-Dec-06

4

Qualifiers:

- * Value exceeds Maximum Contaminant Level E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

3/6

Page 3 of 4

CLENT:	San Juan Refining			С	lient Sample ID:	TP-#1	.2		
Lab Order: 0612061					Collection Date:	12/5/2006 2:05:00 PM			
Project:	River Terrace - 4th Quarter	uarter 2006-VS			Date Received:	12/6/2	12/6/2006		
Lab ID:	0612061-04				Matrix:	AIR			
Analyses	R	esult	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB		
Gasoline Rang	e Organics (GRO)	120	10		µg/L	2	12/6/2006 3:09:54 PM		
Surr: BFB		127	84.5-129		%REC	2	12/6/2006 3:09:54 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	0.20		μg/L	2	12/6/2006 3:09:54 PM		
Toluene		ND	0.20		μg/L	2	12/6/2006 3:09:54 PM		
Ethylbenzene		0.28	0.20		µg/L	2	12/6/2006 3:09:54 PM		
Xylenes, Total		24	0.60		μg/L	2	12/6/2006 3:09:54 PM		
Surr: 4-Brom	nofluorobenzene	96.6	70.2-105		%REC	2	12/6/2006 3:09:54 PM		

Date: 11-Dec-06

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

Value exceeds Maximum Contaminant Level

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

4/6

Page 4 of 4

QA/QC SUMMARY REPORT

Client: San Juan R Project: River Terra	-	rter 2006-VS	5				Work	Order: 0612061
Analyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit		DLimit Qual
Method: SW8015								
Sample ID: 5ML RB		MBLK			Batch ID:	R21693	Analysis Date:	12/6/2006 8:42:28 AM
Gasoline Range Organics (GRO)	ND	mg/Kg	5.0					
Sample ID: 2.5UG GRO LCS		LCS			Batch ID:	R21693	Analysis Date:	12/6/20066:43:39 PM
Gasoline Range Organics (GRO)	25.10	mg/Kg	5.0	98.0	69.5	120		
Method: SW8015								
Sample ID: 5ML RB		MBLK			Batch ID:	R21693	Analysis Date:	12/6/2006 B:42:28 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050				_	
Sample ID: 2.5UG GRO LCS		LCS			Batch ID:	R21693	Analysis Date:	12/6/2006 6:43:39 PM
Gasoline Range Organics (GRO)	0.5020	mg/L	0.050	100	80	115		
Method: SW8021		,						
Sample ID: 5ML RB		MBLK			Batch ID:	R21693	Analysis Date:	12/6/2006 8:42:28 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
1,2,4-Trimethylbenzene	ND	μg/L	1.0					
1,3,5-Trimelhylbenzene	ND	µg/L	1.0		4			
Sample ID: 100NG BTEX LCS		LCS			Batch ID:	R21693	Analysis Date:	12/6/2006 5:42:33 PM
Benzene	18.21	µg/L	1.0	91.0	85.9	113		
Toluene	18.34	μg/L	1.0	91.7	86.4	113		
Ethylbenzene	17.85	μg/L	1.0	89.2	83.5	118		
Xylenes, Total	37.37	µg/∟	3.0	93.4	83.4	122		
1,2,4-Trimethylbenzene	16.78	hð/r	1.0	83.9	83.5	115		
1,3,5-Trimelhylbenzene	17.39	µg/L	1.0	86.9	85.2	113		

Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits
 - 5/6

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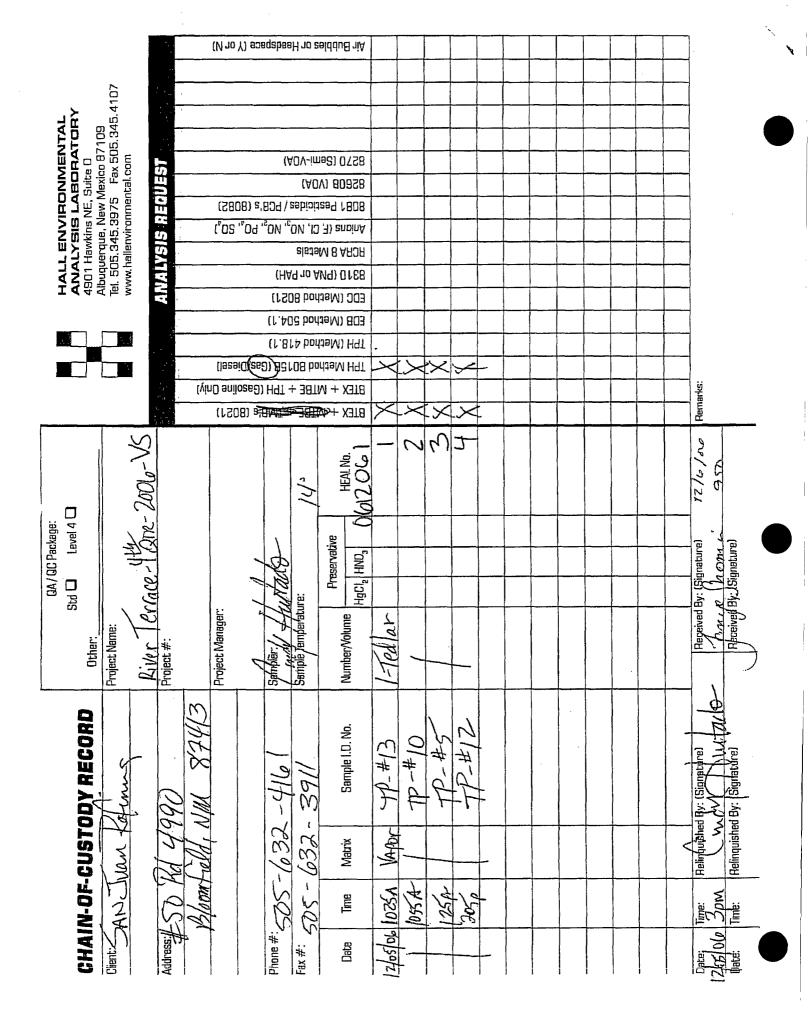
Page 1

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	Sample	Receipt Ch	recklist				
Client Name SJR			Date and Time	Received:		12	/6/2006
Work Order Number 0612061	1		Received by	TLS			
Checklist completed by	ippe	Dale	-6-06				
Matrix	Carrier name	UPS					
Shipping container/cooler in good condition?		Yes 🗹	No 🗆	Not Present			
Custody seals intact on shipping container/coole	er?	Yes 🗹	No 🗔	Not Present		Not Shipped	
Custody seals Intact on sample bottles?		Yes 🗌	No 🗔	N/A	\checkmark		
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 inlact?		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 sub	mitted 🗹	Yes 🗆	No 🗀			
Water - pH acceptable upon receipt?		Yes 🗌	No 🗔	N/A 🗹			
Container/Temp Blank temperature?		14°	4° C ± 2 Accepta If given sufficien				
COMMENTS:							
•							
						=====	====
Client conlacted	Date contacted:			son contacted			
Client contacted	Date contacted:		Per	son contacted			
Contacted by:			Per	50n contacted			
			Per	son contacted			
Contacted by:		· · · · · · · · · · · · · · · · · · ·	Per	son contacted			
Contacted by:			Per:	son contacted			
Contacted by:			Per	50n contacted			
Contacted by:	Regarding		Per	son contacted			
Contacted by:	Regarding		Per:	son contacted			
Contacted by:	Regarding		Per	son contacted			
Contacted by:	Regarding	6/6	Pers	50n contacted			

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COVER LETTER

Tuesday, December 12, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 4th Quarter 2006 VS

Dear Cindy Hurtado:

Order No.: 0612093

Hall Environmental Analysis Laboratory, Inc. received 5 sample(s) on 12/7/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:San Juan RefiningLab Order:0612093Project:River Terrace - 4th)uarter 2006 VS			Client Sample ID: Collection Date: Date Received: Matrix:		12/6/2006 10:00:00 AM 12/7/2006	
Lab ID: Analyses	0612093-01	Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB	
Gasoline Range	e Organics (GRO)	20	5.0		μg/L	1	12/8/2006 11:06:51 AM	
Surr: BFB		119	84.5-129		%REC	1	12/8/2006 11:06:51 AM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	0.10		µg/L	1	12/8/2006 11:06:51 AM	
Toluene		ND	0.10		µg/L	1	12/8/2006 11:06:51 AM	
Ethylbenzene		0.16	0.10		µg/L	1	12/8/2006 11:06:51 AM	
Xylenes, Total		3.5	0.30		µg/L	1	12/8/2006 11:06:51 AM	
Surr: 4-Brom	ofluorobenzene	83.9	70.2-105		%REC	1	12/8/2006 11:06:51 AM	

Qualifiers:

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Е Value above quantitation range

Analyte detected below quantitation limits J .

- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits -1/7. S
- B Analyte detected in the associated Method Blank

Date: 12-Dec-06

Н Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level RL Reporting Limit

	J						
CLIENT:	San Juan Refining		· · · · · · · · · · · · · · · · · · ·	C	lient Sample ID:	DW-#	1
Lab Order:	0612093				Collection Date:	12/6/2	006 10:45:00 AM
Project:	River Terrace - 4th Quan	rter 2006 VS			Date Received:	12/7/2	006
Lab ID:	0612093-02				Matrix:	AIR	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	Organics (GRO)	ND	5.0		μg/L	1	12/8/2006 11:37:36 AM
Surr: BFB		117	84.5-129		%REC	1	12/8/2006 11:37:36 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	0.10		µg/L	1	12/8/2006 11:37:36 AM
Toluene		ND	0.10		µg/L	1	12/8/2006 11:37:36 AM
Ethylbenzene		ND	0.10		hð\r	1	12/8/2006 11:37:36 AM
Xylenes, Total		ND	0.30		µg/L	1	12/8/2006 11:37:36 AM
		1.0	0.00		pyrc	•	

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

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- S Spike recovery outside accepted recovery limits 2/7
- B Analyte detected in the associated Method Blank

Date: 12-Dec-06

- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level

RL Reporting Limit

Page 2 of 5

CLIENT:	San Juan Refining			Client Sample ID:		MW #	49
Lab Order:				Collection Date:	12/6/2006 1:30:00 PM		
Project:	River Terrace - 4th Quar	uarter 2006 VS			Date Received:	12/7/2	2006
Lab ID:	0612093-03				Matrix:	AIR	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	5.0		µg/L	1	12/8/2006 12:07:56 PM
Surr: BFB		114	84.5-129		%REC	1	12/8/2006 12:07:56 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	0.10		µg/L	1	12/8/2006 12:07:56 PM
Toluene		ND	0.10		µg/L	1	12/8/2006 12:07:56 PM
Ethylbenzene		ND	0.10		µg/L	1	12/8/2006 12:07:56 PM
Xylenes, Total		0.46	0.30		µg/L	1	12/8/2006 12:07:56 PM
Surr: 4-Brom	olluorobenzene	82.4	70.2-105		%REC	1	12/8/2006 12:07:56 PM

Date: 12-Dec-06

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 3 / 7
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 3 of 5





Date: 12-Dec-06

CLIEN'T:	San Juan Refining			C	lient Sample ID:	TP- #2	11	
Lab Order:	0612093				Collection Date:	12/6/2006 2:25:00 PM		
Project:	River Terrace - 4th Quart	ver Terrace - 4th Quarter 2006 VS Date Received: 1		12/7/2	006			
Lab ID:	0612093-04				Matrix:	AIR		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: GASOLINE RANGE						Analyst: NSB	
Gasoline Range	e Organics (GRO)	ND	5.0		µg/L	1	12/8/2006 12:43:31 PM	
Surr: BFB		112	84.5-129		%REC	1	12/8/2006 12:43:31 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	0.10		µg/L	1	12/8/2006 12:43:31 PM	
Toluene		ND	0.10		µg/L	1	12/8/2006 12:43:31 PM	
Elhylbenzene		ND	0.10		µg/L	1	12/8/2006 12:43:31 PM	
Xylenes, Totai		ND	0.30		µg/L	1	12/8/2006 12:43:31 PM	
C	ofluorobenzene	78.8	70.2-105		%REC	4	12/8/2006 12:43:31 PM	

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits

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- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 4 / 7
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 4 of 5

Date: 12-Dec-06

CLIENT: Lab Order: Project: Lab ID:	Order: 0612093 Collection Date ect: River Terrace - 4th Quarter 2006 VS Date Received		12/6/2006 2:50:00 PM 12/7/2006				
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: GASOLINE RA	NGE					Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	5.0		µg/L	1	12/8/2006 1:14:11 PM
Surt: BFB		114	84.5-129		%REC	1	12/8/2006 1:14:11 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	0.10		µg/L	1	12/8/2006 1:14:11 PM
Toluene		ND	0.10		µg/L	1	12/8/2006 1:14:11 PM
Ethylbenzene		ND	0.10		µg/L	1	12/8/2006 1:14:11 PM
Xylenes, Total		ND	0.30		µg/L	1	12/8/2006 1:14:11 PM
Surr: 4-Bron	nofluorobenzene	80.9	70.2-105		%REC	1	12/8/2006 1:14:11 PM

Hall Environmental Analysis Laboratory, Inc.

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 5 / 7
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 5 of 5

QA/QC SUMMARY REPORT

Client: San Juan Re Project: River Terrac	-	rter 2006 VS	5				Work	Order: 0612093
Analyte	Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD RPI	DLimit Qual
Method: SW8015		·······						
Sample ID: 5ML RB		MBLK			Batch ID:	R21733	Analysis Date:	12/8/2006 8:24:48 AM
Gasoline Range Organics (GRO) Sample ID: 2.5UG GRO LCS	ND	mg/L LCS	0.050		Batch ID:	R21733	Analysis Date:	12/8/2006 8:50:53 PM
Gasoline Range Organics (GRO)	0.4860	mg/L	0.050	97.2	80	115		
Method: SW8021								
Sample ID: 5ML RB		MBLK			Batch ID:	R21733	Analysis Date:	12/8/2006 8:24:48 AM
Benzene	ND	jµg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
1,2,4-Trimethylbenzene	ND	μg/L	1.0					
1,3,5-Trimethylbenzene	ND	µg/L	1.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID:	R21733	Analysis Date:	12/8/2006 9:52:19 PM
Benzene	18.53	µg/∟	1.0	92.6	85.9	113		
Toluene	18.71	µg/L	1.0	93,5	86.4	113		
Ethylbenzene	18.08	µg/L	1.0	90.4	83.5	118		
Xylenes, Total	38.03	µg/∟	3.0	95.1	83.4	122		
1,2,4-Trimelhylbenzene	16.83	µg/L	1.0	84.2	83.5	115		
1,3,5-Trimethylbenzene	17.47	µg/L	1.0	87.4	85.2	113		

Qualifiers:

E Value above quantitation range

-

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

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- ^S $6 / 7^{e}$ recovery outside accepted recovery limits

Page 1

	Sample	Receipt Cl	necklist		
Client Name SJR			Date and Time	Received:	12/7/2016
Wark Order Number 0612093	~		Received by	AT	
A -			12/71	1	
Checklist completed by	m	Date	/ - / / /	<u></u>	
Matrix	Carrier name	<u>UP5</u>			
Shipping container/cooler in good condition?		Yes 🗹		Not Present 🔲	
Custody seals intact on shipping container/coole	r?	Yes 🗹	No 🗔	Not Present	Not Shipped
Custody seals intact on sample bottles?		Yes 🗌	No 🗹	N/A	
Chain of custody present?		Yes 🗹			
Chain of custody signed when relinquished and i	received?	Yes 🗹			
Chain of custody agrees with sample labels?		Yes 🗹	No 🗔		
Samples in proper container/bottle?		Yes 🗹			
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 sub	mitted 🗹	Yes 🗆	No 🗔	
Water - pH acceptable upon receipt?		Yes 🗌	No 🗔	N/A 🗹	
Container/Temp Blank temperature?			4° C ± 2 Accepta If given sufficient		
COMMENTS:					
Client contacted	Date contacted:		Pers	on contacted	
Contacted by:	Regarding				
Comments:					
Comments.					
			•	······································	
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Corrective Action					
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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505. 345. 8975 Fax 505. 345. 4107 www.hallenvironmental.com	(1) (
	A A A A BTEX + MHBE + TMB's (B021) BTEX + MTBE + TPH (Gasoline Only) FIEX + MTBE + 1PH (Gasoline Only) TPH Method 8015B(Gasoline Only)	Herman visit
QA/QC Package: Std D Level 4 D Dthar: Project Name: River Terro-4th An-Zech. VS Project #:	Project Manager: Sample Temperature: Mumber/Volume Preservative Hallan HgCl ₂ HNU3 L-Tedlan HgCl ₂ HNU3 Co12.093 HgCl2 HNU3 HgCl2 HU3 HGC H HGC HU3 HGC H HGC H H HGC H H HGC H H H H H H H	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client: An Juan Rothing	11-632. -632.	Later Time: Relinquished By: (Signature) Date: Time: Relinquished By: (Signature)



COVER LETTER

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Thursday, September 21, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 3rd Quarter 2006

Dear Cindy Hurtado:

Order No.: 0609104

Hall Environmental Analysis Laboratory, Inc. received 6 sample(s) on 9/12/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#2	2		
Lab Order:	0609104				Collection Date:	9/11/2	2006 10:10:00 AM		
Project:	ject: River Terrace - 3rd Quarter 2006				Date Received:	9/12/2	2006		
Lab ID:	0609104-01				Matrix:	AQUI	AQUEOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Drganics (DRO)	1.3	1.0		mg/L	1	9/16/2006 2:36:32 PM		
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	9/16/2006 2:36:32 PM		
Surr: DNOP	2 2	117	58-140		%REC	1	9/16/2006 2:36:32 PM		
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB		
Gasoline Rang	e Organics (GRO)	77	5.0		mg/L	100	9/16/2006 4:44:42 AM		
Surr: BFB		121	84.5-1 2 9		%REC	100	9/16/2006 4:44:42 AM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Methyl lert-buly	l ether (MTBE)	ND	250		µg/L	100	9/16/2006 4:44:42 AM		
Benzene		3300	100		µg/L	100	9/16/2006 4:44:42 AM		
Toluene		270	100		µg/L	100	9/16/2006 4:44:42 AM		
Ethylbenzene		2800	100		µg/L	100	9/16/2006 4:44:42 AM		
Xylenes, Total		15000	300		hð\r	100	9/16/2006 4:44:42 AM		
Surr: 4-Brom	ofluorobenzene	92.6	72.2-125		%REC	100	9/16/2006 4:44:42 AM		

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation rangeJ Analyte detected below quantitation
- J Analyte detected below quantitation limitsS Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Date: 21-Sep-06

ND Not Detected at the Reporting Limit

Page 1 of 6

CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#1			
Lab Order:	0609104				Collection Date:	9/11/2	2006 10:35:00 AM		
Project:	River Terrace - 3rd Q	uarter 2006	06		Date Received:	9/12/2	9/12/2006		
Lab ID:	0609104-02				Matrix:	AQUI	EOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range O	rganics (DRO)	3.5	1.0		mg/L	1	9/16/2006 3:12:34 PM		
Motor Oit Range	e Organics (MRO)	ND	5.0		mg/L	1	9/16/2006 3:12:34 PM		
Surr: DNOP		111	58-140		%REC	1	9/16/2006 3:12:34 PM		
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB		
Gasoline Range	e Organics (GRO)	98	5.0		mg/L	100	9/16/2006 5:16:15 AM		
Surr: BFB		126	84.5-129		%REC	100	9/16/2006 5:16:15 AM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Methyl tert-buty	l ether (MTBE)	ND	250		µg/L	100	9/16/2006 5:16:15 AM		
Benzene		3200	100		µg/L	100	9/16/2006 5:16:15 AM		
Toluene		ND	100		μg/L	100	9/16/2006 5:16:15 AM		
Ethylbenzene		3800	100		µg/L	100	9/16/2006 5:16:15 AM		
Xylenes, Total		20000	300		μg/L	100	9/16/2006 5:16:15 AM		
Surr: 4-Brom	olluarobenzene	86.1	72.2-125		%REC	100	9/16/2006 5:16:15 AM		

Date: 21-Sep-06

Qualifiers:

Value exceeds Maximum Contaminant Level
 Value above quantitation range

E Value above quantitation rangeJ Analyte detected below quantitatic

J Analyte detected below quantitation limitsS Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 6

CLIENT:San Juan RefiningLab Order:0609104Project:River Terrace - 3rd QuaLab ID:0609104-03		Quarter 2006		(Date Received:	9/11/2006 11:00:00 AM		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANG	E					Analyst: SCC	
Diesel Range C	Irganics (DRO)	ND	1.0		mg/L	1	9/16/2006 3:48:33 PM	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	9/16/2006 3:48:33 PM	
Surr: DNOP		111	58-140		%REC	1	9/16/2006 3:48:33 PM	
EPA METHOD	8015B: GASOLINE RA	NGE					Analyst: NSB	
Gasoline Rangi	e Organics (GRO)	5.3	0.50		mg/L	10	9/16/2006 5:47:47 AM	
Surr: BFB		200	84.5-129	S	%REC	10	9/16/2006 5:47:47 AM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Methyl tert-buty	l ether (MTBE)	ND	25		μg/L	10	9/16/2006 5:47:47 AM	
Benzene	4	27	10		µg/L	10	9/16/2006 5:47:47 AM	
Toluene		ND	10		hð\r	10	9/16/2006 5:47:47 AM	
Elhylbenzene		410	10		hð\r	10	9/16/2006 5:47:47 AM	
Xylenes, Total		45	30		µg/L	10	9/16/2006 5:47:47 AM	
Surr: 4-Brom	ofluorobenzene	98.0	72.2-125		%REC	10	9/16/2006 5:47:47 AM	

Date: 21-Sep-06

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Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 6

CLIENT:	San Juan Refining			C	lient Sample ID:	TP-#8	}		
Lab Order:	0609104				Collection Date:	9/11/2	2006 11:25:00 AM		
Project:	River Terrace - 3rd Qu	arter 2006			Date Received:	9/12/2	9/12/2006		
Lab ID:	0609104-04				Matrix:	AQUI	EOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range O	rganics (DRO)	5.6	1.0		mg/L	1	9/16/2006 5:00:16 PM		
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	9/16/2006 5:00:16 PM		
Surr: DNOP		111	58-140		%REC	1	9/16/2006 5:00:16 PM		
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB		
Gasoline Range	e Organics (GRO)	57	0.50		mg/L	10	9/16/2006 6:19:10 AM		
Surr: BFB		201	84.5-129	S	%REC	10	9/16/2006 6:19:10 AM		
EPA METHOD	8021B: VOLATILES						Analyst: NSE		
Methyl tert-buty	l ether (MTBE)	ND	25		hð\r	10	9/16/2006 6:19:10 AM		
Benzene		ND	10		halr	10	9/16/2006 6:19:10 AM		
Toluene		ND	10		hð/L	10	9/16/2006 6:19:10 AM		
Elhylbenzene		580	10		µg/L	10	9/16/2006 6:19:10 AM		
Xylenes, Total		1600	30		μg/L	10	9/17/2006 1:18:10 AM		
Surr: 4-Brom	ofluorobenzene	96.3	72.2-125		%REC	10	9/16/2006 6:19:10 AM		

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation rangeJ Analyte detected below quantitation

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 21-Sep-06

ND Not Detected at the Reporting Limit

Page 4 of 6

CLIENT: Lab Order: Project: Lab ID:	Lab Order: 0609104 Project: River Terrace - 3rd Qu			•	Date Received:	9/11/2006 12:45:00 PM		
Analyses	- -	Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE	=					Analyst: SCC	
Diesel Range O	organics (DRO)	ND	1.0		mg/L	1	9/16/2006 5:35:57 PM	
Motor Oll Rangi	e Organics (MRO)	ND	5.0		mg/L	1	9/16/2006 5:35:57 PM	
Surr: DNOP		119	58-140		%REC	1	9/16/2006 5:35:57 PM	
EPA METHOD	8015B: GASOLINE RAI	NGE					Analyst: NSB	
Gasoline Range	e Organics (GRO)	110	5.0		mg/L	100	9/16/2006 6:50:47 AM	
Surr: BFB	, ,	124	84.5-129		%REC	100	9/16/2006 6:50:47 AM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Methyl tert-buty	l elher (MTBE)	ND	25		µg/L	10	9/17/2006 3:24:46 AM	
Benzene		ND	10		µg/L	10	9/17/2006 3:24:46 AM	
Toluene		ND	10		µg/L	10	9/17/2006 3:24:46 AM	
Ethylbenzene		3100	100		µg/L	100	9/16/2006 6:50:47 AM	
Xylenes, Total		16000	750		µg/L	250	9/17/2006 2:53:06 AM	
Surr: 4-Brom	ofluorobenzene	89.5	72.2-125		%REC	100	9/16/2006 6:50:47 AM	

Date: 21-Sep-06

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limitsS Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 5 of 6

·····		·	······	····		
CLIENT:	San Juan Refining			Client Sample I	D: TP-#1	1
Lab Order:	0609104			Collection Dat	e: 9/11/2	2006 1:00:00 PM
Project:	River Terrace - 3rd Qua	arter 2006		Date Receive	d: 9/12/2	2006
Lab ID:	0609104-06			Matri	x: AQU	EOUS
Analyses	· ·	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 80	15B: DIESEL RANGE					Analyst: SCC
Diesel Range Org	anics (DRO)	ND	1.0	mg/L	1	9/16/2006 6:11:33 PM
Motor Oll Range	Organics (MRO)	ND	5.0	mg/L	1	9/16/2006 6:11:33 PM
Surr: DNOP		111	58-140	%REC	1	9/16/2006 6:11:33 PM
EPA METHOD 8	15B: GASOLINE RANG	ε				Analyst: NSB
Gasoline Range (Organics (GRO)	ND	0.050	mg/L	1	9/16/2006 7:19:46 AM
Surr: BFB		118	84.5-129	%REC	1	9/16/2006 7:19:46 AM
EPA METHOD 8	021B: VOLATILES					Analyst: NSB
Methyl tert-butyl a	ather (MTBE)	ND	2.5	µg/L	1	9/18/2006 11:56:57 AM
Benzene		ND	1.0	hð\r	1	9/18/2006 11:56:57 AM
Toluene		ND	1.0	μg/L	1	9/18/2006 11:56:57 AM
Ethylbenzene		ND	1.D	ha\r	1	9/18/2006 11:56:57 AM
Xylenes, Total		ND	3.0	μg/L	1	9/18/2006 11:56:57 AM
Surr: 4-Bromof	luorobenzene	107	72.2-125	%REC	1	9/18/2006 11:56:57 AM

Date: 21-Sep-06

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* Value exceeds Maximum Containinant Level

Value above quantitation range

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 6 of 6

Defining

QA/QC SUMMARY REPORT

Client: San Juan Ref Project: River Terrace	Ų	rter 2006				Work Ord	er: 0609104
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPDLim	it Qual
Method: SW8015							
Sample ID: MB-11265		MBLK			Batch ID: 11265	Analysis Date: 9/16	3/2006 12:48:52 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0				
Motor Oil Range Organics (MRO)	ND	mg/L	5.0				
Sample ID: LCS-11265		LCS			Baich ID: 11265	Analysis Date: 9/1	16/20061:24:35 PM
Diesel Range Organics (DRO)	4.714	mg/L	1.0	94.3	74 157		
Sample ID: LCSD-11265		LCSD			Batch ID: 11265	Analysis Date: 9/1	16/20062:00:33 PM
Diesel Range Organics (DRO)	4.689	mg/L	1.0	93.8	74 157	0.534 23	
Method: SW8015							
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R20704	Analysis Date: 9/1	15/20068:32:48 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050				
Sample ID: 2.5UG GRO LCS		LCS			Batch ID: R20704	Analysis Date: 9/15	5/2006 10:18:03 PM
Gasoline Range Organics (GRO)	0.5400	mg/L	0.050	108	73.3 119		

Qualifiers:

11.2

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits 7 / 9

Page 1

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QA/QC SUMMARY REPORT

Client: San Juan Refi	ining							
Project: River Terrace	: - 3rd Qua	rter 2006					Work	Order: 0609104
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RP	DLimit Qual
Method: SW8021								
Sample ID: 5ML REAGENT BLA		MBLK			Batch I	D: R20704	Analysis Date:	9/15/20068:32:48 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3,0					
Sample ID: 5ML REAGENT BLA		MBLK			Batch	D: R20706	Analysis Date:	9/16/20068:46:34 PM
Methyl tert-bulyl ether (MTBE)	ND	μg/L	2.5		•			
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.D					
Ethylbenzene	ND	μg/L	1.0					
Xylenes, Total	ND	μg/L	3.0					
Sample ID: 5ML REAGENT BLA		MBLK			Batch I	D: R20734	Analysis Date:	9/18/2006 9:02:53 AM
Methyl tert-bulyl ether (MTBE)	ND	µg/L	2.5				•	
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					-
Kylenes, Total	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS		LCS			Batch	D: R20704	Analysis Date:	9/16/2006 12:42:51 AM
Methyl tert-bulyl ether (MTBE)	38.62	µg/L	2.5	96.6	51.2	138		
Benzene	20.99	µg/L	1.0	105	85	115		
Toluene	21.12	μg/L	1.0	106	85	118		
Ethylbenzene	22.88	μg/L	1.0	114	85	116		
Kylenes, Total	65.62	μg/L	3.0	109	85	119		
Sample ID: 100NG BTEX LCS		LCS			Batch	–	Analysis Date:	9/17/2006 5:25:46 AM
Melhyl tert-butyl ether (MTBE)	36.19	μg/L	2.5	90.5	51.2	138	,	
Benzene	18.82	μg/L	1.0	94.1	85	115		
Toluene	18.26	μg/L	1.0	91.3	85	118		
Ethylbenzene	22.14	µg/L	1.0	111	85	116		
Xylenes, Total	62.10	μg/L	3.0	104	85	119		
Sample ID: 100NG BTEX LCS	02.10	LCS	0.0	104	Batch		Analysis Date:	9/18/2006 6:03:20 PM
	10.00			05.0			i narysis wate.	5, 10/2000 0.00.20 F N
Methyl tert-butyl ether (MTBE)	38.33	µg/L	2.5	95.8	51.2	138		
Benzene	20.61	µg/L	1.0	103	85	115		
Toluene	21.12	μg/L	1.0	106	85	118		
Ethylbenzene	22.71	µg/L	1.0	114	85	116		
Xylenes, Total	65.35	µg/L	3.0	109	85	119		

Qualifiers:

Climate

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits 8 / 9

Page 2

	Sample Recei	ipt Check	list		
Client Name SJR		6	ale and Time	Received:	9/12/2006
Work Order Number 0609104 AL I A A			Received by	GLS	
Checklist completed by :	ppe	9-12 Daie	<u>L-06</u>		
, Matrix	Carrier name UPS				
Shipping container/cooler in good condition?	Yes		No	Not Present	
Custody seals intact on shipping container/cooler?	Yes	\checkmark	No	Not Present	Not Shipped
Custody seals intact on sample bottles?	Yes			N/A	
Chain of custody present?	Yes		No 🗆		
Chain of custody signed when relinquished and receiv	ed? Yes		No 🗔		
Chain of custody agrees with sample labels?	Yes		No 🗌		
Samples in proper container/bottle?	Yes				
Sample containers intact?	Yes				
Sufficient sample volume for indicated test?	Yes		No 🗆		
All samples received within holding lime?	Yes		No 🗔		
Water - VOA vials have zero headspace? No	VOA vials submitted	<u>п</u> 1	′es 🗹	No 🗔	
Water - pH acceptable upon receipt?	Yes		No 🗆	N/A 🗹	
Container/Temp Blank lemperature?	4		C ± 2 Accepta iven sufficient		
COMMENTS:					
Client contacted Date	contacted:		Perse	on contacted	
Contacted by: Reg	arding				
Comments:					
Comments: 0609104-4 TF broken in Lab. C	2- # 8 15 - 9/12/06	2 of	<u>4</u> sa	rmple	VOA's were
Corrective Action					
· · · · · · · · · · · · · · · · · · ·					1. · · · · · · · · · · · · · · · · · · ·
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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico B7109 Tel. 505.345,3975 Fax 505.345,4107 www.hallenvironmental.com	(f. 8r A bartasM) H4T (f. 8r A bartasM) H4T (f. A bartasM) BG3 (f. 508 bortasM) BG3 (from a bartasM) CE3 (from a bartasM) CE3 (from a bartasM) CE3 (from a bartasM) CE3 (HAq no AVq) DF8 (from a bartasma	
Dther: Btd D Level 4 D Dther: Project Name: Ki VE Cerra & M. 200 (Project #:	Project Manager: Project Manager: Project Manager: Saprofile: Rander: Saprofile: Munther/Volume Preservative H=AL No. HEAL No. H-VOA X Y Y <td>Received By Asignaturel 9-12-06 Remarks: Received By: [Signature]</td>	Received By Asignaturel 9-12-06 Remarks: Received By: [Signature]
CHAIN-OF-CUSTODY RECORD Client: SAN Juan Ketining	Nega Nega Nega Nega Nega Nega Nega Nega	Date: Time: Relinquished By: (Signature) 9-11-010 Date: Relinquished/By: (Signature) Date: Relinquished/By: (Signature)

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COVER LETTER

Friday, September 22, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace 3rd Quarter 2006

Dear Cindy Hurtado:

Order No.: 0609129

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 9/13/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			Client S	ample ID:	TP #1	2		
Lab Order:	ab Order: 0609129			Collec	Collection Date:		9/12/2006 8:30:00 AM		
Project:	River Terrace 3rd Qu	arter 2006		Date	Received:	9/13/2	2006		
Lab ID:	0609129-01				Matrix:	AQUI	EOUS		
Analyses		Result	PQL	Qual Units		DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Organics (DRO)	ND	1.0	mg/L		1	9/16/2006 6:47:03 PM		
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L		1	9/16/2006 6:47:03 PM		
Surr: DNOP		9 1.7	58-140	%REC	;	1	9/16/2006 6:47:03 PM		
EPA METHOD	8015B: GASOLINE RAN	NGE					Analyst: NSB		
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L		1	9/20/2006 12:46:32 PM		
Surr: BFB	- · · ·	89.3	84.5-129	%REC	;	1	9/20/2006 12:46:32 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Methyl tert-buty	/i ether (MTBE)	8.1	2.5	µg/L		1	9/20/2006 12:46:32 PM		
Benzene		ND	1.0	µg/L		1	9/20/2006 12:46:32 PM		
Toluene		ND	1.0	μg/L		1	9/20/2006 12:46:32 PM		
Ethylbenzene		ND	1.0	μg/L		1	9/20/2006 12:46:32 PM		
Xylenes, Total		ND	3.0	hð\r		1	9/20/2006 12:46:32 PM		
Surr: 4-Brom	ofluorobenzene	103	72.2-125	%REC	:	1	9/20/2006 12:46:32 PM		

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Value exceeds Maximum Contaminant Level Value above quantitation range

Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 22-Sep-06

ND Not Detected at the Reporting Limit

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CLIENT:	San Juan Refining			С	lient Sample ID:	TP #1	3
Lab Order:	0609129				Collection Date:	9/12/2	2006 9:20:00 AM
Project:	River Terrace 3rd Qua	rter 2006			Date Received:		
Lab ID:	0609129-02				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Organics (DRO)	ND	1.0		mg/L	1	9/16/2006 7:22:25 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	9/16/2006 7:22:25 PM
Sur: DNOP		85.7	58-140		%REC	1	9/16/2006 7:22:25 PM
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSE
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	9/20/2006 1:15:23 PM
Surr: BFB		93.8	84.5-129		%REC	1	9/20/2006 1:15:23 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSE
Methyl tert-buty	/I ether (MTBE)	ND	2.5		µg/L	1	9/20/2006 1:15:23 PM
Benzene		ND	1.0		µg/L	1	9/20/2006 1:15:23 PM
Toluene		ND	1.0		µg/L	1	9/20/2006 1:15:23 PM
Elhylbenzene		ND	1.0		µg/L	1	9/20/2006 1:15:23 PM

3.0

72.2-125

μg/L

%REC

ND

97.0

Qualifiers:

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Xylenes, Total

Surr: 4-Bromofluorobenzene

Value exceeds Maximum Contaminant Level

E Value above quantitation range

Hall Environmental Analysis Laboratory, Inc.

J Analyte detected below quantitation limits

5 Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

9/20/2006 1:15:23 PM

9/20/2006 1:15:23 PM

H Holding times for preparation or analysis exceeded

Date: 22-Sep-06

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ND Not Detected at the Reporting Limit

Page 2 of 7

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609129 River Terrace 3rd Qua 0609129-03	irter 2006		Date Received:		9/12/2006 9:45:00 AM		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	9/16/2006 7:57:46 PM	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	9/16/2006 7:57:46 PM	
Surr: DNOP		110	58-140		%REC	1	9/16/2006 7:57:46 PM	
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB	
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	9/20/2006 1:44:17 PM	
Surr. BFB		87.8	84.5-129		%REC	1	9/20/2006 1:44:17 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Methyl tert-buty	yi elher (MTBE)	ND	2.5		µg/L	1	9/20/2006 1:44:17 PM	
Benzene		ND	1.0		µg/L	1	9/20/2006 1:44:17 PM	
Toluene		ND	1.0		ha/r	1	9/20/2006 1:44:17 PM	
Ethylbenzene		ND	1.0		µg/L	1	9/20/2006 1:44:17 PM	
Xylenes, Total	ţ	ND	3.0		µg/L	1	9/20/2006 1:44:17 PM	
Surr: 4-Bron	nofluorobenzene	98.3	72.2-125		%REC	1	9/20/2006 1:44:17 PM	

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Qualifiers:	*	Value exceeds Maximum Contaminant Level
	Е	Value above quantitation range

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

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В Analyte detected in the associated Method Blank

Date: 22-Sep-06

Н Holding times for preparation or analysis exceeded

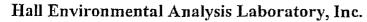
ND Not Detected at the Reporting Limit

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CLIENT:	San Juan Refining			Clien	t Sample ID:	TP #3		
Lab Order: 0609129				Col	ection Date:	9/12/2006 10:30:00 AM		
Project:	River Terrace 3rd Qu	arter 2006		Da	te Received:	9/13/2	2006	
Lab ID:	0609129-04				Matrix:	АQUI	EOUS	
Analyses		Result	PQL	Qual Un	its	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Organics (DRO)	ND	1.0	mg/	L	1	9/16/2006 8:33:08 PM	
Motor Oil Rang	e Organics (MRO)	ND	5.0	mgi	L ·	1	9/16/2006 8:33:08 PM	
Surr: DNOP		87.2	58-140	%R	EC	1	9/16/2006 8:33:08 PM	
EPA METHOD	80158: GASOLINE RAN	IGE					Analyst: NSB	
Gasoline Rang	e Organics (GRO)	ND	0.050	тg	۲L	1	9/20/2006 2:13:19 PM	
Surr: BFB		87.8	84.5-129	%R	EC	1	9/20/2006 2:13:19 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Methyl tert-buty	yl ether (MTBE)	ND	2.5	lgu	L	1	9/20/2006 2:13:19 PM	
Benzene		ND	1.0	μg/	L	1	9/20/2006 2:13:19 PM	
Toluene		ND	1.0	/gų	L	1	9/20/2006 2:13:19 PM	
Elhylbenzene		ND	1.0	μg/	L	1	9/20/2006 2:13:19 PM	
Xylenes, Total		ND	3.0	hð\	L	1	9/20/2006 2:13:19 PM	
Surr: 4-Brom	nofluorobenzene	99.7	72.2-125	%F	EC	1	9/20/2006 2:13:19 PM	



Date: 22-Sep-06

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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CLIENT: S	San Juan Refining			C	lient Sample ID:	DW #	1	
Lab Order: 0609129					Collection Date:	:: 9/12/2006 1:00:00 PM		
Project: I	River Terrace 3rd Qua	rter 2006			Date Received:	9/13/2	2006	
Lab ID: (609129-05				Matrix:	AQUI	EOUS	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD 801	5B: DIESEL RANGE						Analyst: SCC	
Diesel Range Organ	ics (DRO)	ND	1.0		mg/L	1	9/16/2006 11:30:02 PM	
Motor Oil Range Or	ganics (MRO)	ND	5.0		mg/L	1	9/16/2006 11:30:02 PM	
Surr: DNOP		105	58-140		%REC	1	9/16/2006 11:30:D2 PM	
EPA METHOD 801	5B: GASOLINE RAN	GE					Analyst: NSB	
Gasoline Range Or	anics (GRO)	1.2	0.25		mg/L	5	9/20/2006 2:45:01 PM	
Surr. BFB	1	104	84.5-129		%REC	5	9/20/2006 2:45:01 PM	
EPA METHOD 802	1B: VOLATILES						Analyst: NSB	
Methyl tert-butyl eth	er (MTBE)	ND	12		µg/L	5	9/20/2006 2:45:01 PM	
Benzene	· ·	ND	5.0		µg/L	5	9/20/2006 2:45:01 PM	
Toluene		ND	5.0		µg/L	5	9/20/2006 2:45:01 PM	
Ethylbenzene		ND	5.0		µg/L	5	9/20/2006 2:45:01 PM	
Xylenes, Total	·	ND	15		µg/L	5	9/20/2006 2:45:01 PM	
Surr: 4-Bromoflue	probenzene	94.0	72.2-125		%REC	5	9/20/2006 2:45:01 PM	
EPA METHOD 747	0: MERCURY						Analyst: MAP	
Mercury		0.0047	0.00020		mg/L	1	9/19/2006	
EPA 6010: TOTAL	RECOVERABLE ME	TALS					Analyst: NMC	
Chromium		0.023	0.0060		mg/L	1	9/20/2006 11:20:47 AM	
Lead		ND	0.0050		mg/L	1	9/20/2006 11:20:47 AM	

Date: 22-Sep-06

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Qualifiers:

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- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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CLIENT:	San Juan Refining			Clie	nt Sample ID:	MW f	49
Lab Order:	0609129			C	ollection Date:	9/12/2	2006 1:35:00 PM
Project:	River Terrace 3rd Qua	rter 2006		I	Date Received:	9/13/2	2006
Lab ID:	0609129-06	•			Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual U	nits	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Prganics (DRO)	ND	1.0	m	g/L	1	9/17/2006 12:05:24 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	m	ig/L	1	9/17/2006 12:05:24 AN
Surr: DNOP		101	58-140	%	REC	1	9/17/2006 12:05:24 AM
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NS
Gasoline Range	e Organics (GRO)	0.23	0.050	п	ig/L	1	9/20/2006 3:13:58 PM
Surr: BFB		92.3	84.5-129	%	REC	1	9/20/2006 3:13:58 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSE
Methyl tert-buty	I ether (MTBE)	ND	2.5	μ	g/L	1	9/20/2006 3:13:58 PM
Benzene		ND	1.0	μ	g/L	1	9/20/2006 3:13:58 PM
Toluene		ND	1.0	μ	g/L	1	9/20/2006 3:13:58 PM
Elhylbenzene		ND	1.0	ц	g/L	1	9/20/2006 3:13:58 PM
Xylenes, Total		ND	3.0	ц	g/L	1	9/20/2006 3:13:58 PM
Surr: 4-Brom	ofluorobenzene	99.4	72.2-125	9/	REC	1	9/20/2006 3:13:58 PM
EPA 6010: TO	TAL RECOVERABLE ME	TALS					Analyst: NM
Chromium		ND	0.0060	n	ng/L	1	9/20/2006 11:43:23 A/
Lead		ND	0.0050	п	ng/L	1	9/20/2006 11:43:23 A

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantilation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 22-Sep-06

ND Not Detected at the Reporting Limit

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CLIENT:	San Juan Refining			С	lient Sample ID:	TP #9	
Lab Order:	0 609129			Collection Date:	9/12/2006 2:20:00 PM		
Project:	River Terrace 3rd Qua	irter 2006			Date Received:	9/13/2	2006
Lab ID:	0609129-07				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	9/17/2006 12:40:50 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	9/17/2006 12:40:50 AM
Surr: DNOP		101	58-140		%REC	1	9/17/2006 12:40:50 AM
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB
Gasoline Range	e Organics (GRO)	0.72	0.050		mg/L	1	9/20/2006 3:42:52 PM
Surr: BFB		105	84.5-129		%REC	1	9/20/2006 3:42:52 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyi tert-buty	i ether (MTBE)	ND	2.5		µg/L	1	9/20/2006 3:42:52 PM
Benzene		ND	1.0		µg/L	1	9/20/2006 3:42:52 PM
Toluene		ND	1.0		µg/L	1	9/20/2006 3:42:52 PM
Ethylbenzene		ND	1.0		μg/L	1	9/20/2006 3:42:52 PM
Xylenes, Total		ND	3.0		μο/L	1	9/20/2006 3:42:52 PM
Surr; 4-Brom	ofluorabenzene	94.1	72.2-125		%REC	1	9/20/2006 3:42:52 PM

Date: 22-Sep-06.

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Qualifiers:	٠	Value exceeds Maximum Contaminant Level	В	Analyte detected in the associated Method Blank
	Ê,	Value above quantitation range	н	Holding times for preparation or analysis exceeded
	J,	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S ·	Spike Recovery outside accepted recovery limits		

Page 7 of 7

QA/QC SUMMARY REPORT

Client: San Juan Re	fining							
Project: River Terra	ce 3rd Quart	ler 2006					Work	Order: 1609129
Analyte	Result	Units	PQL	%Rec	LowLimit Hig	ghLimit	%RPD RP	DLimit Qua
Method: SW8015								
Sample ID: MB-11265		MBLK			Batch ID:	11265	Analysis Date:	9/16/2006 12:48:52 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oil Range Organics (MRO) Sample ID: MB-11267	ND	mg/∟ <i>MBLK</i>	5.0		Batch ID:	11267	Analysis Date:	9/16/20069:08:30 PM
Diesel Range Organics (DRO) Motor Oll Range Organics (MRO)	ND ND	mg/L mg/L	1.0 5.0				·	
Sample ID: LCS-11265	NU	LCS	5.0		Batch ID:	11265	Analysis Date:	9/16/2006 1:24:35 PM
Diesel Range Organics (DRO) Sample ID: LCS-11267	4.714	mg/L LCS	1.0	94.3	74 1 Batch ID:	57 11267	Analysis Date:	9/16/20069:43:56 PM
Diesel Range Organics (DRO)	4.770	mg/L	1.0	95.4		57	raidiyala Date.	0,10,2000,7,10,001,10
Sample ID: LCSD-11265	4.770	LCSD	1.0	50.4	Batch ID:	11265	Analysis Date:	9/16/2006 2:00:33 PM
Diesel Range Organics (DRO)	4.689	mg/L	1.0	93.8	. 74 1	57	0.534	23
Sample ID: LCSD-11267		LCSD			Batch 1D:	11267	Analysis Date:	9/16/2006 10:19:17 PM
Diesel Range Organics (DRO)	5.30B	mg/L	1.0	106	74 1	57	10.7	23
Method: SW8015								
Sample ID: 5ML REAGENT BLA	4	MBLK			Batch ID:	R20748	Analysis Date:	9/20/2006 9:52:55 AM
Gasoline Range Organics (GRO) Sample ID: 2,5UG GRO LCS	ND	mg/L LCS	0.050		Balch ID:	R20748	Analysis Date:	9/21/2006 12:41:00 AM
Gasoline Range Organics (GRO)	0.4600	mg/L	0.050	92.0		119		

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits
 - 8/10

Page 1

QA/QC SUMMARY REPORT

Client: San Juan Ref Project: River Terrace	-	er 2006						×	Vork (Drder: 0609129
Analyte	Result	Units	PQL	%Rec	LowLimit	Hig	hLimit	%RPD	RPD	Limit Qual
Method: SW8021					Deteb	10.	D 20749			D/04/0000 0-00-57 AM
Sample ID: 0609129-02A MSD		MSD			Batch		R20748	Analysis D		9/21/20066:26:57 AM
Methyl tert-bulyl ether (MTBE)	37.44	µg/L	2.5	93.6	51.2	13		0.294	28	
Benzene	20.06	µg/L	1.0	100	85		15	3.75	27	
Toluene Ethylbenzene	20.40	µg/L	1.0	102	85 85		18	4.38 2.38	19	
Xylenes, Total	20.36	µg/L	1.0 3.0	102 102	85		16 19	2.38 4.12	10 13	
Sample ID: 5ML REAGENT BLA	61.34	µg/L MBLK	3.0	102	Batch		R20748	Analysis E		9/20/20069:52:55 AM
					Daton		11201-40		Jaie.	3/20/20005.32.33 AM
Methyl lert-bulyl ether (MTBE)	ND	µg/L	2.5							
Benzene	ND	µg/L	1.0							
Toluene	ND	µg/L	1.0							
Ethylbenzene	ND	µg/L	1.0							
Xylenes, Tolal Sample ID: 100NG BTEX LCS	ND	µg/L LCS	3.0		Batch	in.	R20748	Analysis [)ala.	9/20/2006 6:39:35 PM
								Anarysis L	ale.	9/20/2008 0.39.30 FW
Methyl tert-butyl ether (MTBE)	39.85	µg/L	2.5	99.6	51.2		38			
Benzene	18.43	µg/L	1.0	92.1	85		15			
Toluene	18.58	µg/L	1.0	92.9	85		18			
Ethylbenzene	19.05	µg/L	1.0	95.2	85		16			
Xylenes, Total	58.23	μg/L	3.0	97.1	85 Batala		19	A	S =1	DID & IDDDC F.ED.O.A.AM
Sample ID: 0609129-02A MS		MS			Batch		R20748	Analysis [Jale:	9/21/2006 5:58:04 AM
Methyl tert-butyl ether (MTBE)	37.33	µg/L	2.5	93.3	51.2		38			
Benzene	19.32	µg/L	1.0	96.6	85		15			
Toluene	19.53	µg/L	1.0	97.6	85		18			
Ethylbenzene	19.88	µg/L	1.0	99.4	85		16			
Xylenes, Total	58.87	µg/L	3.0	98.1	85	1	19			
Method: 5W7470										
Sample ID: MB-11302		MBLK			Baich	iD:	11302	Analysis I	Date:	9/19/2006
Mercury	ND	mg/L	0.00020							
Sample (D: LCS-11302		LCS			Batch	ID:	11302	Analysis	Date:	9/19/2006
	0.005880	mg/L	0.00020	118	80		20			
Mercury	0.003000	ng/c	0.00020				20			
Method: SW6010A										
Sample ID: MB-11266		MBLK			Batch	ID:	11266	Analysis	Date:	9/20/2006 10:58:30 AM
Chromium	ND	mg/L	0.0060							
Lead	ND	mg/L	0.0050						•	
Sample ID: LCS-11266		LCS			Batch	ID:	11266	Analysis	Date:	9/20/2006 10:20:40 AM
Chromium	0,5069	mg/L	0.0060	101	80	1	20			
Lead	0.5040	mg/L	0.0050	101	80		20			

Qualifiers: Е Value above quantitation range

J

- Holding times for preparation or analysis exceeded н
 - Not Detected at the Reporting Limit ND
 - Spike Recovery outside accepted recovery limits S 9/10

Page 2

R RPD outside accepted recovery limits

Analyte detected below quantitation limits

Date: 22-Sep-06



4

1

	Sample	Recei	ipt Che	cklist				
Client Name SJR				Date and Time	Received:		9/ 1	3/2006
Work Order Number 0609129	7 n n			Received by	GLS			
Checklist completed by	chpp	<u>K</u>	Q- Dats	-13-06				
/ / Matrix	Carrier name	<u>UPS</u>						
Shipping container/cooler in good condition?		Yes		No 🗌	Not Present			
Custody seals intact on shipping container/cooler?) ·	Yes	V	No 🗔	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		Na 🗌	NIA	\checkmark		
Chain of custody present?		Yes	V					
Chain of custody signed when relinquished and re	ceived?	Yes	V	No 🗌				
Citain of custody agrees with sample labels?		Yes	\checkmark	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 sub	mitted		Yes 🗹	No]		
Water - pH acceptable upon receipt?		Yes	\checkmark	No 🗌	N/A]		
Container/Temp Blank temperature?		3		4° C ± 2 Accepta If given sufficient				
COMMENTS:								
	-		· ···· ··· ··· ·					
Client contacted	Date contacted:			Pers	on contacted			·····
Contacted by:	Regarding							
Comments:								
					,			
Corrective Action								
the second second second second second second second second second second second second second second second se						A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4		
				······				

10/10

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	ANALYSIS REDUEST) eniloze (lezeiCl\z 20, 50, 50, 70, 20, 10, 50, 10, 10, 10, 10, 10, 10, 10, 10, 10, 1	(1-2 	108 bor 08 bor 200 kgr 200 kgr	H Methi H (Methi H (M	н н н н н н н н н н н н н н					X		× ×	×			Hermarks:
Dither: Project Name: Dithor Tevran o 3 T9-7 2010			Project Maneger:	to Shally Owner	<u>د</u> ر	servative HEAL No.	HgCl2 HND3 HCL 0609 129	4-104-X 1X	1 X 2 X	XXX		4-10A X 5 X	2-25 m X S	4-10-11 X 6 X	1-250ml X 6	XL X -MA-		Received By Kindvarurel C- (3-3 6 Run Received By: (Signaturel
CHAIN-OF-CUSTODY RECORD	Address:#50 720 4990	Bloom fulled, NM 87413		HINNE#: 505-632-4161	Fax#: SDS-632-3911	Date Time Matrix Sample I.D. No.	-	H70 TI		945A- TP-#10	103af 77-#3	1 #MJ		1350m MILI #49	·	2300m 1 TP- #9		9-12-010 255 Per Relinquished By: (Signature) Date: Time: Relinquished By: (Signature)



COVER LETTER

Wednesday, December 13, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 4th Quarter 2006

Dear Cindy Hurtado:

Order No.: 0612042

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 12/5/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



4901 Hawkins NE ESuite D Albuquerque, NM 87109 505.345.3975 @Fax 505.345.4107 www.hallenvironmental.com

Date: 13-Dec-06

CLIENT: San Juan Refining Project: River Terrace - 4th Quarter 2006 Lab Order: 0612042

CASE NARRATIVE

See Corrective Action: [467] High DNOP on CCV's and some samples.

Page 1 of 1

CLIENT:	San Juan Refining			C	lient Sample ID:	TP-#8	
Lab Order:	0612042				Collection Date:	12/4/2	2006 10:20:00 AM
Project:	River Terrace - 4th Qu	arter 2006			Date Received:	12/5/2	006
Lab ID:	0612042-01				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 80	158: DIESEL RANGE						Analyst: SCC
Diesel Range Org	janics (DRO)	1.4	1.0		mg/L	1	12/12/2006 9:21:00 AM
Motor Oil Range	Organics (MRO)	ND	5.0		mg/L	1	12/12/2006 9:21:00 AM
Surr: DNOP		147	58-140	S	%REC	1	12/12/2006 9:21:00 AM
EPA METHOD BI	015B: GASOLINE RAN	GE					Analyst: NSE
Gasoline Range (Organics (GRO)	79	5.0		mg/L	100	12/8/2006 11:21:53 AM
Sur: BFB		114	79.2-121		%REC	100	12/8/2006 11:21:53 AM
EPA METHOD 8	021B: VOLATILES						Analyst: NSE
Methyl tert-butyl a	ether (MTBE)	ND	25		µg/L	10	12/6/2006 4:44:07 PM
Benzene	· ·	41	10		µg/L	10	12/6/2006 4:44:07 PM
Toluene		ND	10		µg/L	10	12/6/2006 4:44:07 PM
Ethylbenzene		1300	100		µg/L	100	12/8/2006 11:21:53 AM
Xylenes, Total		12000	300		μg/L	100	12/8/2006 11:21:53 AM

70.2-105

%REC

88.8

Hall Environmental Analysis Laboratory, Inc.

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 13-Dec-06

100

12/8/2006 11:21:53 AM

MCL Maximum Contaminant Level

RL Reporting Limit

Page 1 of 4

Qualifiers:

.

Sur: 4-Bromofluorobenzene

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

Value exceeds Maximum Contaminant Level

2/8

CLIENT: Lab Order:	San Juan Refining 0612042			C	lient Sample II Collection Dat		5 2006 11:15:00 AM
Project:	River Terrace - 4th Q	uarter 2006			Date Received	1: 12/5/2	2006
Lab ID:	0612042-02				Matri	k: AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	12/12/2006 9:55:40 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	12/12/2006 9:55:40 AM
Sur: DNOP		165	58-140	S	%REC	1	12/12/2006 9:55:40 AM
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB
Gasoline Rang	e Organics (GRO)	0.48	0.050		mg/L	1	12/8/2006 11:52:00 AM
Sur: BFB		122	79.2-121	S	%REC	1	12/8/2006 11:52:00 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyl tert-buty	yl ether (MTBE)	ND	2.5		µg/L	1	12/8/2006 11:52:00 AM
Benzene		6.0	1.0		µg/L	1	12/8/2006 11:52:00 AM
Toluene		ND	1.0		µg/L	1	12/8/2006 11:52:00 AM
Ethylbenzene	1	ND	1.0		µg/L	1	12/8/2006 11:52:00 AN
Xylenes, Total		ND	3.0		µg/L	1	12/8/2006 11:52:00 AM
Surr: 4-Brom	nofluorobenzene	86.8	70.2-105		%REC	1	12/8/2006 11:52:00 AN

Date: 13-Dec-06

59

Qun	lifiers:
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- ٠ Value exceeds Maximum Contaminant Level
- Value above quantitation range E J
- Analyte detected below quantitation limits Not Detected at the Reporting Limit ND
- S Spike recovery outside accepted recovery limits 3/8
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 2 of 4

CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#1	
Lab Order:	0612042				Collection Date:	12/4/2	006 1:15:00 PM
Project:	River Terrace - 4th (Quarter 2006			Date Received:	12/5/2	006
Lab ID:	0612042-03				Matrix:	AQUE	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	Ē					Analyst: SCC
Diesel Range C	Drganics (DRO)	3.3	1.0		mg/L	1	12/11/2006 7:27:41 PM
Motor Oll Rang	e Organics (MRO)	ND	5.0		mg/∟	1	12/11/2006 7:27:41 PM
Surr: DNOP		120	58-140		%REC	1	12/11/2006 7:27:41 PM
EPA METHOD	8015B: GASOLINE RA	NGE					Analyst: NSB
Gasoline Rang	e Organics (GRO)	95	5.0		mg/L	100	12/11/2006 11:10:41 A
Surr. BFB		110	79.2-121		%REC	100	12/11/2006 11:10:41 A
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyl tert-buty	yl ether (MTBE)	ND	250		µg/L	100	12/11/2006 11:10:41 A
Benzene		1600	100		µg/L	100	12/11/2006 11:10:41 A
Toluene		ND	100		µg/L	100	12/11/2006 11:10:41 A
Ethylbenzene		3200	100		µg/L	100	12/11/2006 11:10:41 A
Xylenes, Total		20000	1500		μg/L	500	12/8/2006 12:52:09 PM
Surr. 4-Bron	nofluorobenzene	B1.9	70.2-105		%REC	100	12/11/2006 11:10:41 A

Qualifiers:

- ٠ Value exceeds Maximum Contaminant Level Ε Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank

Date: 13-Dec-06

- Ħ Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

4/8

Page 3 of 4

CLIENT:	San Juan Refining			C	lient Sample ID:	TP-#2	*****
Lab Order:	0612042				Collection Date:	12/4/2	006 1:45:00 PM
Project:	River Terrace - 4th Q	uarter 2006			Date Received:	12/5/2	.006
Lab ID:	0612042-04				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	80158: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	1.5	1.0		mg/L	1	12/12/2006 10:30:19 AM
Motor Oll Range	e Organics (MRO)	ND	5.0		mg/L	1	12/12/2006 10:30:19 AN
Surf: DNOP		167	58-140	5	%REC	1	12/12/2006 10:30:19 AM
EPA METHOD	8015B: GASOLINE RAN	IGE					Analyst: NSB
	Organics (GRO)	41	5.0		mg/L	100	12/11/2006 12:10:49 PM
Surr: BFB		106	79.2-121		%REC	100	12/11/2006 12:10:49 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyl tert-buty	l ether (MTBE)	ND	250		µg/L	100	12/11/2006 12:10:49 PM
Benzene	•	1700	100		µg/L	100	12/11/2006 12:10:49 PM
Toluene		ND	100		μg/L	100	12/11/2006 12:10:49 PM
Ethylbenzene		2400	100		µg/L	100	12/11/2006 12:10:49 PM
Xylenes, Total		12000	300		µg/L	100	12/11/2006 12:10:49 PM
Surr: 4-Brom	ofluorobenzene	80.6	70.2-105		%REC	100	12/11/2006 12:10:49 PM

Date: 13-Dec-06

4

Qualifiers:	*	Value exceeds Maximum Contaminant Level		В	Analyte detected in the associated M	lethod Blank
	Е	Value above quantitation range		Н	Holding times for preparation or ana	lysis exceeded
	J	Analyte detected below quantitation limits		MCL	Maximum Contaminant Level	
	ND	Not Detected at the Reporting Limit		RL.	Reporting Limit	D 4 . f 4
	S	Spike recovery outside accepted recovery limits	5/8			Page 4 of 4

QA/QC SUMMARY REPORT

Client: San Juan Ref	ining					
Project: River Terrace	e - 4th Qua	rter 2006				Work Order: 0612042
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPDLimit Qual
Method: SW8015 Sample ID: MB-11919		MBLK			Batch ID: 11919	Analysis Date: 12/12/2006 & 28:32 AM
Diesel Range Organics (DRO) Motor Oll Range Organics (MRO) Sample ID: LCS-11919	ND ND	mg/L mg/L LCS	1.0 5.0		Batch ID: 11919	Analysis Date: 12/12/20067:02:56 AM
Diesel Range Organics (DRO) Sample ID: LCSD-11919	6.769	mg/L LCSD	1.0	135	74 157 Batch ID: 11919	Analysis Date: 12/12/20067:37:19 AM
Diesel Range Organics (DRO)	7.314	mg/L	1.0	146	74 157	7.74 23
Method: SW8015 Sample ID: 5ML RB Gasoline Range Organics (GRO) Sample ID: b 2	ND	MBLK mg/L MBLK	0.050		Batch ID: R21694 Batch ID: R21734	Analysis Date: 12/8/2006 9:16:14 AM Analysis Date: 12/8/2006 8:57:17 AM
Gasoline Range Organics (GRO) Sample ID: b 2	ND	mg/L <i>MBLK</i>	0.050		Batch ID: R21752	Analysis Date: 12/11/2006 9:07:05 AM
Gasoline Range Organics (GRO) Sample ID: 2.5UG GRO LCS	ND	mg/L LCS	0.050		Batch ID: R21694	Analysis Date: 12/6/2006 11:55:32 PM
Gasoline Range Organics (GRO) Sample ID: 2.5UG GRO LCS	0.4506	mg/L LCS	0.050	90.1	80 115 Batch ID: R21734	Analysis Date: 12/9/2006 6:59:21 AM
Gasoline Range Organics (GRO) Sample ID: 2.5UG GRO LCS	0.4428	mg/L LCS	0.050	88.6	80 115 Batch ID: R21752	Analysis Date: 12/12/2006 6:36:27 AN
Gasoline Range Organics (GRO)	0.4452	mg/L	0.050	89.0	80 115	

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 6 / 8

Page 1

QA/QC SUMMARY REPORT

Client: San Juan Refi Project: River Terrace	-	rter 2006					Work	Order: 1612042
Analyte	Result	Units	PQL	%Rec	LowLimit HighLir	nit	%RPD RPI	DLimit Qual
Method: SW8021		MBLK			Batch ID: R2			1010/0000 h 46:44 AM
Sample ID: 5ML RB					Batch ID: R2	1694	Analysis Date:	12/6/2006 9:16:14 AM
Methyl tert-bulyi ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	µg/L	1.0					
	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Kylenes, Tolal	ND	µg/L	3.0					
Sample ID: b 2		MBLK			Batch ID: R2	1734	Analysis Date:	12/8/2006 8:57:17 AM
Methyl tert-bulyl ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: b 2		MBLK			Batch ID: R2	1752	Analysis Date:	12/11/2006 9:07:05 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/∟	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R2	1694	Analysis Date:	12/6/2006 9:25:17 PM
Methyl tert-bulyl ether (MTBE)	41.10	µg/L	2.5	103	51.2 138			
Benzene	19.07	μg/L	1.0	95.4	85.9 113			
Toluene	18.76	µg/∟	1.0	93.8	. 86.4 113			
Ethylbenzene	18.38	μg/L	1.0	91.9	83.5 118			
Xylenes, Total	55.86	μg/L	3.0	93.1	83.4 122			
Sample ID: 100NG BTEX LCS		LCS			Batch ID; R2	1734	Analysis Date:	12/8/2006 9:23:06 PN
Methyl tert-butyl ether (MTBE)	36.39	µg/L	2.5	91.0	51.2 138			
Benzene	17.85	μg/L	1.0	89.2	85.9 113			
Toluene	17.86	μg/L	1.0	89.3	86.4 113			
Ethylbenzene	17.28	μg/L	1.0	86.4	83.5 118			
Xylenes, Total	51.93	μg/L	3.0	86.5	83.4 122			
Sample ID: 100NG BTEX LCS		LCS				21752	Analysis Date:	12/11/2006 6:30:06 Pt
Methyl lert-bulyl elher (MTBE)	37.28	μg/ኒ	2.5	93.2	51.2 138		·	
Benzene	17.89	μg/L	1.0	89.5	85.9 113			
Toluene	17.80	µg/L	1.0	89.0	86.4 113			
Ethylbenzene	17.43	μg/L	1.0	87.2	83.5 118			
Xylenes, Total	52.14	pg/L	3.0	86.9	83.4 122			



- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 7 / 8

Page 2

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S	ample Receipt Che	cklist		
Client Name SJR		Date and Time	Received:	12/5/20)6
Work Order Number 0612042		Received by	AT	
Checklist completed by	Date	12/5/	16	
Matrix Carrier	r name <u>UPS</u>			
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 🔽			
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 🗹			
All samples received within holding time?	Yes 🗹			
	ials submitted	Yes 🗹	No 🗔	
Water - pH acceptable upon receipt?	Yes 🗌	No 🗆		
Container/Temp Blank temperature? COMMENTS:	6"	4° C ± 2 Accept If given sufficier		
Client contacted Date contact	cled:	Pei	son contacted	
Contacted by: Regarding				
Comments:				
Corrective Action				
· · · · · · · · · · · · · · · · · · ·	8/8			
	0/0			

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	(1.814 bottaeM) H97 (1.403 bottaeM) 803				
	(1989) (1989) (1997) (1				Remarks:
04/0C Package: Std D Level 4 D Other: Project Name: Project Name: Project C C C C C C C C C C C C C C C C C C C	Project Manager: Sampler: And Manager: Sample Temperaturg: Number/Volume Hact, IHNO, IV, A. J. J. J. J. J. J. J. J. J. J. J. J. J.	2-X			Received By: (Signature) 12-5/00 Re Received By: (Signature)
OF-CUST	Date Time Matrix Sample 1.D. No.	12/14/10/ 100201- 14.00 -170 - 12 6	115pm 7p-#/		Date: Time: Relinquished By: (Sighatura) 12/04/04/20 Date: Relinquished By: (Signature)



COVER LETTER

Wednesday, December 13, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 4th Quarter 2006

Dear Cindy Hurtado:

Order No.: 0612062

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 12/6/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab D:	San Juan Refining 0612062 River Terrace - 4th Qu 0612062-01	Quarter 2006 Date Received:		12/5/2006 10:35:00 AM			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	irganics (DRO)	ND	1.0		mg/L	1	12/11/2006 10:52:17 PN
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	12/11/2008 10:52:17 PN
Surf: DNOP	:	99.7	58-140		%REC	1	12/11/2006 10:52:17 PN
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	12/8/2006 2:22:19 PM
Surr: BFB	-,	111	79.2-121		%REC	1	12/8/2006 2:22:19 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyl tert-buty	I ether (MTBE)	ND	2.5		µg/L	1	12/8/2006 2:22:19 PM
Benzene		ND	. 1.0		µg/L	1	12/8/2006 2:22:19 PM
Toluene		ND	1.0		µg/∟	1	12/8/2006 2:22:19 PM
Ethylbenzene		ND	1.0		µg/L	1	12/8/2006 2:22:19 PM
Xylenes, Total		ND	3.0		µg/L	1	12/8/2006 2:22:19 PM
Surr: 4-Brom	ofluarobenzene	85.8	70.2-105		%REC	1	12/8/2006 2:22:19 PM

Date: 13-Dec-06

6

Qualifiers:	*	Value exceeds Maximum Contaminant Level		В	Analyte detected in the associated Me	thod Blank
	E	Value above quantitation range		н	Holding times for preparation or analy	ysis exceeded
	J	Analyte detected below quantitation limits		MCL	Maximum Contaminant Level	
	ND	Not Detected at the Reporting Limit		RL.	Reporting Limit	
	S	Spike recovery outside accepted recovery limits	1/6		· · · ·	Page 1 of 4

Date: 13-Dec-06

CLIENT: Lab Order:	San Juan Refining 0612062			Client Sample Collection D		0 2006 11:05:00 AM
Project:	River Terrace - 4th	Quarter 2006		Date Receiv	ed: 12/6/2	2006
Lab ID:	0612062-02		Matrix: AQUEOUS			EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L	1	12/11/2006 11:26:19 PN
Motor Oil Range Organics (MRO)		ND	5.0	mg/L	1	12/11/2006 11:26:19 PM
Surr: DNOP		100	58-140	%REC	1	12/11/2006 11:26:19 PM
EPA METHOD	8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L	1	12/7/2006 12:55:48 AM
Surr BFB		110	79.2-12 1	%REC	1	12/7/2006 12:55:48 AM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Methyl tert-buly	yl ether (MTBE)	ND	2.5	µg/L	1	12/7/2006 12:55:48 AM
Benzene		ND	1.0	µg/L	1	12/7/2006 12:55:48 AM
Toluene		ND	1.0	µg/L	1	12/7/2006 12:55:48 AM
Ethylbenzene		ND	1.0	μg/L	1	12/7/2006 12:55:48 AM
Xylenes, Total		ND	3.0	µg/L	1	12/7/2006 12:55:48 AM
Surr: 4-Bron	nolluorobenzene	84.3	70.2-105	%REC	1	12/7/2006 12:55:48 AM





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Qualifiers:

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits S

- В Analyte detected in the associated Method Blank
- н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

2/6

Page 2 of 4

Date: 13-Dec-06

CLIENT:	San Juan Refining			Clie	ent Sample ID:	TP-#5	;		
Lab Order:	0612062			С	Collection Date:		12/5/2006 1:35:00 PM		
Project:	River Terrace - 4th Quarter 2006			נ	Date Received:	12/6/2	12/6/2006		
Lab ID:	0612062-03				Matrix:	AQUI	EOUS		
Analyses		Result	PQL	Qual L	Jnits	DF	Date Analyzed		
EPA METHOD	80158: DIESEL RANG	SE					Analyst: SCC		
Diesel Range (Drganics (DRO)	ND	1.0	n	ng/L	1	12/12/2006 12:00:24 AM		
Motor Oil Range Organics (MRO)		ND	5.0	n	ng/L	1	12/12/2006 12:00:24 AM		
Surr: DNOP	·	101	58-140	9	4REC	1	12/12/2006 12:00:24 AM		
EPA METHOD	8015B: GASOLINE R	ANGE					Analyst: NSB		
Gasoline Rang	e Organics (GRO)	50	2.5	п	ng/L	50	12/8/2006 3:22:29 PM		
Surr: BFB	-	117	79.2-121	9	%REC	50	12/8/2006 3:22:29 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Methyl tert-buty	yl ether (MTBE)	ND	120	F	ıg/L	50	12/8/2006 3:22:29 PM		
Benzene		69	50	Ļ	ıg/L	50	12/8/2006 3:22:29 PM		
Toluene		ND	5 0	١	ıg/L	50	12/8/2006 3:22:29 PM		
Ethylbenzene		1200	50	ł	ıg/L	50	12/8/2006 3:22:29 PM		
Xylenes, Total		10000	150	٢	ıg/L	50	12/8/2006 3:22:29 PM		
Surr: 4-Bron	nofluorobenzene	88.1	70.2-105	9	%REC	50	12/8/2006 3:22:29 PM		

Hall Environmental Analysis Laboratory, Inc.

Qualifiers:	+	Value exceeds Maximum Contaminant Level	В	Analyte detected in the associated Metho	d Blank	
-	Ē	Value above quantitation range	Н	Holding times for preparation or analysis exceeded		
	J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level		
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit	D7 -F	
	S	Spike recovery outside accepted recovery limits 3 / 6			Page 3 of	
• • • •			:		•	

CLIENT:	San Juan Refining			С	lient Sample ID:	TP-#1	2		
Lab Order:	0612062				Collection Date:	12/5/2006 2:15:00 PM			
Project:	River Terrace - 4th (Juarter 2006			Date Received:	12/6/2	2/6/2006		
Lab ID:	0612062-04				Matrix:	AQUI	EOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANG	Ξ					Analyst: SCC		
Diesel Range C	Organics (DRO)	ND	1.0		mg/L	1	12/12/2006 12:34:30 AM		
Motor Oll Range Organics (MRO)		ND	5.0		mg/L	1	12/12/2006 12:34:30 AM		
Surf: DNOP		103	58-140		%REC	1	12/12/2006 12:34:30 AM		
EPA METHOD	8015B: GASOLINE RA	NGE					Analyst: NSB		
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	12/7/2006 3:01:01 AM		
Sum BFB		109	79.2-121		%REC	1	12/7/2006 3:01:01 AM		
EPA METHOD	B021B: VOLATILES						Analyst: NSB		
Methyl tert-buty	/i ether (MTBE)	ND	2.5		µg/L	1	12/7/2006 3:01:01 AM		
Benzene		ND	1.0		µg/L	1	12/7/2006 3:01:01 AM		
Toluene		ND	1.0		µg/L	1	12/7/2006 3:01:01 AM		
Ethylbenzene		ND	1.0		µg/L	1	12/7/2006 3:01:01 AM		
Xylenes, Total		ND	3.0		µg/L	1	12/7/2006 3:01:01 AM		
Surr: 4-Bron	nolluorobenzene	83.0	70.2-105		%REC	1	12/7/2006 3:01:01 AM		

Date: 13-Dec-06

Qualifiers:

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- Value exceeds Maximum Contaminant Level Е Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- S . Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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QA/QC SUMMARY REPORT

Client: San Juan Ref	ining							1
Project: River Terrace	e - 4th Qua	rter 2006					Work	Order: 0512062
Analyte	Result	Units	PQL	%Rec	LowLimit H	HighLimit	%RPD RP	DLimit Qual
Method: SW8015		·····						
Sample ID: MB-11946		MBLK			Batch ID	: 11946	Analysis Date:	12/11/2006 t:36:12 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oll Range Organics (MRO)	ND	mg/L	5.0					
Sample ID: LCS-11946		LCS			Batch ID	: 11946	Analysis Date:	12/11/2006 \$: 10:18 PM
Diesel Range Organics (DRO)	4.987	mg/L	1.0	9 9.7	74	157		
Sample ID: LCSD-11946		LCSD			Batch ID		Analysis Date:	12/11/2006 9:44:23 PM
Diesel Range Organics (DRO)	6,255	mg/L	1.0	125	74	157.	•	23
Method: SW8015								
Sample ID: 5ML RB		MBLK			Batch ID); R21694	Analysis Date:	12/6/2006 0:16:14 AM
•						, 1121034	Analysia Date.	12/0/2000 0. 10. 1 1 10.
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: b 2		MBLK			Batch IC): R217 34	Analysis Date:	12/8/2006 8:57:17 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS		LCS			Batch ID): R 216 94	Analysis Date:	12/6/2006 11:55:32 PM
Gasoline Range Organics (GRO)	0.4506	mg/L	0.050	90.1	80	115		
Sample ID: 2.5UG GRO LCS		LCS			Batch ID): R21734	Analysis Date:	12/9/2006 6:59:21 AM
Gasoline Range Organics (GRO)	0.442B	mg/L	0.050	88.6	80	115		
	·····	······			,		· · · · · · · · · · · · · · · · · · ·	
Method: SW8021 Sample ID: 5ML RB		MBLK			Batch II); R21694	Analysis Date:	12/6/2006 9:16:14 AM
	ND.		0 r				,	
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	µg/L	1.0					
Toluene Ethylbenzene	ND ND	µg/L.	1.0 1.0			,		
Xylenes, Total	ND	μg/L μg/L	3.0					
Sample ID: b 2	NU	рулс MBLK	3.0		Batch II): R21734	Analysis Date:	12/8/2006 8:57:17 AN
•						2. 1161134	Analysis Date.	12/0/2000 0.01111 100
Methyl tert-butyl ether (MTBE)	ND	μg/L	2.5					
Benzene	ND	μg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μ g /L	1.0					
Xylenes, Total	ND	μg/L	3.0		The tell		Amplumin Datas	12/6/2006 9:25:17 PM
Sample ID: 100NG BTEX LCS		LCS			Batch I		Analysis Date:	12/0/2000 9.23.17 Fit
Methyl terl-butyl ether (MTBE)	41.10	μg/L	2.5	103	51.2	138		
Benzene	19.07	µg/L	1.0	95.4	85.9	113		
Тошепе	18.76	µg/L	1.0	93.8	86.4	113		
Ethylbenzene	18.38	µg/L	1.0	91.9	83.5	118		
Xylenes, Total	55.86	µg/L	3.0	93.1	B3.4	122		
Sample ID: 100NG BTEX LCS		LCS			Batch l		Analysis Date:	12/8/2006 9:23:06 PM
Methyl tert-butyl ether (MTBE)	36.39	µg/L	2.5	91.0	51.2	138		
Benzene	17.85	μg/L	1.0	89.2	85.9	113		
Toluene	17.86	µg/L	1.0	89.3	86.4	113		
Ethyibenzene	17.28	µg/L	1.0	86.4	83.5	118		
Xylenes, Total	51.93	µg/L	3.0	86.5	83.4	122		

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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S Spike, recovery outside accepted recovery limits

Page 1

1

	Sample Re	ceipt Chec	klist				
Client Name SJR			Date and Time	Received:		12/	6/20)6
Work Order Number 0612062	1		Received by	GLS			
Checklist completed by	uppe .	Date	6-04				
Matrix	Carrier name <u>UI</u>	PS					
Shipping container/cooler in good condition?	Y	es 🗹	No 🗀	Not Present			
Custody seals intact on shipping container/cooler?	2 . Y	es ·	No 🗆	Not Present	Not S	Shipped	
Custody seals intact on sample bottles?	Y	es 🗋	No 🗀	N/A	\checkmark		
Chain of custody present?	Y	es 🗹	No 🗆				
Chain of custody signed when relinquished and re	ceived? Y	es 🗹	No 🗔				
Chain of custody agrees with sample labels?	Y	es 🗹	Νο				
Samples in proper container/bottle?	Y	es 🗹					
Sample containers intacl?	. Y	es 🗹					
Sufficient sample volume for indicated test?	Y	es 🗹					
All samples received within holding lime?	Y	es 🔽					
Water - VOA vials have zero headspace?	No VOA vials submitte	ed 🗖	Yes 🗹	No 🗆			
Water - pH acceptable upon receipt?	Y	es 🗌	No 🗆	N/A 🗹			
Container/Temp Blank temperature?			l° C ± 2 Accepta f given sufficient				
COMMENTS:							
				· · · · · · · · · · · ·			
Client contacted	Date contacted:		Pers	ion contacted			
Contacted by:	Regarding		-,				
Comments:				11 Mart 1944 (1944) (1944) (1944) (1944) (1944)			
		······································					
			· · · · · · · · · · · · · · · · · · ·		·		
						<u></u>	
Corrective Action	<u></u>						
		· · · · · · · · · · · · · · · · · · ·		-			
		6/6	-				

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	(IeseiC/ae5) 83 гов boddeM H9T (1, 814 boddeM H9T) (1, 804 boddeM) H9T (1, 804 boddeM) 803 (1, 808 boddeM) (1,		
ad/ GC Package: Btd C Level 4 C Other: Project Name: Project #:	Project Manager: Project Manager: Sample: Mudy Q/UL/TAJO Sample: Mudy Q/UL/TAJO Sample Temperature: Number/Volume HgCl ₂] HND ₃ H/LL(1)(A) O (A) O (A) A HEAL No.	Х Х Х Х Х Х Х Х Х Х Х Х Х Х Х Х Х Х Х	
CHAIN-OF-CUSTODY RECORD Client: SAN Juan Relations	Phone #: 505-633-4116 Fax #: 505-633-416 Fax #: 505-633-416 Date Time Matrix Sample I.D. No.	1246/04 1035A HZO TP-#10 1356 HZO TP-#10 1356 HZO TP-#10 2015 HZO TP-41Z 2015 HZO HZO HZO 2015 HZO HZO HZO HZO Data: Inne: Relinquished By (Signature) Inne: Relinquished By (Signature)	



COVER LETTER

Thursday, December 21, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - 4th Quarter 2006

Dear Cindy Hurtado:

Order No.: 0612092

Hall Environmental Analysis Laboratory, Inc. received 6 sample(s) on 12/7/2006 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,

and the second

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:San Juan RefiningProject:River Terrace - 4th Quarter 2006Lab Order:0612092

Date: 21-Dec-06

CASE NARRATIVE

Page 1 of 1

Analytical Comments for METHOD 8015GRO_W, SAMPLE 0612092-03A: Elevated surrogate due to matrix interference.

1/11

CLIENT:	San Juan Refining			C	lient Sample ID:	TP #9	
Lab Order:	0612092				Collection Date:	12/6/2	006 10:15:00 AM
Project:	River Terrace - 4th Q	uarter 2006			Date Received:	12/7/2	006
Lab ID:	0612092-01				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C)rganics (DRO)	ND	1.0		mg/L	1	12/12/2006 1:08:36 AM
Motor Oli Rang	e Organics (MRO)	ND	5.0		mg/L	1	12/12/2006 1:08:36 AM
Surr: DNOP		98.8	58-140		%REC	1	12/12/2006 1:08:36 AM
EPA METHOD	8015B: GASOLINE RAN	IGE					Analyst: NSE
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	12/9/2006 2:56:16 AM
Sur: BFB		112	79.2-121		%REC	1	12/9/2006 2:56:16 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSE
Methyl tert-buty	/i ether (MTBE)	ND	2.5		μg/L	1	12/9/2006 2:56:16 AM
Benzene		ND	1.0		µg/L	1	12/9/2006 2:56:16 AM
Toluene		ND	1.0		µg/L	1	12/9/2006 2:56:16 AM
Ethylbenzene		ND	1.0		μg/L	1	12/9/2006 2:56:16 AM
Xylenes, Total		ND	3.0		µg/L	1	12/9/2006 2:56:16 AM
Surr: 4-Bron	ofluorobenzene	86.2	70.2-105		%REC	1	12/9/2006 2:56:16 AM

Date: 21-Dec-06

Qualifiers:

*

- E Value above quantitation range
- J Analyte detected below quantitation limits

Value exceeds Maximum Contaminant Level

- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 2/11
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 6

Date: 21-Dec-06

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CLIENT:	San Juan Refining			Client Sample II	D: DW	#1
Lab Order:	0612092			Collection Dat	e: 12/6	/2006 11:15:00 AM
Project:	River Terrace - 4th Q	uarter 2006		Date Receive	d: 12/7	/2006
Lab ID:	0612092-02			Matri	x: AQL	JEOUS
Analyses	· · · · · · · · · · · · · · · · · · ·	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 80	15B: DIESEL RANGE			 		Analyst: SCC
Diesel Range Orga	inics (DRO)	ND	1.0	mg/L	1	12/12/2006 1:42:37 AM
Motor Oil Range O	rganics (MRO)	ND	5.0	mg/L	1	12/12/2006 1:42:37 AM
Surr: DNOP		105	58-140	%REC	1	12/12/2006 1:42:37 AM
EPA METHOD 80	15B: GASOLINE RAN	GE				Analyst: NSB
Gasoline Range O		0.090	0.050	mg/L	1	12/11/2006 1:16:02 PM
Surr: BFB		106	79.2-121	%REC	1	12/11/2006 1:16:02 PM
EPA METHOD 80	21B: VOLATILES					Analyst: NSB
Methyl tert-bulyl el	her (MTBE)	ND	2.5	µg/Ľ	1	12/11/2006 1:16:02 PM
Benzene		ND	1.0	µg/L	1	12/11/2006 1:16:02 PM
Toluene		ND	1.0	µg/L	1	12/11/2006 1:16:02 PM
Ethylbenzene		ND	1.0	µg/L	1	12/11/2006 1:16:02 PM
Xylenes, Total		ND	3.0	µg/L	1	12/11/2006 1:16:02 PM
Surr: 4-Bromofil	uorobenzene	81.2	70.2-105	%REC	1	12/11/2006 1:16:02 PM
EPA METHOD 74	70: MERCURY					Analyst: MAP
Mercury		0.00069	0.00020	mg/L	1	12/18/2006
FPA 6010B. TOT	AL RECOVERABLE M	AFTALS				Analyst: CMS
Chromlum	,	ND	0.0060	mg/L	1	12/14/2006 8:34:26 PM
Lead		ND	0.0050	mg/L	1	12/14/2006 8:34:26 PM

В Qualifiers: ٠ Value exceeds Maximum Contaminant Level H Ε Value above quantitation range J Analyte detected below quantitation limits ND Not Detected at the Reporting Limit RL

> Spike recovery outside accepted recovery limits S 3/11

- Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

Reporting Limit

CLIENT:	San Juan Refining			C	lient San	ple ID:	MW #	49
Lab Order:	0612092				Collectio	n Date:	12/6/2	2006 1:45:00 PM
Project:	River Terrace - 4th Qu	arter 2006			Date Re	eceived:	12/7/2	006
Lab ID:	0612092-03					Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE							Analyst: SCC
Diesel Range C	organics (DRO)	ND	1.0		mg/L		1	12/12/2006 2:16:30 AM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L		1	12/12/2006 2:16:3D AM
Surr: DNOP		98.5	58-140		%REC	:	1	12/12/2006 2:16:30 AM
EPA METHOD	8015B: GASOLINE RAN	GE						Analyst: NSB
Gasoline Range	e Organics (GRO)	0.081	0.050		mg/L		1	12/9/2006 4:59:11 AM
Surr: BFB		128	79.2-121	S	%REC		1	12/9/2006 4:59:11 AM
EPA METHOD	8021B: VOLATILES							Analyst: NSB
Methyl tert-buty	l eiher (MTBE)	ND	2.5		μg/ί		1	12/9/2006 4:59:11 AM
Benzene		ND	1.0		µg/L		1	12/9/2006 4:59:11 AM
Toluene		ND	1.0		µg/L		1	12/9/2006 4:59:11 AM
Eihylbenzene		ND	1.0		μg/L		1	12/9/2006 4:59:11 AM
Xylenes, Total		ND	3.0		µg/L		1	12/9/2006 4:59:11 AM
Surr: 4-Brom	oliuorobenzene	88.6	70.2-105		%REC		1	12/9/2006 4:59:11 AM
EPA 6010B: T	OTAL RECOVERABLE M	ETALS						Analyst: CMS
Chromium		ND	0.0060		mg/L		1	12/14/2006 8:38:20 PM
Lead	-	ND	0.0050		mg/L		1	12/14/2006 8:38:20 PM

Date: 21-Dec-06

Qualifiers:

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- Value exceeds Maximum Contaminant Level Е Value above quantitation range
- Analyte detected below quantitation limits 3
- Not Detected at the Reporting Limit ND
- S Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

4/11

Page 3 of 6

CLIENT:	San Juan Refining			Client Sample	D: River	N of MW #49
Lab Order:	0612092			Collection Da	nte: 12/6/2	2006 1:35:00 PM
Project:	River Terrace - 4th (Quarter 2006		Date Receiv	ed: 12/7/2	2006
Lab ID:	0612092-04			Mata	rix: AQUI	EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range (Organics (DRO)	ND	1.0	mg/L	1	12/12/2006 2:50:28 AM
Motor Oll Rang	e Organics (MRO)	ND	5.0	mg/L	1	12/12/2006 2:50:28 AM
Surr: DNOP		101	58-140	%REC	1	12/12/2006 2:50:28 AM
EPA METHOD	8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L	1	12/9/2006 5:29:17 AM
Surr: BFB		112	79.2-121	%REC	1	12/9/2006 5:29:17 AM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Methyl tert-buty	I ether (MTBE)	ND	2.5	µg/L	1	12/9/2006 5:29:17 AM
Benzene	· · · ·	ND	1.0	µg/L	1	12/9/2006 5:29:17 AM
Toluene		ND	1.0	µg/L	1	12/9/2006 5:29:17 AM
Ethylbenzene		ND	1.0	ha\r	1	12/9/2006 5:29:17 AM
Xylenes, Total		ND	3.0	µg/L	1	12/9/2006 5:29:17 AM
Surr: 4-Brom	nolluorobenzene	86.3	70.2-105	%REC	1	12/9/2006 5:29:17 AM

Date: 21-Dec-06

Qualifiers: * Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits 5 / 11

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 4 of 6

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0612092 River Terrace - 4th Q 0612092-05)uarter 2006		Colli	Sample ID: ection Date: e Received: Matrix:	12/6/2 12/7/2	2006 2:30:00 PM 2006
Analyses		Result	PQL	Qual Uni	.S	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Organics (DRO)	ND	1.0	mg/L		1	12/12/2006 3:24:34 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L		1	12/12/2006 3:24:34 AM
Surr: DNOP		101	58-140	%RE	С	1	12/12/2006 3:24:34 AM
EPA METHOD	8015B: GASOLINE RAI	NGE					Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L		1	12/9/2006 7:59:26 AM
Surn: BFB		114	79.2-121	%RE	C	1	12/9/2006 7:59:26 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyl tert-buty	/l ether (MTBE)	ND	2.5	µg/L		1	12/9/2006 7:59:26 AM
Benzene		ND	1.0	μg/L		1	12/9/2006 7:59:26 AM
Toluene		ND	1.0	µg/L		1 ·	12/9/2006 7:59:26 AM
Ethylbenzene		ND	1.0	ից/Լ		1	12/9/2006 7:59:26 AM
Xylenes, Total		ND	3.0	hð/r		1	12/9/2006 7:59:26 AM
Surr: 4-Brom	nofluorobenzene	87.7	70.2-105	%R	EC	1	12/9/2006 7:59:26 AM

Date: 21-Dec-06

Qualifiers:

*

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 6 / 11
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 5 of 6

CLIENT: Lab Order:	San Juan Refining 0612092				lient Sample ID: Collection Date:		
Project:	River Terrace - 4th (Duarter 2006			Date Received:		
•		2000			Matrix:		
Lab ID:	0612092-06					- AQUI	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	Ξ					Analyst: SCC
Diesel Range C)rganics (DRO)	ND	1.0		mg/L	1	12/12/2006 3:58:39 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	12/12/2006 3:58:39 AM
Surr: DNOP		97.9	58-140		%REC	1	12/12/2006 3:58:39 AM
EPA METHOD	8015B: GASOLINE RA	NGE					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	12/9/2006 8:29:20 AM
Surr: BFB		114	79.2-121		%REC	1	12/9/2006 8:29:20 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Methyl tert-buty	/i ether (MTBE)	ND	2.5		µg/L	1	12/9/2006 8:29:20 AM
Benzene		ND	1.0		μg/L	1	12/9/2006 8:29:20 AM
Toluene		ND	1.0		µg/L	1	12/9/2006 8:29:20 AM
Ethylbenzene		ND	1.0		µg/L	1	12/9/2006 8:29:20 AM
Xylenes, Total		ND	3.0		µg/L	1	12/9/2006 8:29:20 AM
Surr: 4-Brom	ofluorobenzene	86.5	70.2-105		%REC	1	12/9/2006 8:29:20 AM

Date: 21-Dec-06

Qualifiers:

- Value exceeds Maximum Contaminant Level
 E Value above quantitation range
- I Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits

7/11

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 6 of 6

QA/QC SUMMARY REPORT

Client: San Juan Re	<i>u</i>					
Project: River Terrac	e - 4th Qua	rter 2006				Work Order: 0612092
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPDLimit Qua
Method: SW8015						
Sample ID: MB-11946		MBLK			Batch ID: 11946	Analysis Date: 12/11/20068:36:12 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0			
Motor Oil Range Organics (MRO)	ND	mg/L	5.0			
Sample ID: LCS-11946		LCS			Batch ID: 11946	Analysis Date: 12/11/20069:10:18 PM
Diesel Range Organics (DRO)	4.987	mg/L	1.0	99.7	74 157	
Sample ID: LCSD-11946		LCSD			Batch ID: 11946	Analysis Date: 12/11/20069:44:23 PM
Diesel Range Organics (DRO)	6.255	mg/L	1.0	125	74 157	22.6 23
Method: SW8015						
Sample ID: 0612092-05A MSD		MSD			Batch ID: R21734	Analysis Date: 12/9/20066:29:23 AM
Gasoline Range Organics (GRO)	0.4218	mg/L	0.050	84.4	80 115	0.714 8.39
Sample ID: b 2		MBLK			Batch ID: R21734	Analysis Date: 12/8/20068:57:17 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050			
Sample ID: b 2		MBLK			Batch ID: R21752	Analysis Date: 12/11/20069:07:05 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050			
Sample ID: 2.5UG GRO LCS	•	LČS			Batch ID: R21734	Analysis Date: 12/9/20066:59:21 AM
Gasoline Range Organics (GRO)	0.4428	mg/L	0.050	88.6	80 115	
Sample ID: 2.5UG GRO LCS		LĈS			Batch ID: R21752	Analysis Date: 12/12/20066:36:27 AM
Gasoline Range Organics (GRO)	0.4452	mg/L	0.050	89.0	80 115	
Sample ID: 0612092-05A MS		MS			Batch ID: R21734	Analysis Date: 12/9/20065:59:21 AM
Gasoline Range Organics (GRO)	0.4188	mg/L	0.050	83.B	80 115	
3 3 ()			0			

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 8 / 11

Page 1

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QA/QC SUMMARY REPORT

Project: River Terrace							Work	Order: 0612092
Analyte	Result	Units	PQL	%Rec	LowLimit H	ighLimit	%RPD RPI	DLimit Qual
Method: SW8021			<u> </u>					
Sample ID: b 2		MBLK			Batch ID:	R21734	Analysis Date:	12/8/20068:57:17 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Kylenes, Total	ND	µg/L	3.0					
1,2,4-Trimethylbenzene	ND ND	µg/∟	1.0 1.0					
1,3,5-Trimelhylbenzene	ND	µg/L	1.0		Dateb 1D	004777	Aveluate Deter	
Sample ID: B		MBLK			Batch ID:	R21737	Analysis Date:	12/8/20064:52:38 PM
Melhyl tert-butyl ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	µg/∟	1.0		•			
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: b 2		MBLK			Batch ID:	R21752	Analysis Date:	12/11/20069:07:05 AN
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5					
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Tolal	ND	µg/L	3.0	•				
Sample ID: 100NG BTEX LCS		LÇS			Batch ID	R21734	Analysis Date:	12/8/20069:23:06 PM
Methyl tert-butyl ether (MTBE)	36.39	µg/L	2.5	91.0	51.2	138		
Benzene	17.85	µg/L	1.0	89.2	85.9	113		
Toluene	17.86	µg/L	1.0	89.3	86.4	113		
Ethylbenzene	17.28	μg/L	1.0	86,4	83.5	118		
Xylenes, Total	51.93	µg/∟	3.0	86.5	83.4	122		
1,2,4-Trimethylbenzene	17.76	µg/L	1.0	88.8	83.5	115		
1,3,5-Trimelhylbenzene	17.75	µg/L	1.0	88.7	85.2	113		
Sample ID: 100NG BTEX LCS-II		LCS			Batch ID	R21737	Analysis Date:	12/9/20067:13:26 PI
Methyl tert-butyl ether (MTBE)	38.55	µg/L	2.5	96.4	51.2	138		
Benzene	18.62	μg/L	1.0	93.1	85.9	113		
Toluene	18.44	µg/L	1.0	92.2	86.4	113		
Ethylbenzene	18.45	µg/L	1.0	92.2	83.5	118		
Xylenes, Total	55.45	µg/∟	3.0	92.4	83.4	122		
Sample ID: 100NG BTEX LCS		LCS			Batch ID	: R2175 2	Analysis Dale:	12/11/2006 6:30:06 P
Melhyl tert-butyl ether (MTBE)	37.28	µg/L	2.5	93.2	51.2	138		
Benzene	17.89	μg/L	1.0	89.5	85.9	113		
Toluene	17.80	µg/L	1.0	89.0	86.4	113		
Ethylbenzene	17.43	µg/L	1.0	87.2	83.5	118		
Xylenes, Total	52,14	µg/L	3.0	86.9	83.4	122		

- Qualifiers:
- E Value above quantitation range
- J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 9/11

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QA/QC SUMMARY REPORT

Client: Project:	San Juan Refu River Terrace	2	ter 2006					Work	Order: 1612092
Analyte		Result	Units	PQL	%Rec	LowLimit	lighLimit	%RPD RP	DLimit Qua
Method: SW7	7470								
Sample ID: MB	3-12001		MBLK			Batch IC): 12001	Analysis Date:	12/18/2006
Mercury		ND	mg/L	0.00020					
Sample ID: LC	S-12001		LCS			Batch ID): 12001	Analysis Date:	12/18/2006
Mercury		0.005007	mg/L	0.00020	100	80	120		·
Method: SW6	3010A								
Sample ID: ME	3-11969		MBLK			Batch II	D: 11969	Analysis Date:	12/14/20061:45:58 PM
Chromlum		ND	mg/L	0.0060					
Lead		ND	mg/L	0.0050					
Sample ID: LC	S-11969		LCS			Batch IC	D: 1 1969	Analysis Date:	12/14/20067:49:01 PM
Chromium		0.4824	mg/L	0.0060	96.5	80	120		
Lead		0.4655	mg/L	0.0050	93.1	80	120		

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 10/11

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	Sample	Receipt Cher	cklist		
Client Name SJR			Date and Time	Received:	12/7/2006
Work Order Number 0612092	Λ		Received by	АТ	
Checklist completed by	Im		2/7/0	16	
Matrix	Carrier name	<u>UPS</u>			
Shipping container/cooler in good condition?		Yes 🗹		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 🗹			
Chain of custody signed when relinquished and re	ceived?	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 sub	mitted 🗖	Yes 🗹	No 🗖	
; Water - pH acceptable upon receipt?		Yes 🗹	No 🗌		
Container/Temp Blank temperature?			4° C ± 2 Accepta If given sufficien		
COMMENTS:					
Client contacted	Date contacted:		Per	son contacted	
Contacted by:	Regarding				
Comments:		······································			
				·····	
	······				
·					
Corrective Action					
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		11/11			

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11/11

Client: SAN Juch	1-0F-L	TSU	CHAIN-OF-CUSTODY RECORD	Str	GA/ GC Package: Std 🔲 Level 4	'ackage: Level 4 🗖								HALL ENVIRONME ANALYSIS LABOR ADOT Hamilton DE Suiton D		HALL ENVIRONMENTAL ANALYSIS LABORATORY	גר	
JWCmian												Albuqu	erque,	New M	axico E	Albuquerque, New Mexico 87109		
	1 Juci		Katures		110							Tel. 50. www.hi	5.345. allenvir	Tel. 505.345.3975 Fax 50 www.hallenvironmental.com	Fax 5 al.com	105.34	5.4107	~
				River Terrace-	が	hr - 21	-2006-											
·· Address: #	#50	Rd 4	0690	Project #:	•								5	ANALYSIS REQUEST			-	
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	21413	~~~		Project Manager:				(12)					. US			[
) - -				• • • • • • • • • • • • • • • • • • •				<u>18) s</u> ,					Ud			भ		
Phone #:	505-632 -416.	632	-410/	Salmplar: Hundado		Bruce	1. Ale						UN		['	<u>רלי</u>	$\frac{1}{\sqrt{2}}$	
Ex #: S	505-632 -	32 -	3911	Sample (emperature:	-	5		1 H 381								192	97	
Date	Time	Matrix	Sample I.D. No.	Number/Volume Hg	Preservative HgCl ₂ HNO ₃	8 H	HEAL NO.	M + Xəta	M + XƏTB Məsm HqT	TPH (Meth	EDC (Weth	NG) 0168	M 8 AACA Anions (F, C	1299 1 808	N) 80958	PHOL	MOL	
2/06/14 6	015A	0214	the # 9	5-14		\succ)	×	$ $ \times									
	1115A		D11/24 /	5-VDA		\succ	2	_/ _										
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	-			1-250m	\times		ŝ										Х	
	135041		River N of Multyg	#~10t-#		\times	- L	X	\times									
<u></u>	J.D.		TD-#11	5-104-		×	1	X	Х									
6	MCAL		-TD-#3	5-104		;×	クー	<u>ب</u>	\times									
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Zold OU	Time: H 715/M	Helinduished By	Relinquished/By (Signature) WAM ALUTU AO	Received By (Signature)	(Signatur®)	12/10	12/06	Remarks:	rks:									

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COVER LETTER

Tuesday, January 31, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: Baseline River Terrace Prior to Air Inj.

Dear Cindy Hurtado:

Order No.: 0601179

Hall Environmental Analysis Laboratory received 3 sample(s) on 1/19/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

•••					1		· · · · ·
CLIENT:	San Juan Refining			C	lient Sample ID:	Gac Ir	nf
Lab Order:	0601179				Collection Date:	1/18/2	2006 10:20:00 AM
Project:	Baseline River Terrace	Prior to Air	lnj.		Date Received:	1/19/2	2006
Lab ID:	0601179-01				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	Organics (DRO)	ND	1.0		mg/L	1	1/24/2006 5:35:37 PM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	1/24/2006 5:35:37 PM
Surr: DNOP		114	58-140		%REC	1	1/24/2006 5:35:37 PM
EPA METHOD	8015B: GASOLINE RANG	ЭЕ					Analyst: NSB
	e Organics (GRO)	17	2.0		mg/L	40	1/27/2006 1:05:27 PM
Surr: BFB		104	79.7-118		%REC	40	1/27/2006 1:05:27 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		310	40		µg/L	40	1/27/2006 1:05:27 PM
Toluene		44	40		µg/L	40	1/27/2006 1:05:27 PM
Ethylbenzene		1300	40		µg/L	40	1/27/2006 1:05:27 PM
Xylenes, Total		6900	120		µg/L	40	1/27/2006 1:05:27 PM
Surr: 4-Brom	ofluorobenzene	105	82.2-119		%REC	40	1/27/2006 1:05:27 PM
EPA METHOD	7470: MERCURY						Analyst: CMC
Mercury		ND	0.00020		mg/L	1	1/20/2006
EPA 6010: TO	TAL RECOVERABLE ME	TALS					Anałyst: NMO
Arsenic		ND	0.020		mg/L	1	1/20/2006 10:35:24 AM
Barium		0.078	0.020		mg/L	1	1/20/2006 10:35:24 AM
Cadmium		ND	0.0020		mg/L	1	1/20/2006 10:35:24 AM
Chromium		ND	0.0060		mg/L	1	1/20/2006 10:35:24 AM
Lead		0.013	0.0050		mg/L	1	1/20/2006 10:35:24 AM
Selenium		ND	0.050		mg/L	1	1/20/2006 10:35:24 AM
Silver		ND	0.0050		mg/L	1	1/20/2006 10:35:24 AM

Hall Environmental Analysis Laboratory

Date: 31-Jan-06

Qualifiers:	
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- Value exceeds Maximum Contaminant Level
- Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0601179 Baseline River Te n 0601179-02	ace Prior to Air Inj	•		Date Received Matrix	: 1/18/2 : 1/19/2	2006 10:25:00 AM 2006
Analyses	· · · ·	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	θE			······································		Analyst: SCC
Diesel Range (Drganics (DRO)	ND	1.0		mg/L	1	1/24/2006 6:08:38 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	1/24/2006 6:08:38 PM
Surr: DNOP		114	58-140		%REC	1	1/24/2006 6:08:38 PM
EPA METHOD	8015B: GASOLINE RA	ANGE					Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	1/27/2006 1:36:01 PM
Surr: BFB		104	79.7-118		%REC	1	1/27/2006 1:36:01 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	1/27/2006 1:36:01 PM
Toluene		ND	1.0		µg/L	1	1/27/2006 1:36:01 PM
Ethylbenzene		ND	1.0		µg/L	1	1/27/2006 1:36:01 PM
Xylenes, Total		ND	3.0		µg/L	1	1/27/2006 1:36:01 PM
Surr: 4-Bror	nofluorobenzene	100	82.2-119		%REC	1	1/27/2006 1:36:01 PM

Hall Environmental Analysis Laboratory

Date: 31-Jan-06

Qualifiers:

*

- Value exceeds Maximum Contaminant Level Value above quantitation range
- E J
- Analyte detected below quantitation limits
- Spike Recovery outside accepted recovery limits S
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 3

Hall Envir	onmental Analy	ysis Labora	·		e: 31-Ja	
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0601179 Baseline River Terr 0601179-03	ace Prior to Air	Inj.	Date Receive): Gac 2 e: 1/18/2	2006 10:30:00 AM 2006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range C	8015B: DIESEL RANG Drganics (DRO) le Organics (MRO)	SE ND ND 114	1.0 5.0 58-140	mg/L mg/L %REC	1 1 1	Analyst: SCC 1/24/2006 6:41:45 PM 1/24/2006 6:41:45 PM 1/24/2006 6:41:45 PM
	8015B: GASOLINE RA	ANGE ND 102	0.050 79.7-118	mg/L %REC	1 1	Analyst: NSB 1/27/2006 3:38:52 PM 1/27/2006 3:38:52 PM
EPA METHOD Benzene Toluene Ethylbenzene	8021B: VOLATILES	ND ND ND	1.0 1.0 1.0	µg/L µg/L µg/L	1 1 1	Analyst: NSB 1/27/2006 3:38:52 PM 1/27/2006 3:38:52 PM 1/27/2006 3:38:52 PM
Xylenes, Total Surr: 4-Bron	nofluorobenzene	ND 96.3	3.0 82.2-119	μg/L %REC	1 1	1/27/2006 3:38:52 PM 1/27/2006 3:38:52 PM

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

Value exceeds Maximum Contaminant Level

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

CLIENT: Work Order:	San Juan Refining 0601179	îning			ANALYTIC	AL QC SUI	ANALYTICAL QC SUMMARY REPORT	r
Project:	Baseline Riv	Baseline River Terrace Prior to Air Inj.	ij.			TestCode: 8015DRO_W	ISDRO_W	
Sample ID: MB-9636 Client ID: ZZZZ	9	SampType: MBLK Batch ID: 9636	 TestCode: 8015DRO_W Units: mg/L TestNo: SW8015 	g/L	Prep Date: 1/24/2006 Analysis Date: 1/24/2006	2006	RunNo: 17998 SeqNo: 444110	
Analyte		Result	PQL SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref Val	RPD Ref Val	%RPD RPDLimit Qual	-
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	ics (DRO) Janics (MRO)	QN N	1.0 5.0					
Sample ID: LCS-9636 Client ID: ZZZZ	36	SampType: LCS Batch ID: 9636	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	B/L	Prep Date: 1/24/2006 Analysis Date: 1/24/2006	006	RunNo: 17998 SeqNo: 444111	
Analyte		Result	PQL SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref Val	RPD Ref Val	%RPD RPDLimit Qual	1
Diesel Range Organics (DRO)	ics (DRO)	5.020	1.0 5 0	100	81.2 149			
Sample ID: LCSD-9636 Client ID: ZZZZ	636	SampType: LCSD Batch ID: 9636	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	j/L	Prep Date: 1/24/2006 Analysis Date: 1/24/2006	006 006	RunNo: 17998 SeqNo: 444112	

Client ID: Analyte Diesel Range Organics (DRO)

Qual

%RPD RPDLimit

LowLimit HighLimit RPD Ref Val

%REC 87.1

SPK Ref Val

SPK value

Par 1.0

Result 4.355

23

14.2

5.02

149

81.2

0

S

E Value above quantitation range
 ND Not Detected at the Reporting Limit

Qualifiers:

 H
 Holding times for preparation or analysis exceeded
 J
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 R
 RPD outside accepted recovery limits
 S
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exceeded J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits Page I of 7

Date: 31-Jan-00

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Hall Environmental Analysis Laboratory

Work Order: 0601179	0					ANALYI	ANALY HEAL VE SUMMARY REPORT		NEFU	КI
	Baseline River Terrace Prior to Air Inj.	· Inj.					TestCode: 8015GR0_W	8015GRO_W		
Sample ID: 5ML RB Client ID: ZZZZZ	SampType: MBLK Batch ID: R18080	. Testo	TestCode: 8015GRO_W TestNo: SW8015	W Units: mg/L		Prep Date: 1/27/2006 Analysis Date: 1/27/2006	/27/2006	RunNo: 18080 SeqNo: 445668	ω	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit High	LowLimit HighLimit RPD Ref Val	%RPD RF	RPDLimit	Qual
Gasoline Range Organics (GRO)	QN (, 0.050								
Sample ID: 2.5UG GRO LCS Client ID: ZZZZ	SampType: LCS Batch ID: R18080	TestCo	TestCode: 8015GRO_W TestNo: SW8015	W Units: mg/L		Prep Date: Analysis Date: 1/27/2006	127/2006	RunNo: 18080 SeqNo: 445669		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit High	%REC LowLimit HighLimit RPD Ref Val	%RPD RF	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5180	0.050	0.5	0	104	82.6	114			
Sample /D: 0601179-03A MS Client ID: Gac 2 Eff	SampType: MS Batch ID: R18080	TestCo	TestCode: 8015GRO_W TestNo: SW8015	W Units: mg/L		Prep Date: Analysis Date: 1/27/2006	127/2006	RunNo: 18080 SeqNo: 445676		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit High	LowLimit HighLimit RPD Ref Val	%RPD RF	RPDLimit	Qual
Casoline Range Organics (GRO)	0.4740	0.050	0.5	0	94.8	82.6	114			
Sample ID: 0601179-03A MSD Client ID: Gac 2 Eff	SampType: MSD Batch ID: R18080	TestCoc	TestCode: 8015GRO_W TestNo: SW8015	W Units: mg/L		Prep Date: Analysis Date: 1/27/2006	(27/2006	RunNo: 18080 SeqNo: 445677		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit High	LowLimit HighLimit RPD Ref Val	%RPD RP	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5020	0.050	0.5	0	100	82.6	114 0.474	5.74	8.39	

 J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery limits H Holding times for preparation or analysis exceededR RPD outside accepted recovery limits .

Not Detected at the Reporting Limit

Value above quantitation range ш ŊD Qualifiers:

5/11

Page 2 of 7

ANALYTICAL QC SUMMARY REPORT

San Juan Refining 0401170

CLIENT:

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Work Order: 0601170						AINAL	I LUCE	AL UC SL	ANALY HCAL UC SUMMARY KEFURI	ELUN
Project: Baseline R	Baseline River Terrace Prior to Air Inj.	Inj.					Ĺ,	TestCode: 8	8021BTEX_W	
Sample ID: 5ML RB Client ID: ZZZZZ	SampType: MBLK Batch ID: R18080	TestCode	TestCode: 8021BTEX_W TestNo: SW8021	W Units: µg/L		Prep Date: Analvsis Date:	ite: te: 1/27/2006	900	RunNo: 18080 SeqNo: 445658	
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	<u></u> <u></u>	RPD Ref Val	%RPD RPI	RPDLimit Qual
Benzene Toluene	ON ON	1.0								
Ethylbenzene	QN	1.0								
Xylenes, Total	QN	3.0								
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode	: 8021BTEX	TestCode: 8021BTEX_W Units: µg/L		Prep Date:	te:		RunNo: 18080	
Client ID: ZZZZ	Batch ID: R18080	TestNo	TestNo: SW8021			Analysis Date:	te: 1/27/2006	906	SeqNo: 445659	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPI	RPDLimit Qual
Benzene	19.97	1.0	20	0	99.8	88.5	114			
Toluene	19.97	1.0	20	0	99.8	87.2	114			
Ethylbenzene	20.08	1.0	20	0	100	88.6	113			
Xylenes, Total	41.18	3.0	40	0	103	83.3	114			
Sample ID: 0601179-02A MS	SampType: MS	TestCode	TestCode: 8021BTEX_W	W Units: µg/L		Prep Date:	e:		RunNo: 18080	
Client ID: Gac 1 Eff	Batch ID: R18080	TestNo	TestNo: SW8021			Analysis Date:	te: 1/27/2006)06	SeqNo: 445663	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPI	RPDLimit Qual
Benzene	19.31	1.0	20	0	96.5	88.5	114			
Toluene	18.84	1.0	20	0	94.2	87.2	114			
Ethylbenzene	19.12	1.0	20	0	95.6	88.6	113			
Xylenes, Total	38.80	3.0	40	ο	0.76	83.3	114			
Sample ID: 0601179-02A MSD	SampType: MSD	TestCode:	TestCode: 8021BTEX_W	W Units: µg/L		Prep Date:	e:		RunNo: 18080	
Client ID: Gac 1 Eff	Batch ID: R18080	TestNo:	TestNo: SW8021		-	Analysis Date:	e: 1/27/2006	06	SeqNo: 445664	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD RPD	RPDLimit Qual
Benzene	19.40	1.0	20	0	97.0	88.5	114	19.31	0.506	27
Toluene	19.27	1.0	20	0	96.3	87.2	114	18.84	2.23	19
Ethylbenzene	19.32	1.0	20	0	96.6	88.6	113	19.12	1.01	10
	Value above quantitation range	-		Holding times for preparation or analysis exceeded	n or analysis	s exceeded	Ì	Analyte detected b	Analyte detected below quantitation limits	ts
ND Not Defected	Not Detected at the Reporting Limit		R RPD out	RPD outside accepted recovery limits	ery limits		s	pike Recovery ou	Spike Recovery outside accepted recovery limits	v limits

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	laio	5 5 5				
	64 864 RPDI imit	13				
ANALY IICAL UC SUMMANI NEL UN TestCode: 8021BTEX_W	RunNo: 18080 SeqNo: 445664 %RPD RP					
Code: 803		38.8 38.8				
Test	1/27/2006	114 38.8				
	Prep Date: Analysis Date: 1/27/2006	LowLimit H 83.3				
		%REC 98.0				
	Jnits: µg/L	SPK Ref Val				
		SPK value SPK 40				
	estCode: 8021BTE TestNo: SW8021	PQL SPK 3.0				
to Air Inj.						
San Juan Kerning 0601179 Baseline River Terrace Prior to Air Inj.	SampType: MSD Batch ID: R18080	Result 39.19				
San Juan Refining 0601179 Baseline River Ter						
ler:	Sample ID: 0601179-02A MSD Client ID: Gac 1 Eff	Analyte Xylenes, Total				
CLIENT: Work Ord Project:	Sampi Client	Analyte Xylenes,		7/11		

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Page 4 of 7

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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Not Detected at the Reporting Limit E Value above quantitation range ND Not Detected at the Reporting Li

Qualifiers:

CLIENT: San Juan Refining	fining					ANALY	ANALYTICAL QC SUMMARY REPORT	SUMMA	RY REPC)RT
	Baseline River Terrace Prior to Air Inj.	ir Inj.					TestCode	TestCode: HG_CTW	Λ	
Sample ID: MB-9625 Client ID: ZZZZ	SampType: MBLK Batch ID: 9625	TestCode: Hg_CTW TestNo: SW7470	stCode: Hg_CTW TestNo: SW7470	Units: mg/L (SW7470)		Prep Date: 1/20/2006 Analysis Date: 1/20/2006	1/20/2006 1/20/2006	RunNo: 17989 SeqNo: 442366	17989 442366	
Analyte	Result	Pal S	SPK value	SPK Ref Val	%REC	LowLimit +	LowLimit HighLimit RPD Ref Val	al %RPD	D RPDLimit	Qual
Mercury	QN	0.00020								
Sample ID: LCS-9625 Client ID: ZZZZ	SampType: LCS Batch ID: 9625	TestCode: Hg_CTW TestNo: SW7470	stCode: Hg_CTW TestNo: SW7470	Units: mg/L (SW7470)		Prep Date: Analysis Date:	1/20/2006 1/20/2006	RunNo: 17989 SeqNo: 442367	17989 442367	
Analyte	Result	Pal S	SPK value	SPK Ref Val	%REC	LowLimit HighLimit	lighLimit RPD Ref Val	al %RPD	D RPDLimit	Qual
Mercury	0.004124	0.00020	0.005	0	82.5	80	120			
Sample ID: 0601179-01BMS Client ID: ZZZZ	SampType: MS Batch ID: 9625	TestCode: HG_CTW TestNo: SW7470	estCode: HG_CTW TestNo: SW7470	Units: mg/L (SW7470)		Prep Date: Analysis Date:	1/20/2006 1/20/2006	RunNo: 17989 SeqNo: 442385	17989 442385	
Analyte	Result	PQL S	SPK value	SPK Ref Val	%REC	LowLimit F	HighLimit RPD Ref Val	al %RPD	D RPDLimit	Qual
Mercury	0.004129	0.00020	0.005	ο	82.6	75	125			
Sample ID: 0601179-01BMSD Client ID: ZZZZ	SampType: MSD Batch ID: 9625	TestCode: HG_CTW TestNo: SW7470	HG_CTW SW7470	Units: mg/L (SW7470)		Prep Date: Analysis Date:	1/20/2006 1/20/2006	RunNo: 17989 SeqNo: 442386	17989 442386	
Analyte	Result	PQL S	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	al %RPD	D RPDLimit	Qual
Mercury	0.004262	0.00020	0.005	0	85.2	75	125 0.004129	.9 3.18	8 20	

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H Holding times for preparation or analysis exceededR PD outside accepted recovery limits

Not Detected at the Reporting Limit Value above quantitation range ыQ

Qualifiers:

Page 5 of 7

Analyte detected below quantitation limits

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Spike Recovery outside accepted recovery limits

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Work Order: 0601179 Project: Baseline	ban your receives 0601179 Baseline River Terrace Prior to Air Inj.	r Inj.					TestCode: METALS_TOTAL	Jode: M	METALS_TOTAL	TAL
Sample ID: MB-9615 Client ID: ZZZZ	SampType: MBLK Batch ID: 9615	TestCod	stCode: METALS_TO TestNo: SW6010A	O Units: mg/L		Prep Date: Analysis Date:	e: 1/19/2006 e: 1/20/2006		RunNo: 17983 SeqNo: 442110	
	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD R	RPDLimit Qual
Arsenic	QN	0.020					1			
Barium	QN	0.020								
Cadmium	QN	0.0020								
Chromium	ND	0.0060								
Lead	QN	0.0050								
Selenium Silver	Q Q	0.050 0.0050								
	CamaTuna: 100	TestCod	de: METALS TO	O Units: mg/L		Prep Date:	e: 1/19/2006		RunNo: 17983	
	Batch ID: 9615	TestN	Vo: SW6010A			Analysis Date:	e: 1/20/2006		SeqNo: 442101	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD R	RPDLimit Qual
Arsonic	0.4712	0.020	0.5	0	94.2	80	120			
Barium	0.4652	0.020	0.5	0	93.0	80	120			
Cadmium	0.4572	0.0020	0.5	0	91.4	80	120			
Chromium .	0.4752	0.0060	0.5	0	95.0	80	120			
Lead	0.4433	0.0050	0.5	0	88.7	80	120			
Selenium	0.4317	0.050	0.5	0	86.3	80	120			
Silver	0.4764	0.0050	0.5	0	95.3	80	120			
Sample ID: LCSD-9615	SampType: LCSD	TestCod	de: METALS_TO	O Units: mg/L		Prep Date:			RunNo: 17983	
Client ID: ZZZZ	Batch ID: 9615	TestN	Vo: SW6010A			Analysis Date:	e: 1/20/2006		SeqNo: 442102	5
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD R	RPDLimit Qual
	0.4736	0.020	0.5	0	94.7	80	120	0.4712	0.500	20
Arsenic	0.4662	0.020	0.5	0	93.2	80	120	0.4652	0.211	20
Codmine	0.4649	0.0020	0.5	0	93.0	80	120	0.4572	1.65	20
Cautitium	0.4763	0.0060	0.5	0	95.3	80	120	0.4752	0.235	20
	0.4476	0.0050	0.5	0	89.5	80	120	0.4433	0.956	20
Selenium	0.4415	0.050	0.5	0	88.3	80	120	0.4317	2.24	20
 ш	Value above quantitation range			Holding times for preparation or analysis exceeded	on or analysi	s exceeded	J Analyt	te detected be	Analyte detected below quantitation limits	imits
(Mot Detected of the Denorting Limit		R RPD OI	PDD outside accented recovery limits	ery limits			Recovery out	Spike Recovery outside accepted recovery littles	

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	San Juan Refining	· • •			A	ANALY	YTICAI	c oc su	ANALYTICAL QC SUMMARY REPORT	/ REPC	IRT	
Project: Baseline	Baseline River Terrace Prior to Air Inj.	- Inj.					Te	stCode: N	TestCode: METALS_TOTAL	OTAL		
Sample ID: LCSD-9615 Client ID: ZZZZ	SampType: LCSD Batch ID: 9615	TestCoa TestN	TestCode: METALS_TO TestNo: SW6010A	Units: mg/L	A	Prep Date: Analysis Date:	s: 1/19/2006 s: 1/20/2006	9 9	RunNo: 17983 SeqNo: 442102	102		
Analyte	Result	PQL	SPK value SPK	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual	
Silver	0.4772	0.0050	0.5	0	95.4	80	120	0.4764	0.179	20		l
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Page 7 of 7

Spike Recovery outside accepted recovery limits

J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery li

H Holding times for preparation or analysis exceeded R RPD outside accented reconcerded

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR		Date and Time Receive	1/19/2006
Work Order Numbe 0601179		Received by LMM	
Checklist completed by Like Hall	Date	Reviewed by	1/19/2101 Date
Matrix	Carrier name UPS		
Shipping container/cooler in good condition?	Yes 🔽	No 🗌 Not Presen 🗌	
Custody seals intact on shippping container/cooler?	Yes 🗹	No 🗌 Not Presen 🗍	
Custody seals intact on sample bottles?	Yes	No 🗹 Not Presen 🗌	
Chain of custody present?	Yes 🗹	No 🗌	
Chain of custody signed when relinquished and recei	ved? 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 🗔	
Container/Temp Blank temperature in compliance?	Yes 🗹	No 🗌	
Water - VOA vials have zero headspace? N	o VOA vials submitted	Yes 🗹 No 🗌	
Water - pH acceptable upon receipt?	Yes 🔽	No 🗌	
Adju	usted?C	hecked b	
Any No and/or NA (not applicable) response must be	e detailed in the comments section	on bel	
Client contacted Dat	e contacted:	Person contacted	
Contacted by: Reg	, garding		
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Comments: <u>TEAND</u>			
Corrective Action		· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • • •
· · · · · · · · · · · · · · · · · · ·			
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•	QA / QC Package;	,)
	Std 🗖 Level 4	HALL ENVIRONMENTAL
CHAIN-OF-CUSTODY RECORD		4901 Hawkins NE, Suite D
Client: SAN JUAN REPUING	Project Name: RAFELINE RIVER TERTACE	Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com
-	gir INU	
Address: # 50 Rd 4990		ANALYSIS REQUEST
Bloom Cold NW Q2413		
	Project Manager:	n0 ar 50_1) 32)
	(indy the take	:08) 2 :9i0\26 :9i0\26 :5 :5 :5 :5 :5 :5 :5 :5 :5 :5 :5 :5 :5
Phone #: 505-1032. 4161	Sampler:)))))))))))))))))))
Fax #: 505-632-391/	Sample Temperature: O	+ 381 708 bo 08 bor 08 bor 200 , 10 201 , 10 20
	Preservative	
Date Ime Matrix Sample I.U. No.	Number/Volume H9Cl ₂ HND ₃ HEAL No.	B1EX B220 B2310 B2310 B2310 B220 B220 B220 B220 B220 B220 B220 B2
VIEVER 1020 A HAU CAC INF	2-104 X DEUIT9-1	
	2-V0A X	×
	1-500ml X -1	
1025A GAC EFF	2-VOA X -3	
	2-V04 X -2	
1030A BACZEFF	2-64 × -3	
	2-00+ × -3	
Pate: Time: Relinquished By: (Sigulature)	Redeived By (Signature) 10:13 SUA JOUNY // G//SC Bereived By (Signature)	Remarks:



COVER LETTER

Thursday, February 09, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace GAC Analysis

Dear Cindy Hurtado:

Order No.: 0601298

Hall Environmental Analysis Laboratory received 3 sample(s) on 1/31/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

	ominentar / marysi		itor y			
CLIENT:	San Juan Refining			Client Sample I	D: GAC	INF
Lab Order:	0601298			Collection Dat	te: 1/30/2	2006 10:00:00 AM
Project:	River Terrace GAC A	nalysis		Date Receive	d: 1/31/2	2006
Lab ID:	0601298-01			Matri	ix: AQU	EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range (Drganics (DRO)	ND	1.0	mg/L	1	2/7/2006 10:06:10 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	2/7/2006 10:06:10 AM
Surr: DNOP		118	58-140	%REC	1	2/7/2006 10:06:10 AM
EPA METHOD	8015B: GASOLINE RANG	GE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	16	2.0	mg/L	40	2/3/2006 10:58:51 PM
Surr: BFB		108	79.7-118	%REC	40	2/3/2006 10:58:51 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		110	40	µg/L	40	2/3/2006 10:58:51 PM
Toluene		ND	40	µg/L	40	2/3/2006 10:58:51 PM
Ethylbenzene		1100	40	µg/L	40	2/3/2006 10:58:51 PM
Xylenes, Total		6400	120	µg/L	40	2/3/2006 10:58:51 PM
Surr: 4-Bron	nofluorobenzene	109	82.2-119	%REC	40	2/3/2006 10:58:51 PM

Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

Date: 09-Feb-06

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

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CLIENT:	San Juan Refining			Client Sa	nple ID:	GAC	1 EFF
Lab Order:	0601298			Collecti	on Date:	1/30/2	2006 10:15:00 AM
Project:	River Terrace GAC A	Analysis		Date R	eceived:	1/31/2	2006
Lab ID:	0601298-02				Matrix:	AQU	EOUS
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	organics (DRO)	ND	1.0	mg/L		1	2/7/2006 10:39:07 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L		1	2/7/2006 10:39:07 AM
Surr: DNOP		116	58-140	%REC		1	2/7/2006 10:39:07 AM
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L		1	2/3/2006 11:29:20 PM
Surr: BFB		106	79.7-118	%REC		1	2/3/2006 11:29:20 PM
EPA METHOD	8021B: VOLATILES						Anaiyst: NSB
Benzene		ND	1.0	µg/L		1	2/3/2006 11:29:20 PM
Toluene		ND	1.0	μg/L		1	2/3/2006 11:29:20 PM
Ethylbenzene		ND	1.0	µg/L		1	2/3/2006 11:29:20 PM
Xylenes, Total		ND	3.0	µg/L		1	2/3/2006 11:29:20 PM
Surr: 4-Brom	ofluorobenzene	99.4	82.2-119	%REC		1	2/3/2006 11:29:20 PM

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

Hall Environmental Analysis Laboratory

J Analyte detected below quantitation limits

 \dot{S} Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Date: 09-Feb-06

ND Not Detected at the Reporting Limit

Page 2 of 3

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Hall Envir	onmental Analysi	is Labora	tory	Date	∷ 09-Fe	<i>b-06</i>
CLIENT: Lab Order: Project:	San Juan Refining 0601298 River Terrace GAC A		.' .: .:	Client Sample ID Collection Date Date Received	e: 1/30/2	2006 10:30:00 AM
Lab ID:	0601298-03				: AQUI	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE		, , , , , , , , , , , , , , , , , , ,			Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L	1	2/7/2006 10:59:21 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	2/7/2006 10:59:21 AM
Surr: DNOP		121	58-140	%REC	1	2/7/2006 10:59:21 AM
EPA METHOD	8015B: GASOLINE RAN	GE				Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	2/3/2006 11:59:54 PM
Surr: BFB		105	79.7-118	%REC	1	2/3/2006 11:59:54 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	2/3/2006 11:59:54 PM
Toluene		ND	1.0	µg/L	1	2/3/2006 11:59:54 PM
Ethylbenzene		ND	1.0	µg/L	1	2/3/2006 11:59:54 PM
Xylenes, Total		ND	3.0	µg/L	1	2/3/2006 11:59:54 PM
Surr: 4-Brom	nofluorobe n zene	98.1	82.2-119	%REC	1	2/3/2006 11:59:54 PM

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- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

				•							
CLIENT: Work Order:	San Juan Refining 0601298	efining					ANAL	ANALYTICAL QC SUMMARY REPORT	SUMMA	RY REPO	DRT
Project:	River Terra	River Terrace GAC Analysis						TestCode	TestCode: 8015DRO_W	M ⁻ C	
Sample ID: MB-9709 Client ID: ZZZZ	709 Z	SampType: MBLK Batch ID: 9709	TestCo	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	V Units: mg/L		Prep Date: Analysis Date:	Prep Date: 2/6/2006 Ilysis Date: 2/7/2006	RunNo: 18170 SeqNo: 44788	RunNo: 18170 SeqNo: 447883	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val		%RPD RPDLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	ganics (DRO) Drganics (MRO)	QN N	1.0 5.0								
Sample ID: LCS-9709	9709	SampType: LCS	TestCo	TestCode: 8015DRO_W	N Units: mg/L		Prep Date	Prep Date: 2/6/2006	RunNo: 18170	18170	
Client ID: ZZZZ	N	Batch ID: 9709	- esi				Analysis Date:	e: 2///2006	Seq	SeqNo: 447884	
Analyte		Result	Par	SPK value	SPK Kef Val	%REC	LowLimit	%REC LOWLIMIT HIGHLIMIT KPU Ref Val		%RPD RPDLimit	Qual
Diesel Range Organics (DRO)	tanics (DRO)	5.945	1.0	2	0	119	81.2	149			
Sample ID: LCSD-9709	-9709	SampType: LCSD	TestCc	TestCode: 8015DRO_W	V Units: mg/L		Prep Date	Prep Date: 2/6/2006	RunNo: 18170	18170	
Client ID: ZZZZ	Z	Batch ID: 9709	Test	TestNo: SW8015		+	Analysis Date:	e: 2/7/2006	SeqNo:	SeqNo: 447885	
Analyte		Result	PQL	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	/al %RPD	PD RPDLimit	Qual
Diesel Range Organics (DRO)	anics (DRO)	5.781	1.0	5	0	116	81.2	149 5.945		2.80 23	

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Date: 09-Feb-0

Hall Environmental Analysis Laboratory

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- Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits s J

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

E Value above quantitation rangeND Not Detected at the Reporting Limit

Qualifiers:

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CLIENT: Work Order:	San Juan Refining 0601298	efining					ANALYTI	ANALYTICAL QC SUMMARY REPORT	MMARY	REPOF	ZT
Project:	River Terra	River Terrace GAC Analysis						TestCode: 8015GR0_W	015GRO_W		
Sarriple ID: 5ML RB Client ID: ZZZZZ	RB Z	SampType: MBLK Batch ID: R18156	TestCot Testh	stCode: 8015GRO_V TestNo: SW8015	TestCode: 8015GRO_W Units: mg/L TestNo: SW8015		Prep Date: Analysis Date: 2/3/2006	3/2006	RunNo: 18156 SeqNo: 447595		
Analyte		Result	PQL	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit Highl	%REC LowLimit HighLimit RPD Ref Val	%RPD R	%RPD RPDLimit Qual	Qual
Gasoline Range Organics (GRO))rganics (GRO)	ΩN	0:050								
Sample ID: 2.5UG GRO LCS Client ID: ZZZZZ	GROLCS Z	SampType: LCS Batch ID: R18156	TestCoc Testh	sstCode: 8015GRO_V TestNo: SW8015	TestCode: 8015GRO_W Units: mg/L TestNo: SW8015		Prep Date: Analysis Date: 2/3/2006	3/2006	RunNo: 18156 SeqNo: 447596	6	
Analyte		Result	PQL	SPK value SPK Ref Val	SPK Ref Val	%REC	LowLimit HighL	%REC LowLimit HighLimit RPD Ref Val	%RPD R	%RPD RPDLimit Qual	Qual
Gasoline Range Organics (GRO)	rganics (GRO)	0.4900	0.050	0.5	0	98.0	82.6	114			

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Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits - s

H Holding times for preparation or analysis exceededR PD outside accepted recovery limits

Not Detected at the Reporting Limit E Value above quantitation range ND Not Detected at the Reporting Li

Qualifiers:

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CLIENT:	San Juan Refining				ANALY	TICAL QC SU	ANALYTICAL QC SUMMARY REPORT	DRT
Work Order: Project:	0601298 River Terrace GAC Analysis					TestCode:	8021BTEX_W	
Sample ID: 5ML RB Client ID: ZZZZ	B SampType: MBLK Batch ID: R18156	TestCode: 8021BTt TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	2/3/2006	RunNo: 18156 SeqNo: 447505	
	Result	PQL SP	SPK value SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Doptooo	QN	1.0						
Toluene	QN	1.0						
Ethylbenzene	QN	1.0						
Xylenes, Total	QN	3.0						
Sample ID: 100NG BTEX LCS	BTEX LCS SampType: LCS	TestCode: 8	TestCode: 8021BTEX_W Units: µg/L		Prep Date:		RunNo: 18156	
Client ID: ZZZZ		TestNo: SW8021	\$W8021		Analysis Date:	2/3/2006	SeqNo: 447513	
Analyte	Result	PQL SP	SPK value SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
	19.64	1.0	20 0	98.2	88.5	114		
Delizerie	10.54	10		97.7	87.2	114		
r okuerte Ethivihonzone	19.68	0.1	20 0	98.4	88.6	113		
eurynuerzere 9 Xataroo Totol	40.05	3.0		100	83.3	114		
(S) (S) (S) (S) (S) (S) (S) (S) (S) (S)								
Qualifiers: E	Value above quantitation range		 Holding times for preparation or analysis exceeded RPD outside accented recovery limits 	ion or analysi very limits	s exceeded	J Analyte detected S Spike Recovery	Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits	ts
ND		•		*				

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Hall Environmental Analysis Laboratory

	Samp	le Receipt Che	ecklist		
Client Name SJR			Date and Time	Received:	1/31/2006
Work Order Number 0601298			Received by	LMM	
Checklist completed by July I	tedentes	1/ <u>3</u>)/ Date	6		
Mətrix	Carrier nam	e <u>UPS</u>			
Shipping container/cooler in good cor	ndition?	Yes 🔽	No 🗌	Not Present	
Custody seals intact on shipping cont	tainer/cooler?	Yes 🗹	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottle	es?	Yes 🗌	No 🗹	N/A	
Chain of custody present?		Yes 🔽	No 🗌		
Chain of custody signed when relingu	uished 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 indicate	d test?	Yes 🗹	No 🗌		
All samples received within holding ti	me?	Yes 🗹	No 🗌		
Water - VOA vials have zero headsp	ace? No VOA vials s	ubmitted	Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?		Yes	No 🗔	N/A	
Container/Temp Blank temperature?		4°	4° C ± 2 Accepta		
COMMENTS:					
					• •
Client contacted	Date contacted:	N	Pers	son contacted	
Contacted by:	Regarding				· · · · · · · · · · · · · · · · · · ·
Comments:	HC Inf	2	Uorly -	fruzen (k	usken upunkecoust
G	AC FH	Í í	Jun	· () ;	
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					131/06
					//
Corrective Action					· · · · · ·
· · · · · · · · · · · · · · · · · · ·					

STODY RECORD Oth Regention of the semilar Record Record Right Right of Arthon Number Sq // NM R74/L3 Project Right of Arthon Sampler Sq // 2-1/ CArc 1 EFF 2-1/ CArc 1 EFF 2-1/ Untrade Untrade Number Signature	A/ QC Package:	errace - CAC Awalysis www.hallenvironmental.com	ANALYSIS REQUEST		(1922) (1923) (1923)	00000000000000000000000000000000000000	4 (1/a-Jado 141) 1/10 1/10 1/10 1/10 1/10 1/10 1/10 1/	201, NO 201, NO 201, NO 201, NO 201, SU 201, S	Metho Metho (Metho (Metho (Metho (Metho (Metho Metho (Metho Metho (Metho Metho (Metho Metho (Metho Metho (Metho Metho (Metho Metho (Metho))))))))))))))))))))))))))))))))))))	ВТЕХ ВТЕХ ВТЕХ ВТРН КЛО ВОВ ВОВ 808 808 808 808 808 808 808 808 808 80	X reason X				X 2- X	X -3 X				
Strody RECORD DA/ DD Plotele Strody RECORD Other: BA/ 00 Plotele River Project Manage Project Manage River Project Manage Project Manage River Project Manage L River River L River Reservative HEAL No. River Reservative HEAL No. River Reservative R River Reservative R River R R R R R R R R R R R R R </td <td></td> <td></td> <td></td> <td>(Á)</td> <td>nO ənil</td> <td>ose9)</td> <td>1PH 58 (C 1PH</td> <td>+ 381 108 bo</td> <td>M + X Metho (Metho</td> <td>IPH I</td> <td></td> <td>×</td> <td></td> <td>$\boldsymbol{\chi}$</td> <td></td> <td>X</td> <td></td> <td></td> <td></td> <td>narks:</td>				(Á)	nO ənil	ose9)	1PH 58 (C 1PH	+ 381 108 bo	M + X Metho (Metho	IPH I		×		$\boldsymbol{\chi}$		X				narks:
CUSTODY RECORD Marix Sample I.D. No. Relinding	0A/0CF Std 🗖	Terrace - CAC	Project #:	L		((uddutade	07	Preservative	HgCl ₂ HNO ₃ HEAL NO.	X	×	× - 3	- X	× -3	- +				Bignhure) C1: 277 (LUXA) 1/3) J.C. (Sinnature)
	CHAIN-OF-CUSTODY RECORD	Client: Sav Juan Refinish	Dlilan	M			32-4101	505-633-3911			GAC	//	μų	, ,	Ce M	r /				Relinquished By (Signature)

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COVER LETTER

Wednesday, February 15, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - GAC Analysis

Dear Cindy Hurtado:

Order No.: 0602064

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/7/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



4901 Hawkins NEE Suite DE Albuquerque, NM 87109 505.345.3975E Fax 505.345.4107 www.hallenvironmental.com

	onmental Analys		•		Date:		
CLIEN'T: Lab Order: Project: Lab ID:	San Juan Refining 0602064 River Terrace - GAC 0602064-01	Analysis		С	lient Sample ID: Collection Date: Date Received: Matrix:	GAC 2/6/20 2/7/20	Inf 006 11:15:00 AM 006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
Diesel Range C Molor Oil Rang Surr: DNOP EPA METHOD	8015B: DIESEL RANGE)rganics (DRO) e Organics (MRO) 8015B: GASOLINE RAN a Organics (GRO)	ND ND 129	1.0 5.0 58-140 2.0		mg/L mg/L %REC mg/L	1 1 1	Analyst: SCC 2/14/2006 7:39:44 AM 2/14/2006 7:39:44 AM 2/14/2006 7:39:44 AM Analyst: NSB 2/7/2006 2:44:36 PM
Surr; BFB		109	79.7 - 118		%REC	40	2/7/2006 2:44:36 PM
Benzene Toluene Ethylbenzene Xylenes, Total	8021B: VOLATILES	100 ND 1000 6000 307	40 40 40 120 82.2-119		μg/L μg/L μg/L μg/L %REC	40 40 40 40 40	Analyst: NSB 2/7/2006 2:44:36 PM 2/7/2006 2:44:36 PM 2/7/2006 2:44:36 PM 2/7/2006 2:44:36 PM 2/7/2006 2:44:36 PM

Qualifiers:	•	Value exceeds Maximum Contaminant Level	В	Analyte detected in the associated Method Blank
	Е	Value above quantitation range	н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits		
				Page

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alysis Labora	itory	D	ate: 15-Fe	
ing		Client Sample	ID: GAC	1Eff
		Collection D	ate: 2/6/20	006 11:30:00 AM
GAC Analysis		Date Receiv	ed: 2/7/20	006
		Mat	rix: AQU	EOUS
Result	PQL	Qual Units	DF	Date Analyzed
ANGE				Analyst: SCC
ND	1.0	mg/L	1	2/14/2006 8:12:31 AM
ND	5.0	mg/L	1	2/14/2006 8:12:31 AM
125	58-140	%REC	1	2/14/2006 8:12:31 AM
E RANGE				Analyst: NSB
ND	0.050	mg/L	1	2/7/2006 3:15:21 PM
107	79.7-118	%REC	1	2/7/2006 3:15:21 PM
ES				Analyst: NSB
ND	1.0	µg/L	1	2/7/2006 3:15:21 PM
ND	1.0	µg/L	1	2/7/2006 3:15:21 PM
ND	1.0	µg/L	1	2/7/2006 3:15:21 PM
ND	3.0	µg/L	1	2/7/2006 3:15:21 PM
99.6	82.2-119	%REC	1	2/7/2006 3:15:21 PM
	ing GAC Analysis Result ANGE ND 125 E RANGE ND 107 ES ND ND ND ND ND	ing GAC Analysis Result PQL ANGE ND 1.0 ND 5.0 125 58-140 E RANGE ND 0.050 107 79.7-118 ES ND 1.0 ND 1.0 ND 1.0 ND 1.0 ND 3.0	ing Client Sample Collection D GAC Analysis Date Receiv Mat Result PQL Qual Units ANGE ND 1.0 mg/L ND 5.0 mg/L 125 58-140 %REC E RANGE E RANGE ND 0.050 mg/L 107 79.7-118 %REC ES ND 1.0 µg/L ND 1.0 µg/L ND 1.0 µg/L ND 1.0 µg/L ND 1.0 µg/L ND 3.0 µg/L	ing Client Sample ID: GAC Collection Date: 2/6/20 GAC Analysis Date Received: 2/7/20 Matrix: AQU <u>Result PQL Qual Units DF</u> ANGE ND 1.0 mg/L 1 ND 5.0 mg/L 1 125 58-140 %REC 1 E RANGE ND 0.050 mg/L 1 107 79.7-118 %REC 1 ES ND 1.0 µg/L 1 ND 1.0 µg/L 1 ND 1.0 µg/L 1 ND 3.0 µg/L 1

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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Hall Envir	onmental Analysis	Labora	•		te: 15-Fe	·b-06
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0602064 River Terrace - GAC A 0602064-03	-		Date Receiv	ID: GAC	006 11:45:00 AM 006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range C	8015B: DIESEL RANGE Organics (DRO) e Organics (MRO)	ND ND 126	1.0 5.0 58-140	mg/L mg/L %REC	1 1 1	Analyst: SCC 2/14/2006 8:45:33 AM 2/14/2006 8:45:33 AM 2/14/2006 8:45:33 AM
	8015B: GASOLINE RANG e Organics (GRO)	E ND 104	0.050 79.7-118	mg/L %REC	1 1	Analyst: NSB 2/7/2006 4:47:01 PM 2/7/2006 4:47:01 PM
Benzene Toluene Ethylbenzene Xylenes, Total	8021B: VOLATILES	ND ND ND 98.7	1.0 1.0 1.0 3.0 82.2-119	μg/L μg/L μg/L μg/L %REC	1 1 1 1 1	Analyst: NSB 2/7/2006 4:47:01 PM 2/7/2006 4:47:01 PM 2/7/2006 4:47:01 PM 2/7/2006 4:47:01 PM 2/7/2006 4:47:01 PM

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Value exceeds Maximum Contaminant Level

- Е Value above quantitation range
- J Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits S

В Analyte detected in the associated Method Blank

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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II.11 Emirronmentel Andrieie I sharetory	nolsseie I aborato	Ĩ							Date: 15-Feb-06	^c eb-06	
	טומוטטעד כוכלומווי	<u>م</u>									
CLIENT: San Juan Refining	efining					ANAL	ANALYTICAL QC SUMMARY REPORT	QC SUI	MMARY	REPO	RT
	River Terrace - GAC Analysis						TestC	ode: 8(TestCode: 8015GRO_W		
Sample ID: 5ML RB	SampType: MBLK	TestCod	TestCode: 8015GRO_W	W Units: mg/L		Prep Date:	te:		RunNo: 18182	2	
Client ID: ZZZZ	Batch ID: R18182	TestN	TestNo: SW8015		-	Analysis Date:	te: 2/7/2006		SeqNo: 448126	26	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	QN	0.050									
Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCod	TestCode: 8015GRO_W	W Units: mg/L		Prep Date:	te:		RunNo: 18182	2	
Client ID: ZZZZ	Batch (D: R18182	TestN	TestNo: SWB015		`	Analysis Date:	te: 2/7/2006		SegNa: 448127	27	••
Analyte	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	Ref Val	1 Oda%	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4980	0.050	0.5	σ	9 .66	82.6	114				
Sample ID: 0602064-03A MS	SampType: MS	TestCod	TestCode: 8015GRO_W	W Units: mg/L		Prep Date:	le:		RunNo: 18182	2	
Cilent ID: GAC 2 Eff	Batch ID: R1B182	TestN	TestNo: SW8015	-	•	Analysis Date:	te: 2/7/2006		SeqNo: 448135	35	
++++++++++++++++++++++++++++++++++++++	Result	Par	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.5020	0.050	0.5	D	100	82.6	114				
Sample ID: 0602064-03A MSD	SampType: MSD	TestCod	e: 8015GRO	TestCode: 8015GRO_W Units: mg/L		Prep Date:	:e:		RunNo: 18182	2	
Client ID: GAC 2 Eff	Batch (D: R18182	TestN	TestNo: SW8015		4	Analysis Date:	le: 2/7/2006		SeqNo: 448136	36	
Analyte	Result	POL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD	RPD Ref Val	%RPD 1	RPDLimit	Quat
Gasoline Range Organics (GRO)	0.5040	0.050	0.5	C	101	82.6	114	0.502	0.398	B.39	

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

шN Qualifiers:

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Anelyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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Value above quantitation range Not Detected at the Reporting Limit

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Result TestCot: ampType: Analysis Date:	CLIENT: San Juan Refining Work Order: 0602064	kefining					ANAL	YTICAL Q	C SU	ANALYTICAL QC SUMMARY REPORT	PORT
D. 5ML RB SampType: MBLK TestCode: B021BTEX_W Units: ppld: Prop Date: 277201 c. ZZZZ Batch Type: Result Pcu. SprW rafue SprW rafu Analysis Date: 277201 c. ZZZZ Batch Type: ND 1.0 ND 1.0 Analysis Date: 277201 c. ZZZZ Batch Type: ND 1.0 1.0 ND 1.0 Analysis Date: 277201 cond ND 1.0 1.0 3.0 3.0 Analysis Date: 277200 cond ND 1.0 3.0 3.0 3.0 3.13 4.14 cond 19.0 7.0 20 0 9.54 81.3 14.3 cond 19.0 10.0 20 0 9.56 81.3 14.3 cond 19.0 10.0 20 0 9.54 81.3 14.3 cond 19.0 10.0 20 0 9.5 83.3		ace - GAC Analysis						TestCo		8021BTEX_W	
Result PQL SPK value SPK fragt Val WREC LowLinnt HighLinnt ND 1.0 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.14 1.1	Sample ID: 5ML RB Client ID: 22222	SampType: MBLK Batch ID: R18182	TestCode: 8 TestNo: 5	021BTEX	W Units: µg/L		Prep Dati Analysis Dati	11		RunNo: 18182 SeqNo: 448115	
ND 1.0 1.0 ND 1.0 1.0 ND 1.0 1.0 ND 1.0 1.0 ND 1.0 1.0 ND 1.0 1.0 ND 1.0 1.0 ND 1.0 20 Pack Prep Date: Presult POL PRSUL Presult PRSUL Prest Pate <td>Analylė</td> <td>Result</td> <td></td> <td>oK value</td> <td>SPK Ref Val</td> <td>%REC</td> <td></td> <td></td> <td>tef Val</td> <td>%RPD RPDLimit</td> <td>imit Qual</td>	Analylė	Result		oK value	SPK Ref Val	%REC			tef Val	%RPD RPDLimit	imit Qual
NUG BTEX LCS TestCode: B021BTEX_W Units: Jpd. Prep Date: 27720 ZZZ Batch ID: R18182 TestNo: SW8021 Analysis Date: 27720 ZZZ Batch ID: R18182 TestNo: SW8021 Analysis Date: 27720 ZZZ Batch ID: R18182 1.0 SPK Kef Val %REC LowLinit 114 19.07 1.0 20 0 99.6 88.5 114 19.07 1.0 20 0 99.5 83.3 114 19.07 1.0 20 0 99.5 83.3 114 19.07 1.0 20 0 99.5 83.5 114 10.01 R18162 TestNo: SW8021 Analysis Date: 277200 AC1 Eff Batch ID: R18162 1.0 20 0 94.3 88.5 114 AC1 Eff Batch ID: R18162 TestNo: SW8021 Analysis Date: 277200	Benzene Toluene Ethylbenzene Xylenes, Total	8888	1.0 1.0 1.0 3.0								
ZZZ Batch ID: R18182 TestNo: SWB021 Analysis Date: Z7720 Result POL SPK value SPK Ref Val %REC LowLimit HighLimit Result 19.93 1.0 20 99.6 88.5 114 19.51 1.0 20 0 99.6 88.5 114 19.51 1.0 20 0 95.4 87.2 114 19.51 1.0 20 0 95.6 88.5 114 19.51 1.0 20 0 95.6 83.3 114 00064-02A MS SampType: MS TestCode: 8021BTEX_W Units: $\mug(L)$ Analysis Date: 277200 AC 1 Eff Batch ID: R18182 TestCode: 8021BTEX_W Minits: $\mug(L)$ Analysis Date: 277200 AC 1 Eff Batch ID: R18182 1.0 20 0 95.0 88.5 114 02064-02A MSD SampType: MS 1.0 20 0 94.3	Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8	021BTEX	W Units: µg/L		Prep Date	ai		RunNo: 18182	
Result PQL SPK value SPK Ref Val V/MEC LowLimit Hightlimit 19.07 1.0 20 9 9 8.5.5 114 19.07 1.0 20 9 9 8.6.5 114 19.07 1.0 20 0 9 8.6.5 114 19.07 1.0 20 0 9 8.6.5 114 19.07 1.0 20 0 9 9.5.6 88.6 113 39.75 SampType: MS TestCode: 8021BTEX_W Units: $\mu g/L$ Analysis Date: 277200 AC1 Eff Batch ID: R18182 TestCode: 8021BTEX_W Units: $\mu g/L$ Analysis Date: 277200 AC1 Eff PoL 20 0 95.4 83.3 114 02064-02A MS Feet/Dis TestCode: 8021BTEX_W Units: $\mu g/L$ Analysis Date: 277200 AC1 Eff PoL 20 0 95.4 83.3 114 02064-02A MS0 SampTy		Batch ID: R18182	TestNo: S	WB021			Analysis Date			SeqNo: 448116	
19.37 1.0 20 0 95.4 86.5 114 19.07 1.0 20 0 97.6 88.6 113 39.79 3.0 40 0 97.6 88.6 113 30.79 3.0 40 0 97.6 88.6 113 30.79 3.0 40 0 97.6 88.5 114 02084-02A MS SampType: MS TestCode: 8021BTEX_W Units: $\mu g/L$ Analysis Date: 277200 AC1 Eff Balch ID: R18182 TestCode: 8021BTEX_W Units: $\mu g/L$ Analysis Date: 277200 AC2 Eff Balch ID: R18182 1.0 20 0 94.4 87.2 114 A1201 110.01 1.0 20 0 94.4 87.2 114 A1401 201 1.0 201 201 94.4 87.2 114 A141 Propertion 201 201 94.4 94.4 87.2 114 A141 1.0 1.0 20 0 94.4 87.5 114 A141	Analyte	Result	ы	*K value	SPK Ref Val	%REC			tef Val	%RPD RPDLImit	imit Qual
19.07 1.0 20 0 95.4 87.2 114 19.51 1.0 20 0 97.6 86.6 113 30.79 3.0 40 0 97.6 86.6 113 30.79 3.0 40 0 95.6 83.3 114 02064-02A MS SampType: MS TestCode: 8021BTEX_W Units: µg/L Analysis Date: 277200 Act Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 277201 Act Leff Batch ID: R18182 1.0 20 0 94.3 84.6 114 Act Leff 18.83 1.0 20 0 94.3 84.6 114 Act Leff 18.86 1.0 20 0 94.3 83.6 114 Act Leff 1.0 20 20 0 94.3 83.6 114 Act Leff 1.0 20 20 0 94.3 83.5 114 Act Leff	Benzene	19.93	1.0	20	o	9.66	88.5	114			
19:51 1.0 20 0 97.6 88.6 113 39.79 3.0 40 0 99.5 83.3 114 02084-02A MS SampType: MS TestCode: 8021BTEX_W Units: µg/L Prep Date: 277/200 AC1 Eff Batch ID: R18162 TestCode: 8021BTEX_W Units: µg/L Analysis Date: 277/200 AC1 Eff Batch ID: R18162 TestCode: 8021BTEX_W Units: µg/L Analysis Date: 277/200 AC1 Eff Batch ID: R18162 1.0 20 0 94.1 87.2 114 AC1 Eff 10.0 20 0 94.1 87.2 114 AC1 Eff 1.0 20 0 94.1 87.2 114 AC1 Eff Batch ID: R18182 1.0 20 0 94.3 88.6 114 AC1 Eff Batch ID: R18182 1.0 20 0 94.3 83.3 114 AC1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 277200 AC1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 277200 AC1	Тоluene	19.07	1.0	20	0	95.4	87.2	114			
39.79 3.0 40 0 99.5 83.3 114 02064-02A MS SampType: MS TestCode: 8021BTEX_W Units: µg/L Prep Date: 2771200 02064-02A MS SampType: MS TestCode: 8021BTEX_W Units: µg/L Prep Date: 2771200 AC1 Eff Batch ID: R18182 TestKos: SW8021 Analysis Date: 2771200 AC1 Eff Batch ID: R18182 1.0 20 0 95.0 88.5 114 18.85 1.0 20 0 95.0 88.5 114 18.85 1.0 20 0 95.4 83.5 114 18.85 1.0 20 0 94.1 87.2 114 18.85 1.0 20 0 94.3 88.6 113 02064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Analysis Date: 277200 02064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Prep Date: 277200 02064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Analysis Date: 277200 AC1 Eff Batch ID: R	Ethyibenzene	19.51	1.0	20	o	97.6	88.6	113			
ID: 0602064-02A MS SampType: MS TestCode: 8021BTEX_W Units: $\mu g/L$ $Prep Date: 277200 : GAC 1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 277200 : GAC 1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 277200 : GAC 1 Eff Batch ID: R18.85 1.0 20 0 94.1 87.2 114 : 18.85 1.0 20 20 0 94.3 87.2 114 Zene 18.85 1.0 20 0 94.3 87.2 114 Zene 1.0 20 0 94.3 87.2 114 Zene 57.23 3.0 60 0 95.4 83.5 114 ID 5002064-02A MSD SampType: TestNo: SW8021 Analysis Date: 277200 ID 6002064-02A MSD SampType: MSD TestNo: SW8021 Analysis Date: 277200 ID 6002064-02A MSD $	Ji (ylenes, Total	39.79	3.0	40	0	99.5	83.3	114			
Image: Call of the section (Coll of the	Sample ID: 0602064-02A MS	SampType: MS	TestCode: 8	021BTEX	W Units: µg/L		Prep Date			RunNo: 18182	
Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit 2 19.01 1.0 20 95.0 88.5 114 2 18.85 1.0 20 94.1 87.2 114 2 18.85 1.0 20 94.3 89.5 114 2 10.0 20 0 94.3 89.5 114 2 10.0 20 0 94.3 89.5 114 2 10.0 20 0 94.3 89.5 114 2 10.0 20 0 95.4 83.3 114 10 20 60 0 95.4 83.5 114 10 20 60 0 95.4 83.5 114 11 11 10 20 90 95.4 83.3 277200 11 11 10 20 10 95.4 83.3 277200		Batch ID: R18182	TestNo: S	W8021			Analysis Date			SeqNo: 448124	
e 19.01 1.0 20 0 95.0 88.5 114 $radio 18.83 1.0 20 0 94.1 87.2 114 radio 18.85 1.0 20 0 94.3 87.2 114 radio 18.85 1.0 20 0 94.3 87.2 114 radio 18.85 1.0 20 0 94.3 88.6 113 radio 18.85 1.0 20 0 95.4 83.3 114 radio 57.23 3.0 60 0 95.4 83.3 114 radio 57.23 3.0 60 0 95.4 83.3 114 radio 57.23 3.0 60 0 95.4 83.3 114 radio 57.23 3.0 FestCode: 8021BTEX_W Units: µg/L Areb Date: 2772006 radio 20 20 20 20 20 10 114 radi<$	Analyte	Result		'K value	SPK Ref Val	%REC			tef Val	%RPD RPDLimit	mit Qual
114 10 20 0 94.1 87.2 114 nzene 18.86 1.0 20 0 94.3 86.6 113 nzene 18.86 1.0 20 0 94.3 86.6 113 nzene 57.23 3.0 60 0 95.4 83.3 114 i. Total 57.23 3.0 60 0 95.4 83.3 114 i. Total 57.23 3.0 60 0 95.4 83.3 114 i. Total 57.23 3.0 60 0 95.4 83.3 114 i. Total 57.23 TestCode: 8021BTEX_W Units: µg/L Prep Date: 2772005 i. GAC 1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 2772005 i. GAC 1 Eff Batch ID: R18182 Foll POL SPK value SPK Ref Val %REC LowImit RP R e 18.34 1.0 20 0 93.2 88.5 114 e 18.34 1.0 20 0 93.2 88.5 114	Benzene	19.01	1.0	20	o	95.0	88.5	114			
nzene 18.86 1.0 20 0 94.3 88.6 113 , Total 57.23 3.0 60 0 95.4 83.3 114 ID: 0602064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Prep Date: 27/2006 ID: 0602064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Prep Date: 27/2006 D: 0602064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Prep Date: 27/2006 D: 0602064-02A MSD Result POL SPK value SPK Ref Val Analysis Date: 27/2006 D: 0502 10 20 0 93.2 88.5 114	Taluene	18.83	1.0	20	D	94.1	87.2	114			
170tal 57.23 3.0 60 0 95.4 83.3 114 1D: 0602064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Prep Date: 1D: 0602064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Prep Date: 20: GAC 1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 277/2006 20: GAC 1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 277/2006 21: GAC 1 Eff Batch ID: R18182 TestNo: SW8021 Analysis Date: 217/2006 22: GAC 1 Eff Batch ID: R18182 1.0 20 0 93.2 88.5 114 22: Result 1.0 20 0 91.7 87.2 114	Ethylbenzene	18.86	1.0	20	0	94.3	88.6	113			
ID: 0602064-02A MSD SampType: MSD TestCode: 8021BTEX_W Units: µg/L Prep Date: D: GAC 1 Eff Balch ID: R18432 TestNo: SW8021 Analysis Date: 2/7/2006 D: GAC 1 Eff Balch ID: R18432 TestNo: SW8021 Analysis Date: 2/7/2006 D: GAC 1 Eff Balch ID: R1843 POL SPK value SPK Ref Val %REC LowLimit HighLimit RPD R D: 10 20 0 93.2 88.5 114 D: 10 20 0 91.7 87.2 114	Xylenes, Total	57.23	3.0	80	0	95.4	83.3	114			
Discription Cal Teff Batch ID: R18182 TestNo: SW8021 Analysis Date: 2/72006 Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD R Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit RPD R Result 10 20 0 93.2 88.5 114 Result 1.0 20 0 91.7 87.2 114	Sample ID: 0602064-02A MSD	SampType: MSD	TestCode: 8	021BTEX	W Units: µg/L		Prep Date			RunNo: 18182	
Result POL SPK value SPK Ref Val %REC LowLimit HighLimit RPD R a 18.63 1.0 20 0 93.2 88.5 114 a 18.34 1.0 20 0 91.7 87.2 114 a 4.0 0 0 0 91.7 87.2 114		Batch ID: R18182	TestNo: S	W8021			Analysis Date			SegNa: 448125	
18.63 1.0 20 0 93.2 86.5 114 18.34 1.0 20 0 91.7 87.2 114 18.72 10 20 0 91.7 87.2 114	Analyte	Result		'K value	SPK Ref Val	%REC			lef Val	%RPD RPDLimit	mit Qual
18.34 1.0 20 D 91.7 87.2 114 19.79 10 20 0 91.7 87.2 114	Benzene	18.63	1.0	20	0	93.2	88.5	114	19.01	1.98	27
	Toluene	18.34	1.0	20	٥	91.7	87.2	114	18.83	2.63	19
	Ethylbenzene	18.78	1.0	20	0	93.9	88.6	113	18.86	0.425	10
		Nal Detected at the Reporting Limit	¥		W.L. outside accepted recovery timits	stimit yr:		s Spike Ker	covery out	Spike Recovery outside accepted recovery limits	1

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EPORT	 		RPDLJmit Qual		imis
ANALYTICAL OC SUMMARY REPORT	8021BTEX_W	RunNo: 18182 SeqNo: 448125	%RPD RPD		Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits
L OC SU	TestCode: 8		LowLimit HighLimit RPD Ref Val		alyre detected be kee Recovery out
/TICA	L	: 2/7/2006	41ghLimit		ب م
ANALYTICA		Prep Date: Analysis Date:			e exceeded
			%REC		n or analysis ery limits
		Units: µg/L	SPK Ref Val		Holding times for preparation or analysis exceeded RPD outside accepted recovery limits
		TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021	SPK value SP		
		TestCode: 8021BTI TestNo: SW8021	POLS		ж <i>ч</i>
Ining	0602064 River Terrace - GAC Analysis	SampType: MSD Batch ID: R18182	Result		Value above quantitation range Not Detected at the Reporting Limit
San Juan Refining	0602064 River Тегтас	0602064-02A MSD GAC 1 Eff			
	Work Order: Project:	Sample ID: 0602064-02A MSD Client ID: GAC 1 Eff	Analyte	6/7	Qualifiers: B

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Hall Environmental Analysis Laboratory

	Sample	e Receipt Ch	necklist		
Client Name SJR			Date and Tim	e Received:	2/7/2006
Work Order Number 0602064	,		Received b	LMM	
Checklist completed by Light Health	Kod	217 Dote	106		
Matrix	Carrier name	UPS			
Shipping container/cooler in good condition?		Yes 🗹		Not Present	
Custody seals intact on shipping container/coole	r?	Yes 🗹	Νο	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 🗹			
Water - VOA vials have zero headspace?	No VOA vials sub	mitted 🔲	Yes 🗹	No 🗔	
Water - pH acceptable upon receipt?		Yes 🗌		N/A 🗹	
Container/Temp Blank temperature?		3°	4° C ± 2 Accep If given sufficie		
COMMENTS:					
Client contacted	Date contacted:		Pe	rson contacted	······
Contacted by:	Regarding				·
Comments:					
					194 • 4.197 • 6.1° • # ² • 1.111 • 1.111 • 1.111 • 1.111 • 1.111 • 1.111 • 1.111 • 1.111 • 1.111 • 1.111 • 1.111
Corrective Action		• • • • • • • • • • • • • • •			
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		AALL ENVIRUNMEN JAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	:xico 87709 Fax 505.345.4107																 	 			
	Ĺ		Albuquerque, New Mexico 871U3 Tel. 505.345.3975 Fax 505.34	шo	5				[\	/DV-in	182) (),	728											
		AALL ENVIRUNING ANALYSIS LABOR/ 4901 Hawkins NE, Suite D	Σщ. С	www.hallenvironmental.com	ANALYSIS REDUEST						V) 80												
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		Other:	Project Name:	River Ten	1		Project Manager:	<	Samplet:	Sample Temperaturle:	Ahimhar Anhum A		2~10A	D-V04	2-VOA-	2-10A	Q-104	2-164			-	<	Received By: (Signature) Received By: (Signature)
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		CHA	Client:		Address:				Phone #:	Fax #:		500/1 ·	2/06/0Le	~					4				Data: Data: Data:

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COVER LETTER

Monday, February 27, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - GAC Analysis

Dear Cindy Hurtado:

Order No.: 0602139

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/15/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

	onmental Analysi		•	Date:	27-Fe	<i>2b</i> -06
CLIENT:	San Juan Refining		(Client Sample ID:	GAC	Inf
Lab Order:	0602139			Collection Date:	2/14/2	2006 1:00:00 PM
Project:	River Terrace - GAC	Analysis		Date Received:	2/15/2	2006
Lab ID:	0602139-01			Matrix:	AQU	EOUS
Analyses		Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range (Drganics (DRO)	ND	1.0	mg/L	1	2/22/2006 11:49:25 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	2/22/2006 11:49:25 PM
Surr: DNOP		107	58-140	%REC	1	2/22/2006 11:49:25 PM
EPA METHOD	8015B: GASOLINE RAN	GE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	14	2.0	mg/L	40	2/15/2006 4:30:08 PM
Surr: BFB		109	79.7-118	%REC	40	2/15/2006 4:30:08 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		310	40	µg/L	40	2/15/2006 4:30:08 PM
Toluene		170	40	µg/L	40	2/15/2006 4:30:08 PM
Ethylbenzene		1000	40	µg/L	40	2/15/2006 4:30:08 PM
Xylenes, Total		5800	120	µg/L	40	2/15/2006 4:30:08 PM
Surr: 4-Bron	nofluorobenzene	110	82.2-119	%REC	40	2/15/2006 4:30:08 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level
	Е	Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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Hall Envir	onmental Analy	sis Labora	tory		e: 27-Fe	
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0602139 River Terrace - GA 0602139-02	C Analysis		Client Sample II Collection Dat Date Received	e: 2/14/2	1 Eff 2006 1:15:00 PM 2006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range O	Drganics (DRO)	ND	1.0	mg/L	1	2/23/2006 12:22:29 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	2/23/2006 12:22:29 AM
Surr: DNOP		133	58-140	%REC	1	2/23/2006 12:22:29 AM
EPA METHOD	8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L	1	2/15/2006 5:01:30 PM
Surr: BFB		104	79.7-118	%REĆ	1	2/15/2006 5:01:30 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	μg/L	1	2/15/2006 5:01:30 PM
Toluene		ND	1.0	µg/L	1	2/15/2006 5:01:30 PM
Ethylbenzene		ND	1.0	µg/L	1	2/15/2006 5:01:30 PM
Xylenes, Total		ND	3.0	µg/L	1	2/15/2006 5:01:30 PM
Surr: 4-Bron	nofluorobenzene	100	82.2-119	%REC	1	2/15/2006 5:01:30 PM



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Value exceeds Maximum Contaminant Level

E Value above quantitation range

- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

Hall Envir	conmental Analysis	Labora	tory	Dat	e: 27-Fe	eb-06
CLIENT:	San Juan Refining			Client Sample II	D: GAC	2 Eff
Lab Order:	0602139			Collection Dat	e: 2/14/2	2006 1:25:00 PM
Project:	River Terrace - GAC A	nalysis		Date Receive	d: 2/15/2	2006
Lab ID:	0602139-03			Matri	x: AQU	EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range (Drganics (DRO)	ND	1.0	mg/L	1	2/23/2006 12:55:36 AM
Motor Oil Rang	ge Organics (MRO)	ND	5.0	mg/L	1	2/23/2006 12:55:36 AM
Surr: DNOP		95.7	58-140	%REC	1	2/23/2006 12:55:36 AM
EPA METHOD	8015B: GASOLINE RANG	E				Analyst: NSB
Gasoline Rang	je Organics (GRO)	ND	0.050	mg/L	1	2/15/2006 7:37:26 PM
Surr: BFB		104	79.7-118	%REC	1	2/15/2006 7:37:26 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	2/15/2006 7:37:26 PM
Toluene		ND	1.0	µg/L	1	2/15/2006 7:37:26 PM
Ethylbenzene		ND	1.0	µg/L	1	2/15/2006 7:37:26 PM
Xylenes, Total		ND	3.0	µg/L	1	2/15/2006 7:37:26 PM
Surr: 4-Bror	nofluorobenzene	100	82.2-119	%REC	1	2/15/2006 7:37:26 PM

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Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

CLIENT: San Juan Refining Work Order: 0602139	Refining		ANALYTICAL QC SUMMARY REPORT	MMARY REPORT
	River Terrace - GAC Analysis		TestCode: 8015DRO_W	015DR0_W
Sample ID: MB-9825 Client ID: ZZZZ	SampType: MBLK Batch ID: 9825	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Prep Date: 2/21/2006 Analysis Date: 2/22/2006	RunNo: 18367 SeqNo: 453163
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	GN (C	1.0 5.0		
Sample (D: LCS-9825 Client ID: ZZZZZ	SampType: LCS Batch ID: 9825	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Prep Date: 2/21/2006 Analysis Date: 2/22/2006	RunNo: 18367 SeqNo: 453164
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.474	1.0 5 0	109 81.2 149	
Sample ID: LCSD-9825 Client ID: ZZZZ	SampType: LCSD Batch ID: 9825	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Prep Date: 2/21/2006 Analysis Date: 2/22/2006	RunNo: 18367 SeqNo: 453165
A Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.434	1.0 5 0	109 81.2 149 5.474	0.739 23

Date: 27-Feb-b

Hall Environmental Analysis Laboratory

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Page I

-4/7

CLIENT: San Juan Refining	cefining					ANAL	YTICA	ANALYTICAL QC SUMMARY REPORT	MMAR	Y REPC	RT
Project: River Terre	River Terrace - GAC Analysis						Ē	TestCode: 8015GRO_W	015GRO_	A	
Sample ID: 5ML RB Client ID: ZZZZZ	SampType: MBLK Batch ID: R18289	TestCod TestNi	TestCode: 8015GRO_W TestNo: SW8015	W Units: mg/L	1	Prep Date: Analysis Date:	te: 2/15/2006	9	RunNo: 18289 SeqNo: 450932	289 0932	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	DN	0.050									
Sample ID: 2.5UG GRO LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R18289	TestCod	TestCode: 8015GRO_W TestNo: SW8015	V Units: mg/L		Prep Date: Analysis Date:	e: 2/15/2006	9	RunNo: 18289 SeqNo: 450933	289 0933	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit		HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.4740	0.050	0.5	0	94.8	87 A	114				
						0.40	-				
							-				
F (7							<u>:</u>				
5 / 7							<u>.</u>				
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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

Not Detected at the Reporting Limit Value above quantitation range

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Qualifiers:

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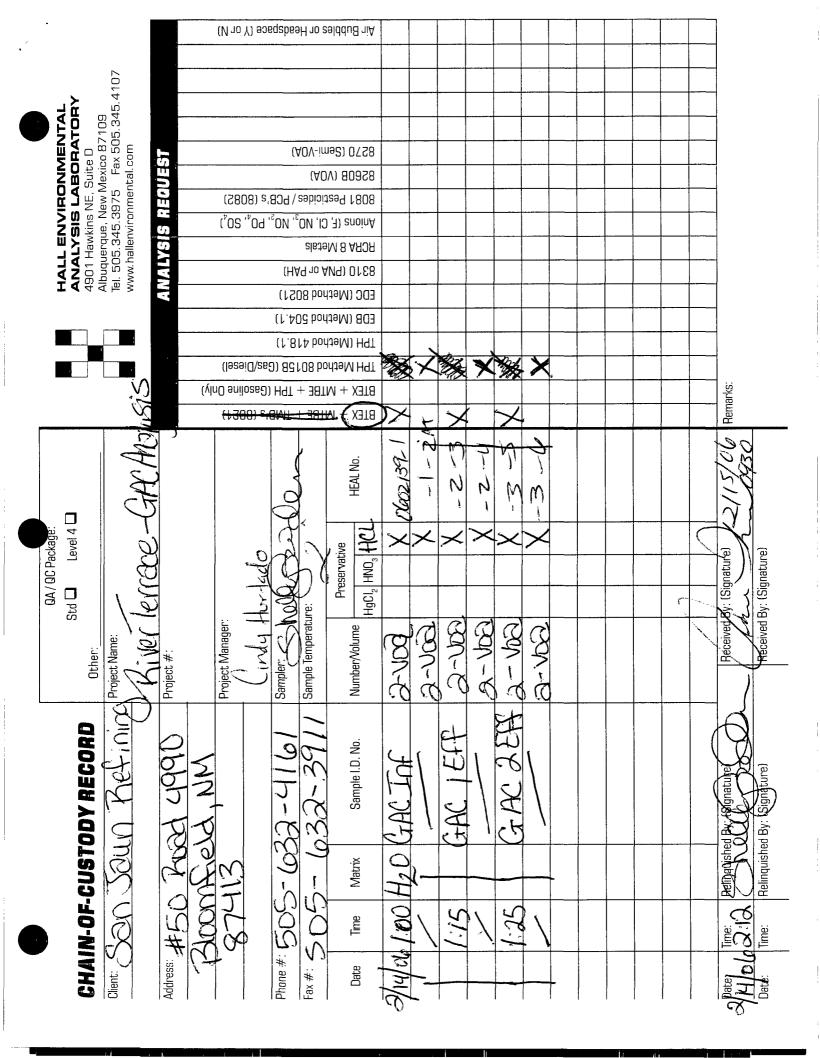
Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

Page 2

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CLIENT: Work Order:	San Juan Refining	lefining					ANALY	VTICAL QC SI	ANALYTICAL QC SUMMARY REPORT	
Project:	River Terra	River Terrace - GAC Analysis						TestCode:	8021BTEX_W	
Sample ID: 5ML RB Client ID: ZZZZ	RB Z	SampType: MBLK Batch ID: R18289	TestCoc TestN	stCode: 8021BTEX TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	s: 2/15/2006	RunNo: 18289 SeqNo: 450923	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene Toluene Ethylbenzene Xylenes, Total		2 2 <u>2</u> 2	1.0 1.0 3.0							
Sample ID: 100NG BTEX LCS	3 BTEX LCS	SampType: LCS	TestCod	e: 8021BTEX	TestCode: 8021BTEX_W Units: µg/L		Prep Date:		RunNo: 18289	
Client ID: ZZZZ	2	Batch ID: R18289	TestN	TestNo: SW8021		•	Anałysis Date:	: 2/15/2006	SeqNo: 450924	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit B	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene		19.30	1.0	20	0	96.5	88.5	114]
Toluene		19.33	1.0	20	0	96.6	87.2	114		
Ethylbenzene		20.44	1.0	20	0	102	88.6	113		
9 Xylenes, Total		41.25	3.0	40	0	103	83.3	114		
7										
Qualifiers: E ND		Value above quantitation range Not Detected at the Reporting Limit		H Holding R RPD ou	Holding times for preparation or analysis exceeded RPD outside accepted recovery limits	n or analysis ary limits	exceeded	J Analyte detected l S Spike Recovery on	Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits	

Page 3





COVER LETTER

Tuesday, February 28, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - GAC Analysis

Dear Cindy Hurtado:

Order No.: 0602206

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/22/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

River Terrace - GAC Analysis

San Juan Refining

0602206

0602206-01

CLIENT:

Project:

Lab ID:

Lab Order;

1/8

Collection Date: 2/21/2006 10:30:00 AM Date Received: 2/22/2006 Matrix: AQUEOUS

Analyses	Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range Organics (DRO)	ND	1.0	mg/L	1	2/28/2006 7:56:22 AM
Motor Oil Range Organics (MRO)	ND	5.0	mg/L	1	2/28/2006 7:56:22 AM
Surr: DNOP	139	58-140	%REC	1	2/28/2006 7:56:22 AM
EPA METHOD 8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range Organics (GRO)	18	2.5	mg/L	50	2/22/2006 7:35:17 PM
Surr: BFB	98.5	79.7-118	%REC	50	2/22/2006 7:35:17 PM
EPA METHOD 8021B: VOLATILES					Analyst: NSB
Benzene	290	50	µg/L	50	2/22/2006 7:35:17 PM
Toluene	170	50	µg/L	50	2/22/2006 7:35:17 PM
Ethylbenzene	1100	50	µg/L	50	2/22/2006 7:35:17 PM
Xylenes, Total	6300	150	μg/L	50	2/22/2006 7:35:17 PM
Surr: 4-Bromofluorobenzene	102	82.2-119	%REC	50	2/22/2006 7:35:17 PM

Client Sample ID: GAC Inf.

Date: 28-Feb-06

Qualifiers:

- Е Value above quantitation range
- Analyte detected below quantitation limits . J
- S Spike Recovery outside accepted recovery limits

Value exceeds Maximum Contaminant Level

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

ND - Not Detected at the Reporting Limit

Page 1 of 3



CLIENT: Lab Order:	San Juan Refining 0602206					e ID: GAC Date: 2/21/2	1 Eff :006 10:45:00 AM
Project:	River Terrace - GA	C Analysis			Date Rece	ived: 2/22/2	2006
Lab ID:	0602206-02				Ma	trix: AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	SE					Analyst: SCC
Diesel Range (Organics (DRO)	ND	1.0		mg/L	1	2/28/2006 8:29:26 AM
Motor Oil Rang	je Organics (MRO)	ND	5.0		mg/L	1	2/28/2006 8:29:26 AM
Surr: DNOP		115	58-140		%REC	1	2/28/2006 8:29:26 AM
EPA METHOD	8015B: GASOLINE RA	ANGE					Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	2/22/2006 8:32:03 PM
Surr: BFB		89.6	79.7-118		%REC	1	2/22/2006 8:32:03 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	2/22/2006 8:32:03 PM
Toluene		ND	1.0		µg/L	1	2/22/2006 8:32:03 PM
Ethylbenzene		ND	1.0		µg/L	1	2/22/2006 8:32:03 PM
Xylenes, Total		ND	3.0		µg/L	1	2/22/2006 8:32:03 PM
Surr: 4-Bron	nofluorobenzene	104	82.2-119		%REC	1	2/22/2006 8:32:03 PM

Qualifiers:

Value exceeds Maximum Contaminant Level * Value above quantitation range

Hall Environmental Analysis Laboratory

- E J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank

Date: 28-Feb-06

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0602206 River Terrace - GAC 0602206-03	2 Analysis		Date Receive	te: 2/21/2	2006 11:00:00 AM 2006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0	mg/L	1	2/28/2006 9:02:29 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	2/28/2006 9:02:29 AM
Surr: DNOP		108	58-140	%REC	1	2/28/2006 9:02:29 AM
EPA METHOD	8015B: GASOLINE RAN	IGE				Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	2/22/2006 10:25:21 PM
Surr: BFB		88.7	79.7-118	%REC	1	2/22/2006 10:25:21 PM
	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	2/22/2006 10:25:21 PM
Toluene		ND	1.0	µg/L	1	2/22/2006 10:25:21 PM
Ethylbenzene		ND	1.0	µg/L	1	2/22/2006 10:25:21 PM
Xylenes, Total		ND	3.0	µg/L	1	2/22/2006 10:25:21 PM
Surr: 4-Brom	ofluorobenzene	103	82.2-119	%REC	1	2/22/2006 10:25:21 PM

Date: 28-Feb-06

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

CLIENT: Work Order:	San Juan Refining 0602206	ning					ANALY	ANALYTICAL QC SUMMARY REPORT	oc sul	MMARY I	REPOI	RT
Project:	River Terrace	River Terrace - GAC Analysis						TestCi	ode: 8(TestCode: 8015DRO_W		
Sample ID: MB-9869 Client ID: ZZZZ		SampType: MBLK Batch ID: 9869	TestCo	stCode: 8015DRO TestNo: SW8015	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015		Prep Date: Analysis Date:	Prep Date: 2/27/2006 Ilysis Date: 2/28/2006		RunNo: 18412 SeqNo: 454270		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	Ref Val	%RPD RF	RPDLimit	Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	anics (DRO) rganics (MRO)	QN N	1.0 5.0									
Sample ID: LCS-9869 Client ID: ZZZZ	369	SampType: LCS Batch ID: 9869	TestCot TestN	TestCode: 8015DRO_W TestNo: SW8015	W Units: mg/L		Prep Date: Analysis Date:	: 2/27/2006 : 2/28/2006		RunNo: 18412 SeqNo: 454271	-	
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	%REC LowLimit HighLimit RPD Ref Val	Ref Val	%RPD RF	RPDLimit	Qual
Diesel Range Organics (DRO)	inics (DRO)	6.746	1.0	5	0	135	81.2	149				
Sample ID: LCSD-9869	9869	SampType: LCSD Batch ID: 9869	TestCoc Testh	stCode: 8015DRO TestNo: SW8015	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015		Prep Date: Analysis Date:	Prep Date: 2/27/2006 Ilysis Date: 2/28/2006		RunNo: 18412 SeqNo: 454272		
∕ / 		Result	PQL	SPK value	SPK Ref Val	%REC	%REC LowLimit H	HighLimit RPD Ref Val	Ref Val	%RPD RF	RPDLimit (Qual
Diesel Range Organics (DRO)	nics (DRO)	6.353	1.0	5	.0	127	81.2	149	6.746	6.00	23	

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Date: 28-Feb-0

Hall Environmental Analysis Laboratory

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H Holding times for preparation or analysis exceededR RPD outside accepted recovery limits

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

Analyte detected below quantitation limits
 Spike Recovery outside accepted recovery limits

Page 1

CLIENT: San Juan Refining Work Order: 0602206	efining		7	ANALYTICAL QC SUMMARY REPORT	MMARY REPORT
	River Terrace - GAC Analysis			TestCode:	TestCode: 8015GRO_W
Sample ID: 5ML RB Client ID: ZZZZ	SampType: MBLK Batch ID: R18364	TestCode: 8015GRO_W Units: mg/L TestNo: SW8015		Prep Date: Analysis Date: 2/22/2006	RunNo: 18364 SeqNo: 453009
Analyte	Result	PQL SPK value SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	DN	0.050			
Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: 8015GR0_W Units: mg/L		Prep Date:	RunNo: 18364
Client ID: ZZZZ	Batch ID: R18364	TestNo: SW8015	Ā	Analysis Date: 2/23/2006	SeqNo: 453011
Analyte	Result	PQL SPK value SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	0.4740	0.050 0.5 0	94.8	82.6 114	
Sample ID: 0602206-03A MS	SampType: MS	TestCode: 8015GRO_W Units: mg/L		Prep Date:	RunNo: 18364
Client ID: GAC 2 Eff	Batch ID: R18364	TestNo: SW8015	A	Analysis Date: 2/22/2006	SeqNo: 453015
Analyte	Result	PQL SPK value SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
 Sasoline Range Organics (GRO) 	0.4460	0.050 0.5 0	89.2	82.6 114	
Sample ID: 0602206-03A MSD	SampType: MSD	TestCode: 8015GRO_W Units: mg/L		Prep Date:	RunNo: 18364
Client ID: GAC 2 Eff	Batch ID: R18364	TestNo: SW8015	A	Analysis Date: 2/22/2006	SeqNo: 453016
Analyte	Result	PQL SPK value SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	0.4420	0.050 0.5 0	88.4	82.6 114 0.446	0.901 8.39

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Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

Not Detected at the Reporting Limit Value above quantitation range

шZ Qualifiers:

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Page 2

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits

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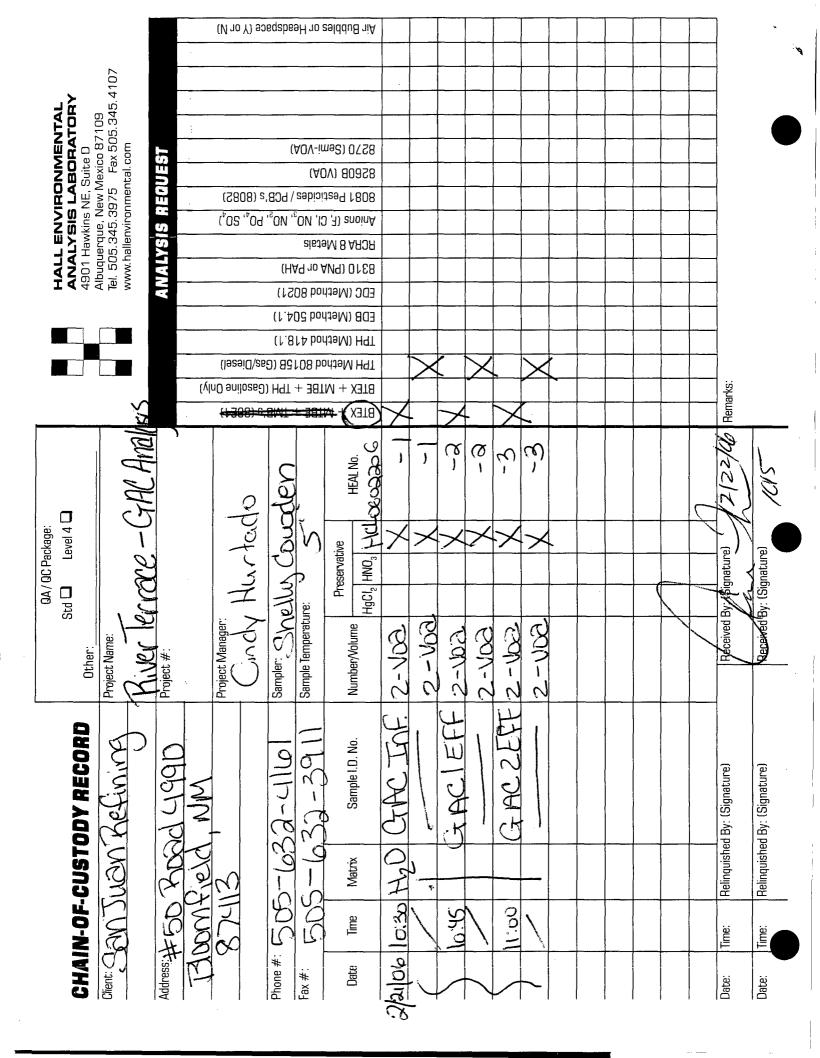
CLIENT: San Juan	San Juan Refining	1 1 . 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				ANAL	YTICAL	QC SU	ANALYTICAL QC SUMMARY REPORT	REPOI	RT
-	evour too River Terrace - GAC Analysis						Tes	TestCode: 8	8021BTEX_W	8	
ЦЗ	SampType: MBLK	TestCo	de: 8021BTE	TestCode: 8021BTEX_W Units: µg/L		Prep Date:			RunNo: 18364	4	
Client ID: ZZZZ	Batch ID: R18364	Test	TestNo: SW8021			Analysis Date:	te: 2/22/2006		SeqNo: 453076	76	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RF	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	QN :	1.0									
Toluene	Q G	1.0									
Ethylbenzene Xylenes, Total		3.0									
Sample ID: 100NG BTEX LCS	S SampType: LCS	TestCo	de: 8021BTE)	TestCode: 8021BTEX_W Units: µg/L		Prep Date:	te:		RunNo: 18364	4	
Client ID: ZZZZ	Batch ID: R18364	Test	TestNo: SW8021			Analysis Date:	te: 2/23/2006		SeqNo: 453077	77	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RP	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	20.78	1.0	20	0	104	88.5	114				
Toluene	21.35	1.0	20	0	107	87.2	114				
Ethylbenzene	21.32	1.0	20	0	107	88.6	113				
♥ (ylenes, Total	43.89	3.0	40	0	110	83.3	114				
© Sample ID: 0602206-02A MS	SampType: MS	TestCo	TestCode: 8021BTEX_W	(_W Units: µg/L		Prep Date:	:e		RunNo: 18364	-	
Client ID: GAC 1 Eff	Batch ID: R18364	Test	TestNo: SW8021			Analysis Date:	e: 2/22/2006		SeqNo: 453081	31	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RP	RPD Ref Val	%RPD F	RPDLimit (Qual
Benzene	20.99	1.0	20	0	105	88.5	114				
Toluene	21.18	1.0	20	0	106	87.2	114				
Ethylbenzene	21.34	1.0	20	0	107	88.6	113				
Xylenes, Total	43.81	3.0	40	0	110	83.3	114				
Sample ID: 0602206-02A MSD	D SampType: MSD	TestCoc	de: 8021BTEX_W	W Units: µg/L		Prep Date	e.		RunNo: 18364	_	
Client ID: GAC 1 Eff	Batch ID: R18364	TestN	Jo: SW8021			Analysis Date:	e: 2/22/2006		SeqNo: 453082	g	•••••
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	D Ref Val	%RPD F	RPDLimit (Qual
Benzene	20.90	1.0	20	0	104	88.5	114	20.99	0.420	27	
Toluene	20.92	1.0	20	0	105	87.2	114	21.18	1.25	19	
Ethylbenzene	21.07	1.0	20	0	105	88.6	113	21.34	1.29	10	
Qualifiers: E Value abo ND Not Detect	Value above quantitation range Not Detected at the Reporting Limit	ï	H Holdin R RPD o	Holding times for preparation or analysis exceeded RPD outside accepted recovery limits	n or analysis ery limits	exceeded	J Analy S Spike	yte detected he Recovery out	Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits	imits very limits	
											Page 3

ANALYTICAL QC SUMMARY REPORT TestCode: 8021BTEX_W	RunNo: 18364 2006 SeqNo: 453082	RPD Ref Val %	43.81 1.22 13	Analyte detected below quantitation limits
ANALYTIC	Prep Date: Analysis Date: 2/22/2006	LowLimit Hight	86 83.3 14	lysis exceeded
	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021	SPK value SPK Ref Val %REC	40 0 103	Holding times for preparation or analysis exceeded
	TestCode: 8021BTI TestNo: SW8021		O. m	I ·
San Juan Refining 0602206 River Terrace - GAC Analysis	SampType: MSD Batch ID: R18364	Result	43.28	Value above quantitation range
	Sample ID: 0602206-02A MSD Client ID: GAC 1 Eff			E Value above qu
CLIENT: Work Order: Project:	Sample ID: Client ID:	Analyte	Xylenes, Total	Qualifiers:

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Gaint	he receipt on	COMIDE		
ent Name SJR		Date and Time	Received:	2/22/2006
Work Order Number 0602206		Received by	AT	
Checklist completed by Jusce Heallowick	Date	168		
Matrix Carrier nam	ne <u>UPS</u>			
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 s	submitted	Yes 🔽	No 🗔	
ater - pH acceptable upon receipt?	Yes	No 🗌	N/A	
Container/Temp Blank temperature?	5°	4° C ± 2 Accepta If given sufficient		
COMMENTS:				
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Client contacted Date contacted:		Pers	on contacted	
Contacted by: Regarding				
Comments:				· ·····
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COVER LETTER

Tuesday, March 07, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: River Terrace - GAC Analysis

Dear Cindy Hurtado:

Order No.: 0603016

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/2/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			Client Sample I		
Lab Order:	0603016			Collection Da	te: 3/1/20	006 9:15:00 AM
Project:	River Terrace - GA	C Analysis		Date Receive	ed: 3/2/20	006
Lab ID:	0603016-01				ix: AQU	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L	1	3/5/2006 12:24:59 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	3/5/2006 12:24:59 AM
Surr: DNOP		119	58-140	%REC	1	3/5/2006 12:24:59 AM
EPA METHOD	8015B: GASOLINE RA	ANGE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	16	2.5	mg/L	50	3/4/2006 11:30:09 AM
Surr: BFB		100	79.7-118	%REC	50	3/4/2006 11:30:09 AM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene	,	210	50	µg/L	50	3/4/2006 11:30:09 AM
Toluene	;	110	50	μg/L	50	3/4/2006 11:30:09 AM
Ethylbenzene		1000	50	µg/L	50	3/4/2006 11:30:09 AM
Xylenes, Total	•	5800	150	µg/L	50	3/4/2006 11:30:09 AM
Surr: 4-Brom	nofluorobenzene	99.4	82.2-119	%REC	50	3/4/2006 11:30:09 AM

Date: 07-Mar-06

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

1/8

Page 1 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0603016 River Terrace - GA 0603016-02	C Analysis		Date Receive	te: 3/1/20	006 9:30:00 AM 006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANG	E				Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0	mg/L	1	3/5/2006 12:57:45 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	3/5/2006 12:57:45 AM
Surr: DNOP		115	58-140	%REC	1	3/5/2006 12:57:45 AM
EPA METHOD	8015B: GASOLINE RA	NGE				Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	3/4/2006 11:58:06 AM
Surr: BFB		92.9	79.7-118	%REC	1	3/4/2006 11:58:06 AM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	3/4/2006 11:58:06 AM
Toluene		ND	1.0	μg/L	1	3/4/2006 11:58:06 AM
Ethylbenzene		ND	1.0	μg/L	1	3/4/2006 11:58:06 AM
Xylenes, Total		ND	3.0	μg/L	1	3/4/2006 11:58:06 AM
Surr: 4-Brom	ofluorobenzene	103	82.2-119	%REC	1	3/4/2006 11:58:06 AM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

Hall Environmental Analysis Laboratory

J Analyte detected below quantitation limits

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

Date: 07-Mar-06

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

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Hall Environmental Analysis Labor			tory		e: 07-M	ar-06
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0603016 River Terrace - GA 0603016-03	C Analysis		Date Received	: GAC : 3/1/20	006 9:45:00 AM 006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range C	8015B: DIESEL RANG Drganics (DRO) de Organics (MRO)	E ND ND 136	1.0 5.0 58-140	mg/L mg/L %REC	1 1 1	Analyst: SCC 3/5/2006 1:30:29 AM 3/5/2006 1:30:29 AM 3/5/2006 1:30:29 AM
	8015B: GASOLINE RA e Organics (GRO)	NGE ND 94.9	0.050 79.7-118	mg/L %REC	1 1	Analyst: NSB 3/4/2006 1:22:09 PM 3/4/2006 1:22:09 PM
Benzene Toluene	8021B: VOLATILES	ND ND	1.0 1.0	μg/L μg/L	1 1	Analyst: NSB 3/4/2006 1:22:09 PM 3/4/2006 1:22:09 PM
Ethylbenzene Xylenes, Total Surr: 4-Bron	nofluorobenzene	ND ND 100	1.0 3.0 82.2-119	μg/L μg/L %REC	1 1 1	3/4/2006 1:22:09 PM 3/4/2006 1:22:09 PM 3/4/2006 1:22:09 PM

Qualifiers:

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Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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CLIENT: San Juan Work Order: 0603016	San Juan Refining 0603016			ANALYTICAL QC SUMMARY REPORT	UMMARY REPOR
	River Terrace - GAC Analysis			TestCode:	TestCode: 8015DRO_W
Sample ID: MB-9910 Clien: ID: ZZZZ	SampType: MBLK Batch ID: 9910	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	mg/L	Prep Date: 3/3/2006 Analysis Date: 3/4/2006	RunNo: 18472 SeqNo: 456143
Analyte	Result	PQL SPK value SPK Ref Val	al %REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	DN (O	1.0 5.0			
Sample ID: LCS-9910	SampType: LCS	TestCode: 8015DR0_W Units: mg/L	mg/L	Prep Date: 3/3/2006	RunNo: 18472
Client ID: ZZZZ	Batch ID: 9910	TestNo: SW8015		Analysis Date: 3/4/2006	SeqNo: 456144
Analyte	Result	PQL SPK value SPK Ref Val	al %REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.062	1.0 5 (0 101	81.2 149	
Sample ID: LCSD-9910	SampType: LCSD Batch ID: 9910	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	mg/L	Prep Date: 3/3/2006 Analysis Date: 3/4/2006	RunNo: 18472 SeqNo: 456145
/ ./nalyte	Result	POL SPK value SPK Ref Val	al %REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.370	1.0 5 0	0 107	81.2 149 5.062	5.90 23

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Date: 07-Mar-0

Hall Environmental Analysis Laboratory

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Not Detected at the Reporting Limit Value above quantitation range ыND

Qualifiers:

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits н х

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Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

Page I

Project: River Terrace - GAC Analysis Project: River Terrace - GAC Analysis Sample ID: SampType: Sample ID: SampType: Malyte Batch ID: Analyte Result Casoline Range Organics (GRO) ND Sample ID: 2.5UG GRO LCS-2 SampType: LCS	nalysis MBLK R18480			e e	
ID: 5ML RB-2 S D: ZZZZZ D: ZZZZZ D: ZZZZZ D: ZZZZZ SML RB-2 S ID: 2.5UG GRO LCS-2 S	MBLK R18480			l estCode: 8	TestCode: 8015GRO_W
e Range Organics (GRO) ID: 2.5UG GRO LCS-2 SampType: I		TestCode: 8015GRO_W Units: mg/L TestNo: SW8015	Prep Date: Analysis Date: 3/4/2006	3/4/2006	RunNo: 18480 SeqNo: 456357
	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	ghLimit RPD Ref Val	%RPD RPDLimit Qual
	DN	0.050			
	LCS	TestCode: 8015GRO_W Units: mg/L	Prep Date:	00001710	RunNo: 18480
0: 22222 Batch IU: 1	K18480	Stino: SW8U15			
Analyte	Result	PUL SPR value SPR Kel val		קחרותונ ארט אפו Val	
Gasoline Range Organics (GRO) 0	0.4520 (0.050 0.5 0	90.4 82.6	114	
Sample ID: 0603016-03A MS SampType: MS		TestCode: 8015GRO_W Units: mg/L	Prep Date:		RunNo: 18480
Client ID: GAC 2 EFF Batch ID: R18480	R18480	TestNo: SW8015	Analysis Date:	3/4/2006	SeqNo: 456366
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit Qual
G 3asoline Range Organics (GRO)	0.4580 (0.050 0.5 0	91.6 82.6	114	
Sample ID: 0603016-03A MSD SampType: MSD		TestCode: 8015GRO_W Units: mg/L	Prep Date:		RunNo: 18480
Client (D: GAC 2 EFF Batch ID: R18480	R18480	TestNo: SW8015	Analysis Date: 3/4/2006	3/4/2006	SeqNo: 456367
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit Hi	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	0.4320 0	0.050 0.5 0	86.4 82.6	114 0.458	5.84 8.39

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 H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits RPD outside accepted recovery limits

E Value above quantitation range ND Not Detected at the Reporting Limit

Qualifiers:

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Spike Recovery outside accepted recovery limits J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery li Page 2

CLIENT: San Juan Refining Work Ordor: 0603016	Refining)		ANAL	YTICAL (QC SU	ANALYTICAL QC SUMMARY REPORT	REPOF	Z
	River Terrace - GAC Analysis						Test(TestCode: 8	8021BTEX_W		
Sample ID: 5ML RB Client ID: ZZZZ	SampType: MBLK Batch ID: R18480	TestCo	stCode: 8021BTE TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	le: 3/3/2006		RunNo: 18480 SeqNo: 456368		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPC	RPD Ref Val	%RPD RF	RPDLimit 0	Qual
Benzene Toluene Ethylbenzene Xylenes, Total		1.0 1.0 1.0 3.0									
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCo	ode: 8021BTE)	TestCode: 8021BTEX_W Units: µg/L		Prep Date:	e:		RunNo: 18480		
Client ID: ZZZZ	Batch ID: R18480	Test	tNo:- SW8021			Analysis Date:	e: 3/4/2006		SeqNo: 456369		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD RP	RPDLimit C	Quał
Benzene	20.14	1.0	20	0	101	88.5	114			i	i
Toluene	20.49	1.0	20	0	102	87.2	114				
Ethylbenzene	20.28	1.0	20	0 0	101	88.6 62.5	113				
	04.14	3.0.	0 ⁴	0	104	ά3.3	114				
Sample ID: 0603016-02A MS	SampType: MS	TestCo	TestCode: 8021BTEX_W	(_W Units: µg/L		Prep Date:			RunNo: 18480		
Client ID: GAC EFF 1	Batch ID: R18480	Test	TestNo: SW8021			Analysis Date:	e: 3/4/2006		SeqNo: 456383		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD RP	RPDLimit Q	Qual
Benzene	20.38	1.0	20	0	102	88.5	114				
Toluene	20.67	1.0	20	0	103	87.2	114				
Ethylbenzene	20.43 42 37	0.1	20	0	102	88.6 02.2	113				
Sample ID: 0603016-02A MSD	SampType: MSD	TestCod	le: 8021B	ٽ ڪ		Prep Date:			RunNo: 18480		
Client ID: GAC EFF 1	Batch ID: R18480	TestN	No: SW8021			Analysis Date:	e: 3/4/2006		SeqNo: 456384		
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD	RPD Ref Val	%RPD RPI	RPDLimit Q	Qual
Benzene	20.37	1.0	20	0	102	88.5	114	20.38	0.0589	27	
Toluene	20.78	1.0	20	0	104	87.2	114	20.67	0.521	19	
Ethylbenzene	20.64	1.0	20	0	103	88.6	113	20.43	0.993	10	
Qualifiers: E Value above of ND Not Detected	Value above quantitation range Not Detected at the Reporting Limit		H Holdir R RPD o	Holding times for preparation or analysis exceeded RPD outside accepted recovery limits	on or analysis ery limits	exceeded	J Analyte S Spike R	e detected be tecovery out	Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits	its ary limits	
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Page 3

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Work Urder: Project:	San Juan Retining 0603016 River Terrace - G	0603016 River Terrace - GAC Analysis						T	estCode: 8	ANALY IICAL UC SUMMAKY KEPUKI TestCode: 8021BTEX_W	KEPU.	
Sample ID: 0603016-02A MSD	016-02A MSD	SampType: MSD	TestCode	8021BTEX	TestCode: 8021BTEX_W Units: µg/L		Prep Date:	 		RunNo: 18480		
Client ID: GAC	GAC EFF 1	Batch ID: R18480	TestNc	TestNo: SW8021		A	Analysis Date:	te: 3/4/2006		SeqNo: 456384	84	
Analyte	,	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	LowLimit HighLimit RPD Ref Val	%RPD F	RPDLimit	Qual
Xylenes, Total		42.88	3.0	40	0.736	105	83.3	114	42.37	1.20	13	
F (0												
7.10												
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Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

- s Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

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Not Detected at the Reporting Limit Value above quantitation range ыND

Qualifiers:

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	Sample Receipt Che	ecklist		
lent Name SJR		Date and Time	Received:	3/2/2006
Work Order Number 0603016		Received by	LMM	
Checklist completed by Juja Hellykuz	Date 3/2/	90		
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 recei	ived? 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 🗔		
Vater - VOA vials have zero headspace? N	o VOA vials submitted	Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?	Yes	No 🗌	N/A 🔽	
Container/Temp Blank temperature?	5°	4° C ± 2 Accepta If given sufficient		
COMMENTS:				
			•	
Client contacted Da	te contacted:	Pers	on contacted	
	garding			
Comments: JKV CH	Collection.	fimes .	on loc.	are
Correct /17 - 31210	Collectron .			
<i>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</i>				
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				· · · · · · · · · · · · · · · · · · ·
Corrective Action		, .		

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	4901 Hawkins NE, Suite D	Albuquerque, New Mexico 871U9 Tel. 505.345.3975 Fax 505.345.4107		ANALYSIS REQUEST		ne One Con 504,) 504,)	əi()\26i	/ bCB ^{3,} /O ⁵ 151) 151) 151) 151) 1510 1510 1511 1511	08 bor 74 bor 28 bor 79 bor 8 bor 49 no 70 10 70 70 70 70 70 70 70 70 70 70 70 70 70	BTEX → M BTEX + M TPH Methor BOG (Meth BOG (Meth BOG (PN BOG (PN BOG (PN BOG (PN BOG (PN BOG (PN BOG (PN BOG (PN BOG (PN CEN BOG (PN CEN								Remarks:	
QA/ QC Package:	Other:	Client: San Juan John Ma Project Name:	Priver Tenter-CAR Analysis		Bleamfield, NM	Project Manager:	Cindy Hurtado	#: 505-632-4/61 Smiller Smiller Concer		Sample I.D. No. Number/Volume HgCl ₂ HND ₃ NCL CC3	 1- X - 2-100) A:30] JACEPT 3-VOR [X -2]		~ X - 3-403 X -3				Date: Time: Relinquished By: (Signature) Repeived By: (Signature) Conditioned By: (Signature) Conditioned By: (Signature) Date: Time: Relinquished By: (Signature) Received By: (Signature)	



COVER LETTER

Thursday, March 16, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis - 3/08/06

Dear Cindy Hurtado:

Order No.: 0603111

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/9/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



4901 Hawkins NE Suite De Albuquerque, NM 87109 505.345.3975 s Fax 505.345.4107 www.hallenvironmental.com

CLIENT: Lab Order: Project: Lab ID;	San Juan Refining 0603111 GAC Analysis - 3/08/06 0603111-01			С	lient Sample ID: Collection Date: Date Received: Matrix:	3/8/20 3/9/20	006 9:00:00 AM 006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					-	Analyst: SCC
Diesel Range C	Irganics (DRO)	ND	1.0		mg/L	1	3/16/2006 3:52:04 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	3/16/2006 3:52:04 AM
Surr: DNOP		120	58-140		%REC	1	3/16/2006 3:52:04 AM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	14	2.5		mg/L	50	3/14/2006 3:45:18 AM
Surr: BFB		100	79,7-118		%REC	50	3/14/2006 3:45:18 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		220	50		µg/L	50	3/14/2006 3:45:18 AM
Toluene		130	50		µg/L	50	3/14/2006 3:45:18 AM
Elhylbenzene		920	50		µg/L	50	3/14/2006 3:45:18 AM
Xylenes, Total		5200	150		µg/L	50	3/14/2006 3:45:18 AM
Surr: 4-Brom	ofluorobenzene	109	82.2-119		%REC	50	3/14/2006 3:45:18 AM

Qualifiers: * Value exceeds Maximum Contaminant Level

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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Hall Envir	onmental Analysis	Labora	tory	Date	:: 16-M	ar-()6
CLIENT: Lab Order:	San Juan Refining 0603111			Client Sample ID		1 EFF 006 9:10:00 AM
Project: Lab ID:	GAC Analysis - 3/08/06 0603111-02			Date Received		006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0	mg/L	1	3/16/2006 4:25:22 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	3/16/2006 4:25:22 AM
Surr: DNOP		127	58-140	%REC	1	3/16/2006 4:25:22 AM
EPA METHOD	8015B: GASOLINE RANG	=				Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	3/14/2006 10:56:13 AM
Surr: BFB		90.5	79.7-118	%REC	1	3/14/2006 10:56:13 AM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	μg/L	1	3/14/2006 10:56:13 AM
Toluene		ND	1.0	µg/L	1	3/14/2006 10:56:13 AM
Elhyibenzene		ND	1.0	μα/L	1	3/14/2006 10:56:13 AM
Xylenes, Total		ND	3.0	μg/L	1	3/14/2006 10:56:13 AM
Surr: 4-Brom	ofluorobenzene	9 9.2	82.2-119	%REC	1	3/14/2006 10:56:13 AM

Qualifiers:

- Е Value above quantitation range
- Analyte detected below quantitation limits j
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

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H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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CLIENT:	San Juan Refining			Client Sar	nple ID: C	GAC	2 EFF
Lab Order:	0603111			Collectio	on Date: 3	/8/20	06 9:15:00 AM
Project:	GAC Analysis - 3/08/06			Date R	eceived: 3	/9/20	06
Lab ID:	0603111-03				Matrix: A	AQUE	EOUS
Analyses	-	Result	PQL	Qual Units	1)F	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range (Drganics (DRO)	ND	1.0	mg/L	1		3/16/2006 4:58:43 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1		3/16/2006 4:58:43 AM
Surr: DNOP		120	58-140	%REC	1		3/16/2006 4:58:43 AM
EPA METHOD	8015B: GASOLINE RANGE	-					Ánalyst: NSB
	e Organics (GRO)	ND	0.050	mg/L	1		3/14/2006 11:24:08 AM
Surr: BFB	2	94.7	79.7-118	%REC	1		3/14/2006 11:24:08 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene	· · · · · · · · · · · · · · · · · · ·	ND	1.0	µg/L	1		3/14/2006 11:24:08 AM
Toluene		ND	1.0	µg/L	1		3/14/2006 11:24:0B AM
Ethylbenzene		ND	1.0	µg/L	1		3/14/2006 11:24:08 AM
Xylenes, Total		ND	3.0	µg/L	1		3/14/2006 11:24:08 AM
Surr: 4-Bron	nofluorobenzene	99.2	82.2-119	%REC	1	I	3/14/2006 11:24:08 AM

Analyte detected in the associated Method Blank Value exceeds Maximum Contaminant Level В Qualifiers: ٠ H Holding times for preparation or analysis exceeded E Value above quantitation range Analyte detected below quantitation limits ND Not Detected at the Reporting Limit ł

S Spike Recovery outside accepted recovery limits

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Page 3 of 3

Qualifiers: E Value above ND Not Detected	8/7	Diesel Range Organics (DRO) Molor Oil Range Organics (MRO)	Analyte	Sample ID: LCSD-9976 Client ID: ZZZZZ	Hall Environmental Analysis Laboratory CLIENT: San Juan Refining Work Order: 0603111 Project: GAC Analysis - 3/08/06
Value above quantitation range Not Detected at the Reporting Limit		5.766) ND	Result	SampType: LCSD Batch ID: 9976	mental Analysis Laboratoı San Juan Refining 0603111 GAC Analysis - 3/08/06
		1.0 5.0	PQL S	TeslCode: TeslNo:	
H Holding ti R RPD oursi		CI	SPK value S	TestCode: 8015DRO_W TestNo: SW8015	
Holding times for preparation or analysis exceeded RPD outside accepted recovery limits		O	SPK Ref Val	/ Units: mg/L	
or analysis exc / limits		1 15	%REC L	An	⊳
recided		81.2	LowLimit Hig	Prep Date: Analysis Date:	NALY
J Analyte detected be 5 Spike Recovery out:		149	HighLimit RPD Ref Val	3/14/2006 3/16/2006	TICAL QC SU TestCode: 8
Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits			%RPD RPDLimit	RunNo: 1 8596 SeqNo: 461040	Date: 16-Mar-06 ANALYTICAL QC SUMMARY REPORT TestCode: 8015DRO_W
Page 1			Qual)RT

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CLIENT: Wark Order:

San Juan Refining

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ANALYTICAL QC SUMMARY REPORT

TestCode: 8015GRO_W Units: mg/L	Prep Dale:	RunNo: 18565
TesINo: SW8015	Analysis Date: 3/13/2006	SeqNo: 460322
SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TestCode: 8015GRO_W Units: mg/L	Prep Date:	RunNo: 18582
TestNo: SW8015	Analysis Date: 3/14/2006	SeqNo: 460723
SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
TeslCode: 8015GRO_W Units: mg/L	Prep Date:	RunNo: 18565
TestNo: SW8015	Analysis Date: 3/13/2006	SeqNo: 460323
SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
0.5 0	97.2 82.6 114	
TestCode: 8015GRO_W Units: mg/L	Prep Date:	RunNo: 18582
TestNo: SW8015	Analysis Date: 3/15/2006	SeqNo: 460724
SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
0.5 0	96.4 82.6 114	
TestCode: 8015GRO_W Units: mg/L	Prep Dale:	RunNa: 18565
TestNo: SW8015	Analysis Date: 3/13/2006	SeqNo: 460324
SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
0.5 0	104 82.6 114 0,486	6.37 8.39
- 나온 동물에 나온 동편에 나온 동편에 나온 동편에 나온 동편에	Vinits: mg/L PK Ref Val PK Ref Val PK Ref Val PK Ref Val Vinits: mg/L Units: mg/L Units: mg/L	Units: mg/L Prep Date PK Ref Val %REC LowLimit PK Ref Val %REC LowLimit Dnits: mg/L Prep Date Analysis Date PK Ref Val %REC LowLimit PK Ref Val %AEC LowLimit

Qualifiers: E Value above quantitation range ND Not Detected at the Reporting Limit

ът Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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ഗ് Spike Recovery outside accepted recovery fimits Analyte detected below quantitation limits

Page 2

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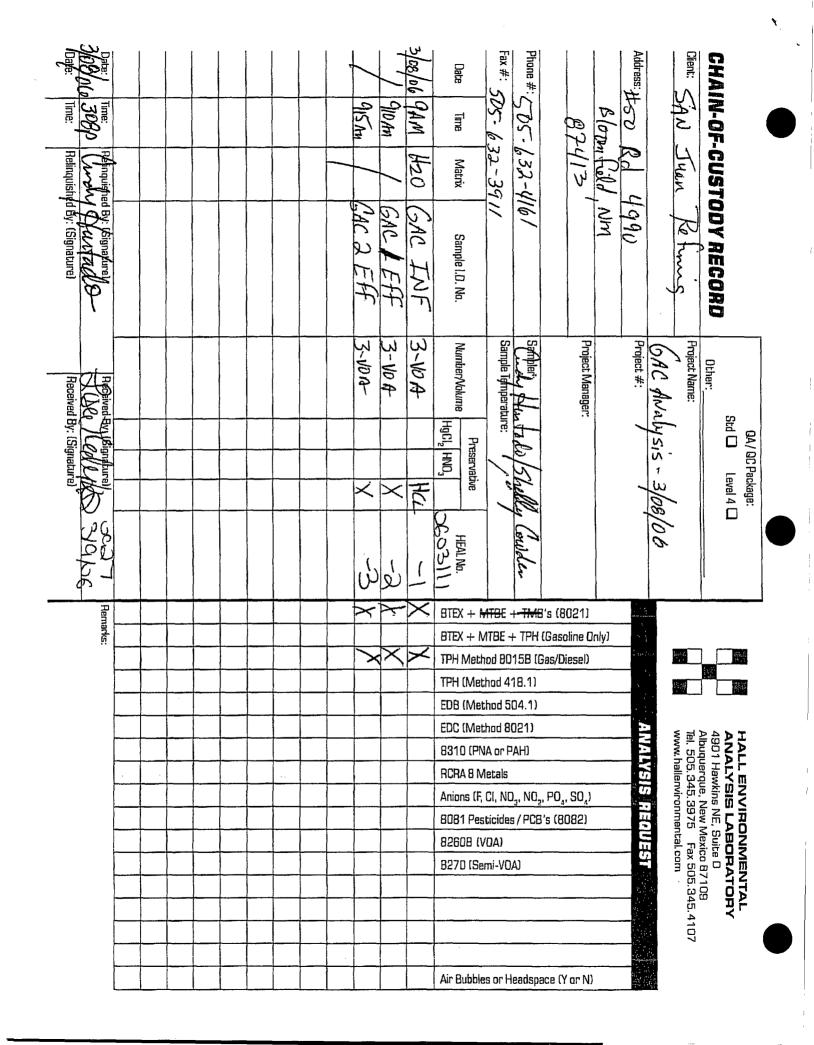
Page 3

ate: 3/14/2 5	Qualifiers: E Value above quantilation range H Holding times for preparation or analysis exceeded ND Not Detected at the Reporting Limit R RPD outside accepted recovery límits	872	3 SPK Ref Val %REC	-der: 0603111 GAC Analysis - 3/08/06): 75NG BTEX CCV-B SampType: LCS TestCode: 8021BTEX_W Units: µg/L
		·	.owLimit HighLimit RPD Ref Val 83.3 114	TestCode: 8021BTEX_W Prep Date: RunNo: 18582 Nalvsic Date: 3/14/2006 SegNo: 460825

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	Sample Rec	eipt Cheo	cklist				
Client Name SJR			Date and Time	Received:		3/9	9/2006
Work Order Number 0603111			Received by	LMM			
Checklist completed by Liger Health	S) (3 Kg/	96				
Matrix Ca	nrier name <u>UPS</u>	ì					
Shipping container/cooler in good condition?	Yes	V	No 🗌	Not Present			
Custody seals intact on shipping container/cooler?	Yes	\mathbf{V}	No 🗔	Not Present	Not Sh	ipped	
Custody seals intact on sample bollles?	Yes		No 🔽	N/A			
Chain of cuslody presenl?	Yes	V					
Chain of custody signed when relinquished and received?	? Yes	V	No 🗆				
Chain of custody agrees with sample labels?	Yes	V					
Samples in proper container/bottle?	Yes	\checkmark	No 🗍				
Sample containers intacl?	Yes	\checkmark	No 🗌				
Sufficient sample volume for indicated test?	Yes						
All samples received within holding lime?	Yes						
Water - VOA vials have zero headspace? No VC	DA vials submitted		Yes 🗹	No 🗔			
Water - pH acceptable upon receipt?	Yes	i 🗆	Νο	N/A 🗹			
Container/Temp Blank temperature?			f°C±2Accepta fgiven sufficient				
COMMENTS:							
						** *****	
		•			·		
Client contacted Date co	ntacted:	· · · · · · · ·	Pers	on contacted			
Contacted by: Regard	ing			• • • • • • • • • • • • • • • • • • • •			
Comments:							
		ь .					
						·····	
Corrective Action							
					······································		
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COVER LETTER

Thursday, March 23, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC 3/16/06

Dear Cindy Hurtado:

Order No.: 0603192

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/16/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

	·	1 - 1 11 - 1			÷.	· · · · · · · · · · · · · · · · · · ·
CLIENT:	San Juan Refining			Client Sample I	D: GAC	I EFF
Lab Order:	0603192			Collection Da	te: 3/15/2	2006 10:35:00 AM
Project:	GAC 3/16/06			Date Receive	d: 3/16/2	2006
Lab ID:	0603192-02			Matr	ix: AQUI	EOUS
Analyses		Result		Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L	1	3/22/2006 4:57:19 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	3/22/2006 4:57:19 PM
Surr: DNOP	·	111	58-140	%REC	1	3/22/2006 4:57:19 PM
EPA METHOD	8015B: GASOLINE RAN	GE				Analyst: NSB
	e Organics (GRO)	ND	0.050	mg/L	1	3/20/2006 12:42:07 PM
Surr: BFB		92.1	79.7-118	%REC	1	3/20/2006 12:42:07 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	3/20/2006 12:42:07 PM
Toluene		ND	1.0	µg/L	1	3/20/2006 12:42:07 PM
Ethylbenzene		ND	1.0	µg/L	1	3/20/2006 12:42:07 PM
Xylenes, Total		ND	3.0	µg/L	1	3/20/2006 12:42:07 PM
Surr: 4-Brom	nofluorobenzene	83.9	82.2-119	%REC	1	3/20/2006 12:42:07 PM

Qualifiers:

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Value exceeds Maximum Contaminant Level

Value above quantitation range

J Analyte detected below quantitation limits

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

Date: 23-Mar-06

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

Hall Solutionmental Analysis Laboratory	Analysis Laboratc								Date: 23-Mar-i.	Aar-t	
CLIENT: San Juan Refining Work Order: 0603192 Project: GAC 3/16/06	Refining					ANALY	LYTICAL Tes	AL QC SU TestCode: 8	ANALYTICAL QC SUMMARY REPORT TestCode: 8015DR0_W	REPO	RT
Sample ID: MB-10024 Client ID: ZZZZZ Analyte Diesel Range Organics (DRO)	SampType: MBLK Batch ID: 10024 Result ND	TestCode: TestNo: PQL 0 1.0	TestCode: 8015DRO_W TestNo: SW8015 PQL SPK value SPI 1.0	W Units: mg/L SPK Ref Val	%REC	Prep Date: Analysis Date: LowLimit H	3/22/20) 3/22/20	06 06 RPD Ref Val	RunNo: 18674 SeqNo: 463915 %RPD RP	15 115 RPDLimit	Qual
Sample ID: LCS-10024 Client ID: ZZZZZ Analyte Diesel Range Organics (DRO)	SampType: LC ⁴ Batch ID: 100 Re	TestCode: TestNo: PQL 3	TestCode: 8015DRO_W TestNo: SW8015 PQL SPK value SP1 1.0 5	 W Units: mg/L SPK Ref Val 0 	%REC	Prep Date: Anatysis Date: LowLimit H 81.2	3/22/20 3/22/20 ighLimit 149	06 06 RPD Ref Val	RunNo: 18674 SeqNo: 463916 %RPD RP	4 16 RPDLimit	Qual
Sample ID: LCSD-10024 Client ID: ZZZZ A unalyte Diesel Range Organics (DRO)	SampType: LCSD Batch ID: 10024 Result 6.268	TestCode: TestNo: 1.0 1.0	TestCode: 8015DRO_W TestNo: SW8015 PQL SPK value SPk 1.0 5	W Units: mg/L SPK Ref Val 0	%REC 125	Prep Date: Analysis Date: LowLimit H 81.2 81.2	3/22/20 3/22/20 ighLimit 149	06 06 RPD Ref Val 6.073	RunNo: 18674 SeqNo: 463917 %RPD RF 3.16	4 17 RPDLimit 23	Qual
Qualifiers: E Value above	Value above quantitation range Not Detected at the Reporting Limit		H Holding time R RPD outside		or analysis y limits	exceeded	J Anal S Spike	yte detected he e Recovery out	Analyte detected helow quantitation limits Spike Recovery outside accepted recovery limits	mits .ery limits	Page 1

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	fining					ANALY	TICAL QC	CSU	ANALYTICAL QC SUMMARY REPORT	EPOR
Work Order: 0603192 Project: GAC 3/16/06	9						TestCoc	de: 80	TestCode: 8021BTEX_W	
Sample ID: 5ML RB Client ID: 77777	SampType: MBLK Batch ID: R18652	TestCoc TestN	stCode: 8021BTEX TestNo: SW8021	FestCode: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	3/20/2006		RunNo: 18652 SeqNo: 462985	
Analyte	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Va	ef Val	%RPD RP	RPDLimit Qual
Benzene	QN	1.0								
Toluene	QN	1.0								
Ethylbenzene	QN	1.0								
Xyleries, Total	QN	3.0								
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCoc	le: 8021BTEX	TestCode: 8021BTEX_W Units: µg/L		Prep Date:			RunNo: 18652	
Client ID: ZZZZ	Batch ID: R18652	Testh	TestNo: SW8021			Analysis Date:	3/20/2006		SeqNo: 462986	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	ef Val	%RPD RP	RPDLimit Qual
Benzene	19.29	1.0	20	0	96.5	88.5	114			
Toluisme	19.91	1.0	20	0	99.5	87.2	114			
Ethvisens	19.48	1.0	20	0	97.4	88.6	113			
O (yleries, Total	40.17	3.0	40	0	100	83.3	114			
DONG BTEX LCSD	SamoTvoe: LCSD	TestCoc	le: 8021BTEX	TestCode: 8021BTEX W Units: pg/L		Prep Date:			RunNo: 18652	
	Batch ID: R18652	TestN	Jo: SW8021			Analysis Date:	3/20/2006		SeqNo: 462987	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit H	HighLimit RPD Ref Val	ef Val	%RPD RP	RPDLimit Qual
Renzana	18.80	1.0	20	0	94.0	88.5	114	19.29	2.59	27
Tolucine	19.36	1.0	20	0	96.8	87.2	114	19.91	2.77	19
Ethvlbenzene	18.99	1.0	20	0	95.0	88.6	113	19.48	2.55	10
Xyler es. Total	39.15	3.0	40	0	97.9	83.3	114	40.17	2.58	13

H Holding times for preparation or analysis exceededR PD outside accepted recovery limits

J Analyte detected below quantitation limits
 S Spike Recovery outside accepted recovery limits

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Value above quantitation range Not Detected at the Reporting Limit шQ

Qualifiers:

Page 3

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-			4107				(N 10	Y) 90E	dspea	H 10 2	alddr	NB NiA								
	HALL ENVIRONMENTAL ANALYSIS LABORATORY	Alburation Alburation New Mexico 87109	Tel: 505.345.3975 Fax 505.345.4107	7	ANALYSIS REQUEST		([*] OS	iiQ\266	\ bCB 3' / 0 ⁵ 3' / 0 ⁵ 3' / 0 3' / 1 3'	08 bo 104 41 704 50 800 90 800 90 800 90 800 90 900 900 900	Metho Metho Metho Meth Meth Meth Meth Meth Meth Metho	TPH / 82310 83310 82310 8081 8081 7083	X	×						ks:
	0A/ QC Package: Std 🗖 Level 4 🛄	Other:	Project Name:	GAC 3/16/06	Project #:			inder there ado	The the tade / She ILA (and lev)		Preservative +		3-10A- ACC 1 X		X S "					Received By (Signature) 3-16-06 Remarks: Received By: (Signature)
	UGUJIA VUJTALI A MIKUJ		Client Chin Chin Rollin	SWITT A MARTINE	Address:#5-27 72/ 4990	R/muffeld NW	874130		(1) Hune #: 575-1033 4/16/	Fax#: 505- (032-3911		Date Time Matrix Sample I.D. No.	3/6/06 105 HzD GAG INF		1145 / 1242 3 EF					Date: Time: Refinquished By (Bign ture) 3/15/00 Zow Look Awy Zull Date: Fime: Refinquished By: (Signature)

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COVER LETTER

Tuesday. April 04, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC 3/24/06

Dear Cindy Hurtado:

Order No.: 0603287

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/24/2006 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,

e d

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

AZ license # AZ0682 ORELAP Lab # NM100001



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

Hall Envir	onmental Analys	is Labora	itory		•: 04-Ap	
CLIENT: Lab Order:	San Juan Refining 0603287			Client Sample ID	: GAC	
Project:	GAC 3/24/06			Date Received	: 3/24/2	2006
Lab ID:	0603287-01			Matrix	: AQU	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L	1	3/27/2006 9:03:38 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	3/27/2006 9:03:38 PM
Surr: DNOP	•	109	58-140	%REC	1	3/27/2006 9:03:38 PM
EPA METHOD	8015B: GASOLINE RAN	GE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	12	2.0	mg/L	40	3/30/2006 6:02:47 PM
Surr: BFB		103	79.7-118	%REC	40	3/30/2006 6:02:47 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		140	40	µg/L	40	3/30/2006 6:02:47 PM
Toluene		51	40	µg/L	40	3/30/2006 6:02:47 PM
Ethylbenzene		930	40	µg/L	40	3/30/2006 6:02:47 PM
Xylenes, Total		4300	120	µg/L	40	3/30/2006 6:02:47 PM
Surr: 4-Brorr	ofluorobenzene	109	82.2-119	%REC	40	3/30/2006 6:02:47 PM

Qualifiers:

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Value exceeds Maximum Contaminant Level

- Value above quantitation range
- Analyte detected below quantitation limits J
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 3

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Hall Envir	onmental Analys	is Labora	tory		e: 04-Ap	pr-06
CLIENT: Lab Order:	San Juan Refining 0603287			Client Sample II Collection Date		1 EFF 2006 10:05:00 AM
Project:	GAC 3/24/06			Date Received		
Lab ID:	0603287-02				: 0/2 //2	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range C	Irganics (DRO)	ND	1.0	mg/L	1	3/27/2006 9:37:16 PM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	3/27/2006 9:37:16 PM
Surr: DNOP		115	58-140	%REC	1	3/27/2006 9:37:16 PM
EPA METHOD	8015B: GASOLINE RAN	GE				Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	3/30/2006 6:35:40 PM
Surr: BFB		97.2	79.7-118	%REC	1	3/30/2006 6:35:40 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	3/30/2006 6:35:40 PM
Toluene		ND	1.0	µg/L	1	3/30/2006 6:35:40 PM
Ethylbenzene		ND	1.0	µg/L	1	3/30/2006 6:35:40 PM
Xylenes, Total		ND	3.0	µg/L	1	3/30/2006 6:35:40 PM
Surr: 4-Brom	ofluorobenzene	92.4	82.2-119	%REC	1	3/30/2006 6:35:40 PM



* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

Hall Envir	onmental Analys	is Labora	atory		Date:	04-Ap	pr-06
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0603287 GAC 3/24/06 0603287-03			C	ent Sample ID: Collection Date: Date Received: Matrix:	3/24/2 3/24/2	2006 10:15:00 AM 2006
Analyses		Result	PQL	Qual l	Units	DF	Date Analyzed
Diesel Range O	8015B: DIESEL RANGE Irganics (DRO) e Organics (MRO)	ND ND 116	1.0 5.0 58-140	n	ng/L ng/L %REC	1 1 1	Analyst: SCC 3/27/2006 10:10:54 PM 3/27/2006 10:10:54 PM 3/27/2006 10:10:54 PM
	8015B: GASOLINE RAN Organics (GRO)	GE ND 96.1	0.050 79.7-118		ng/L %REC	1 1	Analyst: NSB 3/30/2006 7:08:31 PM 3/30/2006 7:08:31 PM
Benzene Toluene Ethylbenzene Xylenes, Total	8021B: VOLATILES	ND ND ND ND 89.9	1.0 1.0 1.0 3.0 82.2-119	י ג ג	ug/L ug/L ug/L ug/L %REC	1 1 1 1	Analyst: NSB 3/30/2006 7:08:31 PM 3/30/2006 7:08:31 PM 3/30/2006 7:08:31 PM 3/30/2006 7:08:31 PM 3/30/2006 7:08:31 PM

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Value exceeds Maximum Contaminant Level

- Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

Environmental Analysis Laboratory		
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onmental Ai		
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Hall		

0603287 Work Order: **CLIENT:** Project:

San Juan Refining GAC 3/24/06

ANALYTICAL QC SUMMARY REPORT TestCode: 8015DR0_W

Date: 04-Apr-d

Sample ID: MB-10054	SampType: MBLK	TestCode: 8015DRO_W Units: mg/L	Prep Date: 3/27/2006	RunNo: 18723
Client ID: ZZZZ	Batch ID: 10054	TestNo: SW8015	Analysis Date: 3/27/2006	SeqNo: 465260
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	Ref Val %RPD RPDLimit Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	DN N	1.0 5.0		
Sample ID: LCS-10054 Client ID: ZZZZ	SampType: LCS Batch ID: 10054	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Prep Date: 3/27/2006 Analysis Date: 3/27/2006	RunNo: 18723 SeqNo: 465261
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	tef Val %RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.473	1.0 5 0	109 81.2 149	
Sample ID: LCSD-10054 Client ID: ZZZZ	SampType: LCSD Batch ID: 10054	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Prep Date: 3/27/2006 Analysis Date: 3/27/2006	RunNo: 18723 SeqNo: 465262
A Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	tef Val %RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.726	1.0 5 0	115 81.2 149	5.473 4.52 23

- s Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

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ND Not Detected at the Reporting Limit E Value above quantitation range

Qualifiers:

Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

Page I

	San Juan Refining 0603387		ANALYT	ICAL QC SU	ANALYTICAL QC SUMMARY REPORT
Project: GAC 3/24/06	4/06			TestCode: 8015GRO_W	015GR0_W
Sample ID: 5ML REAGENT BLA SampType: MBLK	LA SampType: MBLK	TestCode: 8015GRO_W Units: mg/L			RunNo: 18778
Client ID: ZZZZ	Batch ID: R18778	TestNo: SW8015	Analysis Date: 3/30/2006	3/30/2006	SeqNo: 466135
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit High	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	O) ND	0.050			
Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCode: 8015GRO_W Units: mg/L	Prep Date:		RunNo: 18778
Client ID: ZZZZ	Batch ID: R18778	TestNo: SW8015	Analysis Date: 3/31/2006	\$/31/2006	SeqNo: 466136
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit High	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	0) 0.4520	0.050 0.5 0	90.4 82.6	114	
Sample ID: 0603287-02A MS	SampType: MS	TestCode: 8015GRO_W Units: mg/L	Prep Date:		RunNo: 18778
Client ID: GAC 1 EFF	Batch ID: R18778	TestNo: SW8015	Analysis Date: 3/30/2006	//30/2006	SeqNo: 466146
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit High	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
 Gasoline Range Organics (GRO) 	D) 0.4420	0.050 0.5 0	88.4 82.6	114	
Sample ID: 0603287-02A MSD	SampType: MSD	TestCode: 8015GRO_W Units: mg/L	Prep Date:		RunNo: 18778
Client ID: GAC 1 EFF	Batch ID: R18778	TestNo: SW8015	Analysis Date: 3/30/2006	/30/2006	SeqNo: 466147
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit	Limit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	C) 0.4440	0.050 0.5 0	88.8 82.6	114 0.442	0.451 8.39

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

E Value above quantitation range ND Not Detected at the Reporting Limit Qualifiers:

Spike Recovery outside accepted recovery limits

Analyte detected below quantitation limits

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Page 2

CLIENT: San Juan Refining	cefining .	- - -	1			ANAL	YTICAL	QC SU	ANALYTICAL QC SUMMARY REPORT	REPO	RT
Work Uruer: 0002001 Project: GAC 3/24/06	(06						Test	TestCode: 8	8021BTEX_W		
Sample ID: 5ML REAGENT BLA Client ID: 22222	A SampType: MBLK Batch ID: R18778	TestCo	stCode: 8021BTE TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	ite: te: 3/30/2006		RunNo: 18778 SeqNo: 466112		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RP	RPD Ref Val	%RPD RF	RPDLimit	Qual
Benzene Toluene Ethylbenzene Xvlenes Tortal	2222	3.0 3.0 3.0									
Somelo ID: 100NG BTEY I CC	SamuTune: 1 CS	TectOr	de R021RTF	TestCode: 8021RTEX_W_I linits: Jun/I		Pren Date	.a		RunMo: 18778		
Client ID: ZZZZ	Batch ID: R18778	Testh	Vo: SW8021			Analysis Date:	te: 3/30/2006		SeqNo: 466113		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RP	RPD Ref Val	%RPD RF	RPDLimit	Qual
Benziene	20.12	1.0	20	0	101	88.5	114				
Toluene	20.68	1.0	20	0	103	87.2	114				
Ethylbenzene	21.10	1.0	20	0	105	88.6	113				
Xylenes, Total	43.91	3.0	40	0	110	83.3	114				
Sample ID: 0603287-03A MS	SampType: MS	TestCoc	TestCode: 8021BTEX_W	<pre></pre> // Units: hg/L		Prep Date:	te:		RunNo: 18778		
Client ID: GAC 2 EFF	Batch ID: R18778	Test	TestNo: SW8021			Analysis Date:	te: 3/30/2006		SeqNo: 466132		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RP	RPD Ref Val	%RPD RF	RPDLimit	Qual
Benzene	20.69	1.0	20	0	103	88.5	114				
Toluene	21.14	1.0	20	0	106	87.2	114				
Ethylbenzene	21.14	1.0	20	0	106 100	88.6 83.3	113				
Sample ID: 0603207 02A MCD	Compting MCD	TactOad	G 8021B	-		Droc Dato			D. OND. 10770		
Client ID: GAC 2 FFF	Batch ID: R18778	TestN				Analvsis Date:	с. е. 3/30/2006		SerNo: 466133		
	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	ighLimit	RPD Ref Val	%RPD RP	RPDLimit	Qual
Benzene	20.30	1.0	20	0	102	88.5	114	20.69	1.88	27	
Toluene	20.93	1.0	20	0	105	87.2	114	21.14	0.989	19	
Ethylbenzene	20.74	1.0	20	0	104	88.6	113	21.14	1.91	10	
Qualifiers: E Value above c ND Not Detected	Value above quantitation range Not Detected at the Reporting Limit		H Holdir R RPD o	Holding times for preparation or analysis exceeded RPD outside accepted recovery limits	n or analysis rry limits	: exceeded	J Analy S Spike	te detected be Recovery out	Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits	uits ery limits	1
											Page 3

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Page 3

Work Urder: 0003287 Project: GAC 3/24/06 Sample ID: 0603287-03A MSD S: Client ID: GAC 2 EFF Analyte Xylenes, Total Xylenes, Total							,		ANALYTICAL QC SUMMARY KEPUKI	111
ID: 0603287-03A MSD S: GAC 2 EFF Total						Τ	TestCode: 8	8021BTEX_W	M,	
Analyte Xylenes, Total	78	sstCode: 8021BTI TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021	: µg/L	Prep Date: Analysis Date:	te: 3/30/2006	96	RunNo: 18778 SeqNo: 466133	778 5133	
Xylenes. Total		POL SPK value	alue SPK Ref Val	Val %REC	C LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
	4	o m	04 0	4 0 0 4 0 0 2 0 2 0		t 	9 † †		2	
Oualifiers: E Value above quantitation range	این عاری		Jolding times for	Holding times for preparation or analysis exceeded	usis exceeded	< ٦	nalyte detected b	Analyte detected below quantitation limits	n limits	

Page 4

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Hall Environmental Analysis Laboratory

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	Sample	Receipt Che	ecklist			
ent Name SJR	<i>(</i>) <i>(</i>)		Date and Time	Received:	3/2	24/2006
Work Order Number 0603287			Received by	LMM		
Checklist completed by) / UNIL	Date	3-2	4-ao		
Matrix /	Carrier name	Greyhound				
Shipping container/cooler in good condition?		Yes 🗹		Not Present		
Custody seals intact on shipping container/coole	er?	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 subr	nitted	Yes 🗹	No 🗆		
ater - pH acceptable upon receipt?		Yes	No 🗌	N/A		
Container/Temp Blank temperature?		1°	4° C ± 2 Accepta If given sufficien			
COMMENTS:						
					·	
Client contacted	Date contacted:		Por	son contacted		
	Date contacted.		F 80			
Contacted by:	Regarding					· · · · · · · · · · · · · · · · · · ·
Comments:						
Corrective Action						

	Air Bubbles or Headspace (Y or N)		
JMENTAL JMENTAL Ince D Xico 87109 Fax 505.345.4107 Bl. com			_
7105 7105 35.34			
	(AOV-im92) 0758		
IRONME S LABOR, S NE, Suite D New Mexico (3975 Fax E onmental. cor	B260B (VOA)		
	Anions (F, Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄) 8081 Pesticides / PCB's (8082)		
EN awkir nque, 345 B	C 02 00 010 010 000		
HALL EN ANALYSI 4901 Hawkir Albuquerque, Tel. 505.345 www.hallenvii ANALYSIS	(HA9 10 AN9) 0128	<u></u>	
AN AB 49 AN AB	EDC (Method 8021)		
······	DB (Method 504.1)		-
	(1.814 bodtaM) H91		
	LPH Method 8015B (635/Diesel)		
	STEX + MTBE + TPH (Gasoline Only)		Remarks:
			<u> </u>
	HEAL No.		2) 212ATOS
0A/0C Package:			Signature)
04/0			(Sign
Std. (Deved By LUNG
Other: Project Name:	Project Manager: Sampler Langerature: Sample Temperature: Number/Volume	407	Received By: Received By:
	Nu San San		
CHAIN-OF-CUSTODY RECORD Client: SAN Jugar Referring	Dloon-Field, NM 87413 525-632-41/61 575-632-3911 Time Matrix Sample I.D. No.	GAC INF GAC LEFF GAC LEFF	Relinquished By: (Signature) WW ZANG Relinquished By (Signature)
CHAIN-OF-CUSTOI Client: SAN JUGW, Ref	Phone #: 675-632-416/ Phone #: 675-632-416/ Date Time Matrix	H20	
IN-OF.	Dloth- Ime	104m 1005A 1005A 1015A	Time: Tour A
Client: <	Phone #:	8	Date: Date:



COVER LETTER

Wednesday, April 12, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Annalysis-4/3/06

Dear Cindy Hurtado:

Order No.: 0604014

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/4/2006 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 \leq 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

Hall Envir	onmental Analysis	Labora	tory		Date:	12-Ap	r-06
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0604014 GAC Annalysis-4/3/06 0604014-01			Collect	imple ID: ion Date: Received: Matrix:	4/3/20 4/4/20	006 9:40:00 AM 006
Analyses	· · · · · · · · · · · · · · · · · · ·	Result	PQL	Qual Units		DF	Date Analyzed
	8015B: GASOLINE RANGE e Organics (GRO)	15 115	2.5 79.7-118	mg/L %REC		50 50	Analyst: NSB 4/10/2006 3:34:49 PM 4/10/2006 3:34:49 PM
EPA METHOD Benzene Toluene Ethylbenzene	8021B: VOLATILES	200 54 880	50 50 50	μg/L μg/L μg/L		50 50 50	Analyst: NSB 4/10/2006 3:34:49 PM 4/10/2006 3:34:49 PM 4/10/2006 3:34:49 PM

150

82.2-119

µg/L

%REC

4700

103

Qualifiers:

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Xylenes, Total

Surr: 4-Bromofluorobenzene

Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

50

50

4/10/2006 3:34:49 PM

4/10/2006 3:34:49 PM

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

Hall Envir	onmental Analysis		·	Date	: 12-Aj	or-06
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0604014 GAC Annalysis-4/3/06 0604014-02		<u></u> .	Client Sample ID Collection Date Date Received Matrix	: 4/3/20 : 4/4/20	006 9:50:00 AM 006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range O Motor Oil Range Surr: DNOP EPA METHOD	8015B: DIESEL RANGE Organics (DRO) e Organics (MRO) 8015B: GASOLINE RANG e Organics (GRO)	ND ND 105 E ND 107	1.0 5.0 58-140 0.050 79.7-118	mg/L mg/L %REC mg/L %REC	1 1 1 1	Analyst: SCC 4/7/2006 9:09:36 PM 4/7/2006 9:09:36 PM 4/7/2006 9:09:36 PM Analyst: NSB 4/10/2006 3:04:19 PM 4/10/2006 3:04:19 PM
Benzene Toluene Ethylbenzene Xylenes, Total	8021B: VOLATILES	ND ND ND 93.8	1.0 1.0 1.0 3.0 82.2-119	μg/L μg/L μg/L μg/L %REC	1 1 1 1 1	Analyst: NSB 4/10/2006 3:04:19 PM 4/10/2006 3:04:19 PM 4/10/2006 3:04:19 PM 4/10/2006 3:04:19 PM 4/10/2006 3:04:19 PM





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Value exceeds Maximum Contaminant Level

E Value above quantitation range

- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

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Hall Envir	onmental Analysis	Labora	atory		: 12-Ap	
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0604014 GAC Annalysis-4/3/06 0604014-03			Client Sample ID Collection Date Date Received	: GAC : 4/3/20	2 EFF 006 10:00:00 AM 006
Analyses	· · · · · · · · · · · · · · · · · · ·	Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range (8015B: DIESEL RANGE Drganics (DRO) Je Organics (MRO)	ND ND 110	1.0 5.0 58-140	mg/L mg/L %REC	1 1 1	Analyst: SCC 4/7/2006 9:42:34 PM 4/7/2006 9:42:34 PM 4/7/2006 9:42:34 PM
	8015B: GASOLINE RANG e Organics (GRO)	E ND 109	0.050 79.7-118	mg/L %REC	1 1	Analyst: NSB 4/10/2006 2:36:22 PM 4/10/2006 2:36:22 PM
EPA METHOD Benzene Toluene Ethylbenzene Xylenes, Total	8021B: VOLATILES	ND ND ND ND	1.0 1.0 1.0 3.0	μg/L μg/L μg/L μg/L	1 1 1 1	Anaiyst: NSB 4/10/2006 2:36:22 PM 4/10/2006 2:36:22 PM 4/10/2006 2:36:22 PM 4/10/2006 2:36:22 PM
	nofluorobenzene	95.8	82.2-119	%REC	1	4/10/2006 2:36:22 PM

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

Hall Environment	Hall Environmental Analysis Laboratory	ory	Da	Date: 12-Apr-5
CLIENT: San Juan Work Order: 0604014	San Juan Refining 0604014		ANALYTICAL QC SUMMARY REPORT	IARY REPORT
	GAC Annalysis-4/3/06		TestCode: 8015D1	8015DRO_W
Sample ID: MB-10126 Client ID: ZZZZ	SampType: MBLK Batch ID: 10126	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Prep Date: 4/6/2006 RunN Analysis Date: 4/7/2006 SeqN	RunNo: 18854 SeqNo: 468281
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %	%RPD RPDLimit Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	(O) ND MRO) ND	1.0 5.0		
Sample ID: LCS-10126	SampType: LCS	TestCode: 8015DRO_W Units: mg/L	4/6/2006	RunNo: 18854
Client ID: ZZZZ	Batch ID: 10126	tNo: SW8015	Analysis Date: 4/7/2006	8282
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	(0) 6.771	1.0 5 0	135 81.2 149	
Sarnple ID: LCSD-10126	SampType: LCSD	TestCode: 8015DRO_W Units: mg/L	Prep Date: 4/6/2006 RunN	RunNo: 18854
Client ID: ZZZZ	Batch ID: 10126	TestNo: SW8015	Analysis Date: 4/7/2006 SeqN	SeqNo: 468283
V Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	O) 7.155	1.0 5	143 81.2 149 6.771	5.52 23

Page 1

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

E Value above quantitation rangeND Not Detected at the Reporting Limit

Qualifiers: E V

Ilysis-4/3/06 A SampType: MBLK TestCode: 8015GRO_W Units: mg/L Batch ID: R18887 TestNo: SW8015 Units: mg/L Batch ID: R18887 TestNo: SW8015 N ND 0.050 0.050 N SampType: LCS TestCode: 8015GRO_W Units: mg/L Batch ID: R18887 TestCode: 8015GRO_W Units: mg/L SampType: LCS TestCode: 8015GRO_W Units: mg/L Batch ID: R18887 TestNo: SW8015 N SampType: LCS TestNo: SW8015 0 SampType: LCSD 0.050 0.5 0 SampType: LCSD TestNo: SW8015 0 105 Batch ID: R1887 TestNo: SW8015 0 105 SampType: LCSD TestNo: SW8015 0 0 Batch ID: R1887 TestNo: SW8015 0 105 Batch ID: R1887 TestNo: SW8015 0 105 Batch ID: R1887 POL SPK value SPK Ref Val M Batch ID: R1887 POL SPK value SPK Ref Val M Batch ID: R10 R10 SPK value	CLIENT: San Juan Refining Work Order: 0604014	Refining					ANALY	ANALYTICAL QC SUMMARY REPORT	UMMARY	KEPO	RT
A SampType: MBLK TestCode: 8015GRO_W Units: mg/L Batch ID: R1887 TestNo: Sw8015 Units: mg/L Batch ID: R1887 TestNo: Sw8015 Units: mg/L Result PQL SPK value SPK Ref Val ND 0.050 0.050 Units: mg/L Batch ID: R18887 TestNo: Sw8015 Units: mg/L Result PQL SPK value SPK Ref Val 0 0 0 Match ID: R18887 TestNo: Sw8015 0 0 0 0 Match ID: R18887 TestNo: Sw8015 0 0 0 0 Match ID: R1887 TestNo: Sw8015 0 0 0 0 Match ID: R1887 TestNo: Sw8015 0 0 0 0 0 0 0 Match ID: R1887 TestNo: Sw8015 0 0 0 0 0 0 Match ID: <th></th> <th>alysis-4/3/06</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>TestCode:</th> <th>TestCode: 8015GRO_W</th> <th>×</th> <th></th>		alysis-4/3/06						TestCode:	TestCode: 8015GRO_W	×	
Result PQL SPK value SPK Ref Val ND 0.050 0.050 ND 0.050 SampType: LCS TestCode: 8015GRO_W Units: mg/L Batch ID: R18887 TestNo: Sw8015 0 0 Result PQL SPK value SPK Ref Val 0.5560 0.050 0.5 0 SampType: LCSD TestNo: Sw8015 Batch ID: R18887 TestNo: Vinits: mg/L Batch ID: R18887 TestNo: Sw8015 0 0.5700 0.050 0.5 0 0	Sample ID: 5ML REAGENT BL Client ID: ZZZZ	A SampType: MBLK Batch ID: R18887	TestCo	ode: 8015GRO No: SW8015	W Units: mg/l		Prep Date Analysis Date	: 4/10/2006	RunNo: 18887 SeqNo: 468681	87 681	
ND 0.050 0.050 SampType: LCS TestCode: 8015GRO_W Units: mg/L Batch ID: R18887 TestNo: Sw8015 N N Batch ID: R18887 TestNo: Sw8015 0 105 Batch ID: Result PQL SPK value SPK Ref Val %REC Batch ID: Result PQL SN8015 0 105 SampType: LCSD TestCode: 8015GRO_W Units: mg/L Batch ID: R1887 TestNo: SW8015 0 105 Batch ID: R1887 PQL SPK value SPK Ref Val %REC A 0.500 0.55 0.50 0.50 0.50 104	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
SampType: LCS TestCode: 8015GRO_W Units: mg/L Batch ID: R18887 TestNo: SW8015 h h Result PQL SW8015 0 0 5 h Result PQL SPK value SPK Ref Val %REC h Result PQL SPK value SPK Ref Val %REC h SampType: LCSD 0.050 0.55 0 105 SampType: LCSD TestCode: 8015GRO_W Units: mg/L Batch ID: R1887 TestNo: SW8015 h h Result PQL SPK value SPK Ref Val %REC h 0.5200 0.5500 0.55 0 104 h	Gasoline Range Organics (GRC		0.050								
Batch ID: R1887 TestNo: SW8015 A Result PQL SPK value SPK Ref Val %REC Result PQL SPK value SPK Ref Val %REC 0.5260 0.050 0.5 0 105 SampType: LCSD TestCode: 8015GRO_W Units: Mg/L Batch ID: R18887 TestNo: SW8015 M Mg/L Mg/L Result PQL SPK value SPK Ref Val Mg/L Mg/L Mg/L 0.5700 0.500 0.55 0 0 104	Sample ID: 2.5UG GRO LCS	SampType: LCS	TestCo	de: 8015GRO			Prep Date		RunNo: 18887	87	
Result PQL SPK value SPK Ref Val %REC 0.5260 0.050 0.5 0 105 SampType: LCSD TestCode: 8015GRO_W Units: mg/L Batch ID: R1887 TestNo: Sw8015 // // // Result PQL SPK value SPK Ref Val %REC // 0.5200 0.500 0.50 0.5 0 104	Client ID: ZZZZ	Batch ID: R18887	Test	No: SW8015			Analysis Date	: 4/10/2006	SeqNo: 468682	682	
0.5260 0.050 0.5 0 105 SampType: LCSD TestCode: 8015GRO_W Units: mg/L Batch ID: R1887 TestNo: SW8015 %REf %REC Result PQL SPK ref Val %REf 704 704	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC		LowLimit HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
SampType: LCSD TestCode: 8015GRO_W Units: mg/L Batch ID: R1887 TestNo: SW8015 Result PQL SPK value SPK Ref Val %REC	Gasoline Range Organics (GRC		0.050	0.5	0	105	82.6	114			
Batch ID: R18887 TestNo: SW8015 Result PQL SPK value SPK Ref Val %REC 0.5200 0.050 0.5 0 104	Sample ID: 2.5UG GRO LCSD	SampType: LCSD	TestCo	de: 8015GRO	_W Units: mg/L		Prep Date		RunNo: 18887	87	
Result PQL SPK value SPK Ref Val %REC 0.5200 0.050 0.5 0 104	Client ID: ZZZZ	Batch ID: R18887	Test	No: SW8015			Analysis Date	: 4/10/2006	SeqNo: 468683	683	
0.5200 0.050 0.5 0 104	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit 1	HighLimit RPD Ref Val	%RPD	RPDLimit	Qual
	Gasoline Range Organics (GRO)) 0.5200	0.050	0.5	0	104	82.6	114 0.526	1.15	8.39	

H Holding times for preparation or analysis exceededR RPD outside accepted recovery limits

Not Detected at the Reporting Limit Value above quantitation range ш QN

Qualifiers:

1.....

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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Page 2

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Work Order: 0604014						ANAL	YTICAI	L QC SU	ANALYTICAL QC SUMMARY REPORT	REPC)KT
	GAC Annalysis-4/3/06						Te	stCode: 8	TestCode: 8021BTEX_W	W	
Sample ID: 5ML REAGENT BLA SampType: MBLK	A SampType: MBLK	TestC	ode: 8021BTE)	TestCode: 8021BTEX_W Units: µg/L		Prep Date:	e.		RunNo: 18887	87	
Client ID: ZZZZ	Batch ID: R18887	Tes	TestNo: SW8021			Analysis Date:	e: 4/10/2006	G	SeqNo: 468647	647	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	QN	1.0			,						
Toluene	QN	1.0									
Ethylbenzene	QN	1.0									
Xylenes, Total	QN	3.0									
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCo	ode: 8021BTE)	TestCode: 8021BTEX_W Units: µg/L		Prep Date:	e:		RunNo: 18887	87	
Client ID: ZZZZ	Batch ID: R18887	Tes	TestNo: SW8021			Analysis Dat	Analysis Date: 4/10/2006	0	SeqNo: 468648	648	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit F	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.40	1.0	20	0	107	88.5	114				
Toluene	21.19	1.0	20	0	106	87.2	114				
Ethylbenzene	20.64	1.0	20	0	103	88.6	113				
9 Xylenes, Total	41.64	3.0	40	0	104	83.3	114				
Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCo	ode: 8021BTEX	TestCode: 8021BTEX_W Units: µg/L		Prep Date:	ω.		RunNo: 18887	37	-
Client ID: ZZZZZ	Batch ID: R18887	Test	TestNo: SW8021			Analysis Date:	e: 4/10/2006	(SeqNo: 468649	549	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit R	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.44	1.0	20	0	112	88.5	114	21.4	4.77	27	
Toluene	22.28	1.0	20	0	111	87.2	114	21.19	5.04	19	
Ethylbenzene	21.19	1.0	20	0	106	88.6	113	20.64	2.60	10	
Xvlenes Total	42.92	3.0	40	0	107	83.3	114	41.64	3.02	13	

Not Detected at the Reporting Limit Value above quantitation range

ыND

Qualifiers:

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits нч

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits

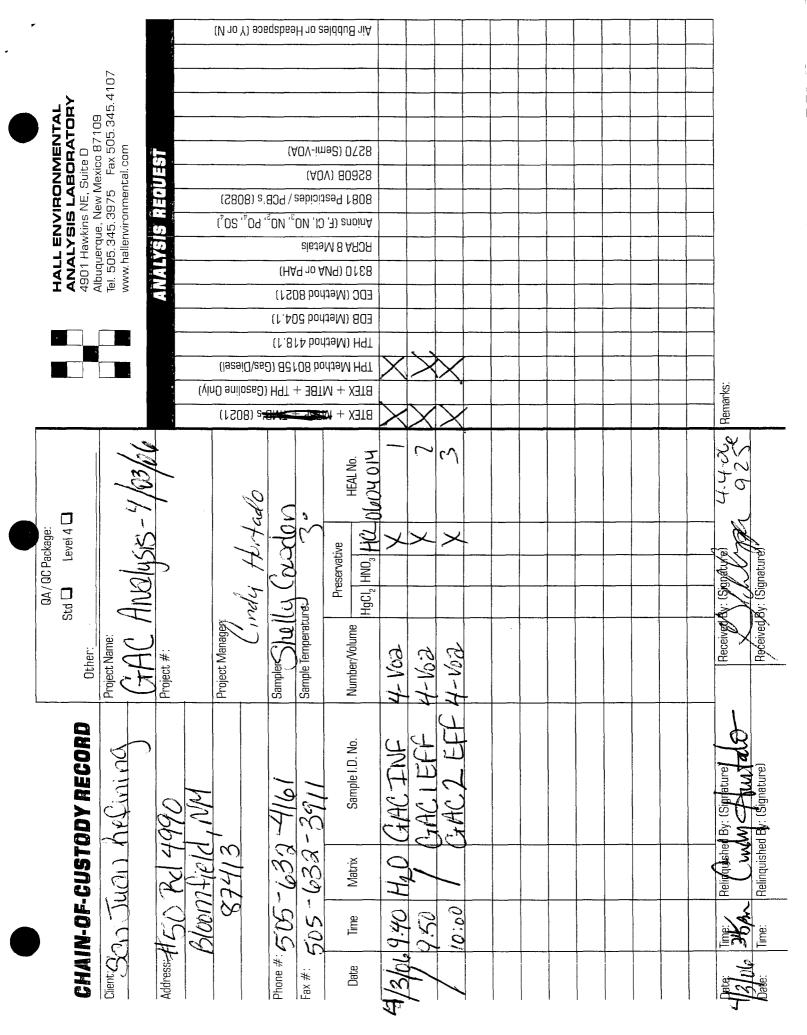
- s

Page 3

Hall Environmental Analysis Laboratory

	Sample	Rece	ipt Chec	cklist			
Client Name SJR				Date and Time	Received:		4/4/2006
Work Order Number 0604014 $\sqrt{1}$ λ	$\gamma \beta \eta$			Received by	GLS		
Checklist completed by	hppe		L4 - Date	4-06			
Matrix	Carrier name	<u>UPS</u>					
Shipping container/cooler in good condition?		Yes	V	No 🗌	Not Present		
Custody seals intact on shipping container/coole	er?	Yes	\checkmark	No 🗌	Not Present		Not Shipped
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	\checkmark	
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 subm	nitted		Yes 🗹	No 🗌]	
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹	•	
Container/Temp Blank temperature?				f° C ± 2 Accepta f given sufficient			
COMMENTS:							
المانية المحمد المحمد المحمد المحمد المانية العام المحمد المحمد المحمد المحمد المحمد المحمد المحمد المحمد المحمد المحمد المحمد							
Client contacted	Date contacted:			Pers	on contacted	wa ka	
Contacted by:	Regarding		·				
Comments:							
Corrective Action	,						
×							

7/7





COVER LETTER

Friday, April 21, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis - 4/10/06

Dear Cindy Hurtado:

Order No.: 0604096

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/12/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

	San Juan Refining GAC Analysis - 4/10/00	5				Lal	b Orde	r: 0604096
Lab ID:	0604096-01		*****	C	Collection 1	Date:	4/10/20	006 10:00:00 AM
Client Sample ID:	GAC INF				M:	atrix:	AQUE	OUS
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES							Analysi: BDF
Benzene		86	10		µg/L		10	4/18/2006 2:33:26 AM
Toluene		13	10		μg/Ł		10	4/18/2006 2:33:26 AM
Ethylbenzene		790	20		µg/L		20	4/18/2006 8:29:28 PM
Xylenes, Total		4500	60		µg/L		20	4/18/2006 8:29:28 PM
Surr: 4-Bromofluc	probenzene	103	82.2-119		%REC		10	4/18/2006 2:33:26 AM
Lab ID:	0604096-02	<u></u>		(Collection	Date:	4/10/20	006 10:15:00 AM
Client Sample ID:	GAC 1 EFF				Ma	atrix:	AQUE	OUS
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 802	1B: VOLATILES							Analyst: BDł
Benzene		ND	1.0		µg/L		1	4/18/2006 3:08:37 AM
Toluene		2.1	1.0		µg/L		1	4/18/2006 3:08:37 AM
Ethylbenzene		ND	1.0		µg/L		1	4/18/2006 3:08:37 AM
Xylenes, Total		ND	3,0		µg/L		1	4/18/2006 3:08:37 AM
Surr: 4-Bromofluc	probenzene	97.3	82.2-119		%REC		1	4/18/2006 3:08:37 AM
Lab ID:	0604096-03			(Collection	Date:	4/10/20	006 10:30:00 AM
Client Sample ID:	GAC 2 EFF				M	atrix:	AQUE	OUS
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 802	B: VOLATILES							Analyst: BDI
Benzene		ND	1.0		µg/L		1	4/18/2006 3:43:33 AM
Toluene		ND	1.0		µg/L		1	4/18/2006 3:43:33 AM
Ethylbenzene		ND	1.0		µg/L		1	4/18/2006 3:43:33 AM
Xylenes, Total		ND	3.0		µg/L		1	4/18/2006 3:43:33 AM
Surr: 4-Bromoflu	probenzene	92.4	82.2-119		%REC		1	4/18/2006 3:43:33 AM

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Qualifiers:

Value exceeds Maximum Contaminant Level E Value above quantitation range

Hall Environmental Analysis Laboratory

Analyte detected below quantitation limits J

S

- Spike Recovery outside accepted recovery limits
- в Analyte detected in the associated Method Blank

Date: 21-Apr-06

Holding times for preparation or analysis exceeded Н

ND Not Detected at the Reporting Limit

Page 1 of 2

1/5

Hall Environmental Analysis Laboratory

Surr: 4-Bromofluorobenzene

L

Date: 21-Apr-06

1

Lab Order: 0604096

4/21/2006 12:27:08 AM

CLIENT:	San Juan Refining
Project:	GAC Analysis - 4/10/06

Lab ID:	0604096-04			Collection I	Date:	
Client Sample ID:					trix: TRIP I	3LANK
Analyses		Result	PQL (Jual Units	DF	Date Analyzed
EPA METHOD 802	B: VOLATILES					Analyst: NSE
Benzene		ND	1.0	µg/L	1	4/21/2006 12:27:08 AM
Toluene		ND	1.0	µg/L	1	4/21/2006 12:27:08 AM
Ethylbenzene		ND	1.0	μg/L	1	4/21/2006 12:27:08 AM
Xylenes, Total		ND	3.0	µg/L	1	4/21/2006 12:27:08 AM

82.2-119

109

%REC

Qualifiers:	*	Value exceeds Maximum Contaminant Level	В	Analyte detected in the associated Method Blank
	Е	Value above quantitation range	н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits

Hall Enviro	Hall Environmental Analysis Laboratory			Date: 21-Apr-06
CLIENT: Work Order: Project:	San Juan Refining 0604096 GAC Analysis - 4/10/06		ANALYTICAL QC SUMMARY REPOF TestCode: 8021BTEX_W	MMARY REPOF 121BTEX_W
Sample ID: 5ml rb 1 Client ID: ZZZZ	b 1 SampType: MBLK Z Batch ID: R18956	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021	Prep Dale: Analysis Dale: 4/17/2006	RunNo: 18956 SeqNo: 471095
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit (
Benzene Toluene Ethylbenzene Xylenes, Total	0 0 0 0 0 0 0	1.0 1.0 1.0 3.0		
Sample ID: 5ML RB Client ID: ZZZZ	RBLK SampType: MBLK Z Batch ID: R18971	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021	Prep Date: Analysis Date: 4/18/2006	RunNo: 18971 SeqNo: 471459
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit (

Qual

Oual

%RPD RPDLimit SeqNo: 472245 RunNo: 18990 LowLimit HighLimit RPD Ref Val Analysis Date: 4/20/2006 Prep Dale: %REC festCode: B021BTEX_W Units: µg/L SPK value SPK Ref Val TestNo: SW8021 0.1 0.1 0.5 0.5 Par 0; t 0; t 1.0 3.0 Batch ID: R18990 Result 2222 Sample ID: 5ML REAGENT BLA SampType: MBLK Client ID: ZZZZZ C Ethylbenzene C Xylenes, Total Xylenes, Total Elhylbenzene Benzene Toluene Analyte Toluene

Oual RPDLimit SeqNo: 471096 RunNo: 18956 %RPD LowLimit HighLimit RPD Ref Val Analysis Date: 4/17/2006 114 Prep Dale: 88.5 %REC 101 TestCode: 8021BTEX_W Units: µg/L 0 SPK value SPK Ref Val 20 TestNo: SW8021 PoL 1.0 Batch ID: R18956 Result 20.23 SampType: LCS Sample ID: 100NG BTEX LCS Client ID: ZZZZ Benzene Analyte

Value above quantitation range шQ

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits цч

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Page 1

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Spike Recovery outside accepted recovery limits

Qualifiers:

Oual

EPORT

Benzene

Not Detected at the Reporting Limit

Analyte detected below quantitation limits

	tefining.					ANAL	YTIC	T QC SU	ANALYTICAL QC SUMMARY REPORT	REPO	RT
Work Order: Ubu4096 Project: GAC Analy	uou4096 GAC Analysis - 4/10/06						L	TestCode: 8	8021BTEX_W	>	
Sample ID: 100NG BTEX LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R18956	TestCac TestN	stCode: 8021BTE TestNo: SW8021	TestCade: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	le: 4/17/2006	06	RunNo: 18956 SeqNo: 471096	96	
Analyte	Result	PQL	SPK value	SPK Ref Vat	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD F	RPDLimit	Qual
Toluene Ethylbenzene Xylenes, Total	19.54 20.10 41.33	1.0 1.0 3.0	20 20 40	000	97.7 101 103	87.2 88.6 83.3	114 113 114				
Sample ID: 100NG BTEX LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R18971	TestCoc Testh	stCode: 8021BTE TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	e: 4/18/2006	06	RunNo: 18971 SeqNo: 471460	- 6	
Analyte	Result	Pat	SPK value	SPK Ref Val	%REC	LawLimit	HighLimit	RPD Ref Val	%RPD F	RPDLimit	Oual
Benzene Toluene Ethylbenzene Xylenes, Total	19.86 19.32 19.97 40.76	1.0 1.0 3.0	20 20 40		99.3 96.6 99.8 102	88.5 87.2 88.6 83.3	114 114 113 113				
C Sample ID: 100NG BTEX LCS	SampType: LCS Batch ID: R18990	TestCoc	istCode; 8021BTE) TestNo: SW8021	TestCade: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analvsis Date:	e: 4/20/2006	90	RunNo: 18990 SeaNo: 472246	5	
	Result	Pal	SPK value	SPK Ref Val	%REC	LowLimit	.0	RPD Ref Val	" " "	RPDLimit	Ouat
Benzene Toluene Ethylbenzene Xylenes, Total	20.28 20.72 20.52 42.43	1.0 1.0 1.0 3.0	20 20 40	0000	101 104 103 106	88.5 87.2 88.6 83.3	114 114 113 113				
Sample ID: 100NG BTEX LCSD Client ID: ZZZZZ ·	SampType: 1 Batch ID: 1	TestCoc TestN	stCode: 8021BTE) TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021	1 -	Prep Date: Analysis Date:	e: 4/18/2006	06	199	21	
Analyte	Kesull	7	SPR value	ork kei vai	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		HIGHLIMI	ארט אפו עמו	N U-14%	KPULIMI	Oual
Benzene	21.05	1.0	20	о с ,	105 105	88.5 57 2	114	20.23	3.96	27	
rojuene Fihvihenzene	21.67		50 20		108	07.70 1918.65	113	20.1	0.04 7.53	<u>5</u> 0	
Xylenes, Total	45.36	3.0	40	0	113	83.3	114	41.33	9.29	t t	
Qualifiers: E Value above c ND Not Detected	Value above quantitation range Not Detected at the Reporting Limit		H Holdi R RPD (Holding times for preparation or analysis exceeded RPD outside accepted recovery fimits	n or analysis cry fimits	exceeded	- 0	vnalyte detected b ipike Recovery ou	Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits	imits very limits	

Page 2

CLIENT: San Juan Refining

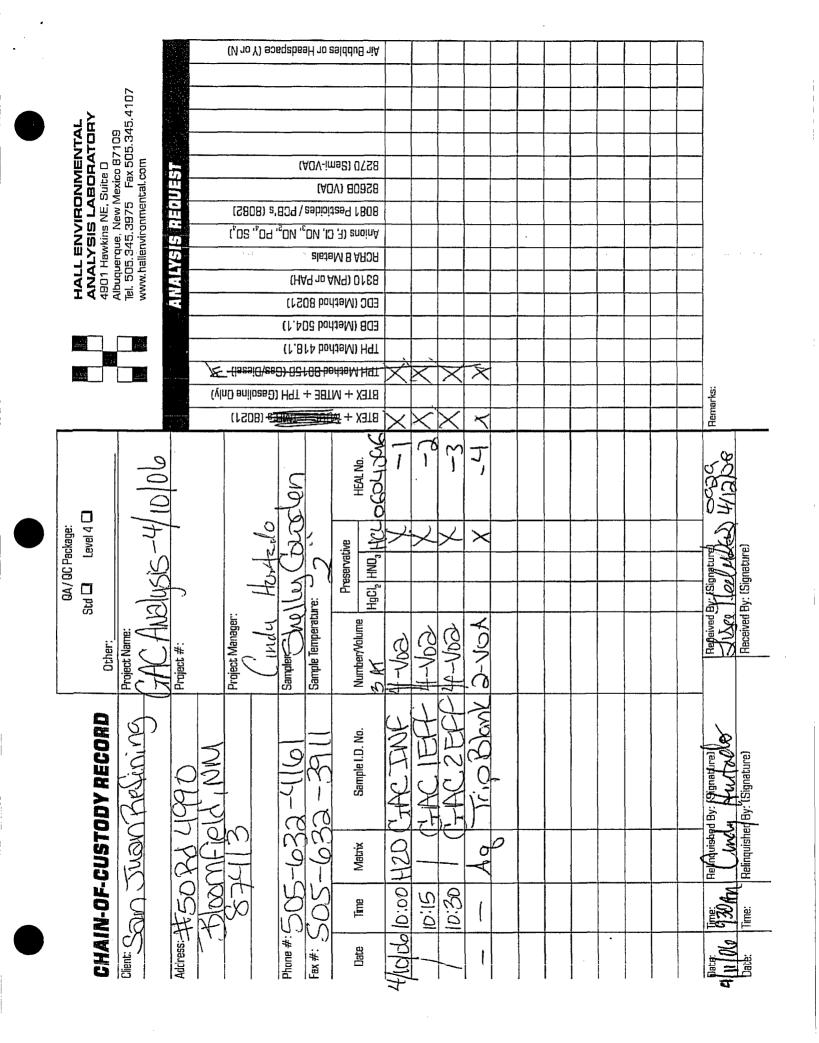
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Hall Environmental Analysis Laboratory

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	Sample Receipt Che	ecklist		
Client Name SJR		Date and Time	Received:	4/12/2006
Work Order Number 0604096		Received by	LMM	
Checklist completed by Juge Hales	202 4/13 Date	2105	_	
Matrix	Carrier name UPS			
Shipping container/cooler in good condition?	Yes 🗹	No 🗔	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🔽		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 rece	ived? Yes 🗹	No 🗆		
Chain of custody agrees with sample labels?	Yes 🔽	No 🗔		
Samples in proper container/bottle?	Yes 🗹	No 🗆		
Sample containers intact?	Yes 🗹	Νο 🗔		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗖		
All samples received within holding time?	Yes 🔽	No 🗔		
Water - VOA vials have zero headspace? N	to VOA vials submitted	Yes 🗹	No 🗆	
Water - pH acceptable upon receipt?	Yes 🗌		N/A 🗹	
Container/Temp Blank temperature?		4° C ± 2 Acceptat		
COMMENTS:				
Client contacted Da	le contacted:	Pers	on contacted	
Contacted by: Re	garding	·		
Comments: 3 1) 049 5	for each	Sumf	Le idea	re tiszen/bjeken
URON Reception		0~		
147				
				·····
Corrective Action				

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COVER LETTER

Thursday, April 27, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC - 4/17/06

Dear Cindy Hurtado:

Order No.: 0604155

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/18/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

	onmental Analys	is Labora	•		: 27-Ap	or-06
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0604155 GAC - 4/17/06 0604155-01			Client Sample ID Collection Date Date Received	: 4/17/2	2006 10:00:00 AM 2006 EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range O	8015B: DIESEL RANGE rganics (DRO) e Organics (MRO)	ND ND 115	1.0 5.0 58-140	mg/L mg/L %REC	1 1 1	Analyst: SCC 4/19/2006 10:45:17 AM 4/19/2006 10:45:17 AM 4/19/2006 10:45:17 AM
	8015B: GASOLINE RAN Organics (GRO)	GE 14 97.7	1.0 79.7-118	mg/L %REC	20 20	Analyst: NSB 4/22/2006 8:03:33 AM 4/22/2006 8:03:33 AM
Benzene Toluene Ethylbenzene Xylenes, Total	8021B: VOLATILES	65 ND 820 5300 106	20 20 20 150 82,2-119	µg/L µg/L µg/L µg/L %REC	20 20 20 50 20	Analyst: NSB 4/22/2006 8:03:33 AM 4/22/2006 8:03:33 AM 4/22/2006 8:03:33 AM 4/24/2006 1:43:08 PM 4/22/2006 8:03:33 AM

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Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 3

Hall Envir	onmental Analys		tory	Dat	e: 27-Ap	or-06
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0604155 GAC - 4/17/06 0604155-02			Date Received	e: 4/17/2	2006 10:15:00 AM 2006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range C	8015B: DIESEL RANGE Organics (DRO) e Organics (MRO)	ND ND 128	1.0 5.0 58-140	mg/L mg/L %REC	1 1 1	Analyst: SCC 4/19/2006 11:31:12 AM 4/19/2006 11:31:12 AM 4/19/2006 11:31:12 AM
	8015B: GASOLINE RAN e Organics (GRO)	GE ND 96.6	0.050 79.7-118	mg/L %REC	1	Analyst: NSB 4/22/2006 8:32:32 AM 4/22/2006 8:32:32 AM
EPA METHOD Benzene Toluene	8021B: VOLATILES	ND	1.0	hð\r	1	Analyst: NSB 4/22/2006 8:32:32 AM 4/22/2006 8:32:32 AM
Ethylbenzene Xylenes, Total Surr: 4-Brom	oofluorobenzene	ND ND 105	1.0 3.0 82.2-119	μg/L μg/L %REC	1 1 1	4/22/2006 8:32:32 AM 4/22/2006 8:32:32 AM 4/22/2006 8:32:32 AM

* Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 2 of 3

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Hall Envir	ronmental Analys	is Labora	itory		e: 27-A _F	
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0604155 GAC - 4/17/06 0604155-03		~ ⁻	Client Sample II Collection Date Date Received): GAC e: 4/17/2	2006 10:30:00 AM 2006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
Diesel Range C	8015B: DIESEL RANGE Drganics (DRO) ge Organics (MRO)	ND ND 97.9	1.0 5.0 58-140	mg/L mg/L %REC	1 1 1	Analyst: SCC 4/19/2006 12:04:15 PM 4/19/2006 12:04:15 PM 4/19/2006 12:04:15 PM
	8015B: GASOLINE RAN	GE	0.050	ma/L	1	Analyst: NSB 4/22/2006 9:01:39 AM
Surr: BFB		98.6	79.7-118	%REC	1	4/22/2006 9:01:39 AM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	4/22/2006 9:01:39 AM
Toluene		ND	1.0	µg/L	1	4/22/2006 9:01:39 AM
Ethylbenzene		ND	1.0	µg/L	1	4/22/2006 9:01:39 AM
Xylenes, Total		ND	3.0	µg/L	1	4/22/2006 9:01:39 AM
Surr: 4-Bron	nofluorobenzene	107	82.2-119	%REC	1	4/22/2006 9:01:39 AM

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

Hall Enviro	nmental Analy	Hall Environmental Analysis Laboratory							
CLIENT: Work Order:	San Juan Refining 0604155	Δ0					ANALYTICAL QC	YTIC	AL (
Project:	GAC - 4/17/06								TestCode
Sample ID: MB-10205		SampType: MBLK	TestCode	8015DRO	TestCode: 8015DR0_W Units: mg/L		Prep Dat	Prep Date: 4/19/2006	2006
Client ID: ZZZZ		Batch ID: 10205	TestNo	TestNo: SW8015			Analysis Date: 4/19/2006	e: 4/19/2	2006
Analvte		Result	Pal	SPK value	SPK value SPK Ref Val	%REC	%REC LowLimit HighLimit RPD Ref \	HighLimit	RPD

Sample ID: MB-10205	SampType: MBLK	TestCode: 8015DRO_W Units: mg/L	Prep Date:	Prep Date: 4/19/2006	RunNo: 18955
Client ID: 22222			Analysis Date: 4/19/2000	4/ 1 <i>3/ 2</i> 006	Sequo: 4/1491
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	ghLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	DN	1.0			
Motor Oil Range Organics (MRO)	() ND	5.0			
Sample ID: LCS-10205	SampType: LCS	TestCode: 8015DRO_W Units: mg/L	Prep Date: 4/19/2006	4/19/2006	RunNo: 18955
Client ID: ZZZZ	Batch ID: 10205	TestNo: SW8015	Analysis Date: 4/19/2006	4/19/2006	SeqNo: 471492
Analyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	ghLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.308	1.0 5 0	106 81.2	149	
Sample ID: LCSD-10205	SampType: LCSD	TestCode: 8015DRO_W Units: mg/L	Prep Date: 4/19/2006	4/19/2006	RunNo: 18955
	Batch ID: 10205	TestNo: SW8015	Analysis Date: 4/19/2006	4/19/2006	SegNo: 471493
↔ nalyte	Result	PQL SPK value SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val	ghLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.916	1.0 5 0	118 81.2	149 5.308	10.8 23

E Value above quantitation range ND Not Detected at the Reporting Limit Qualifiers:

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits н ч

- s

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

Page 1

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SUMMARY REPORT le: 8015DRO_W

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Date: 27-Apr-06

GAC - 4/17/06 s smL reagent bla S						AIAU		ANALI HOAL QU SUMMANI NELUNI	UN I
Sample ID: 5ML REAGENT BLA SampType: M							TestCode:	TestCode: 8015GRO_W	
	IBLK	TestCode:	TestCode: 8015GRO_W	/ Units: mg/L		Prep Date:	le:	RunNo: 19011	
Cilent ID: 22222	19011	TestNo:	io: SW8015			Analysis Dat	Analysis Date: 4/21/2006	SeqNo: 472823	
Analyte	Result	PQL	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline Range Organics (GRO)	ΩN	0.050							
Sample ID: 5ML REAGENT BLA SampType: MBLK	BLK	TestCode:	le: 8015GRO_W	/ Units: mg/L	, , ,	Prep Date:	:e:	RunNo: 19029	
Client ID: ZZZZ Batch ID: R19029	19029	TestNo:	TestNo: SW8015			Analysis Dat	Analysis Date: 4/24/2006	SeqNo: 473119	
R Analyte.	Result	PQL	SPK value SI	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline Range Organics (GRO)	QN	0.050							
Sample ID: 2.5UG GRO LCS SampType: LCS	cs	TestCode:	TestCode: 8015GR0_W	Units: mg/L		Prep Date:		RunNo: 19011	
Client (D: ZZZZ Batch ID: R19011	19011	TestNo:	o: SW8015			Analysis Date:	e: 4/22/2006	SeqNo: 472824	
R	Result	Par	SPK value Sł	SPK Ref Val	%REC	LowLimit	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit	Qual
, soline Range Organics (GRO) 0.	0.4880	0.050	0.5	0	97.6	82.6	114		
Sample ID: 2.5UG GRO LCS SampType: LCS	SS	TestCode:	TestCode: 8015GRO_W	Units: mg/L		Prep Date:		RunNo: 19029	
Client ID: ZZZZZ Batch ID: R19029	19029	TestNo:	TestNo: SW8015			Analysis Date:	e: 4/24/2006	SeqNo: 473120	
Analyte	Result	PQL	SPK value SF	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Gasoline Range Organics (GRO) 0.4	0.4800	0.050	0.5	0	96.0	73.3	119		

- s Holding times for preparation or analysis exceeded RPD outside accepted recovery limits

нч

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

Qualifiers:

Not Detected at the Reporting Limit Value above quantitation range ыQ Page 2

Matrix true: Matrix field: TextCrue: Matrix field:		San Juan Refining	,		AP	ANALYTICAL QC SUMMARY REPORT	JMMARY REPO	RT
Samplype MBLK TestCode: BOZIBTEX_W Units Jack Runito: 1901 Batch Dr. R1011 TestNos SW0621 SW0621 Anaysis Date. Attanti RPD Rat Val Serpto. 437742 Batch Dr. R1010: TestNos SW0621 Serpto. Serpto. 4372006 Serpto. 437742 Batch Dr. R1001: 10 10 Serpto. Serpto. 4372006 Serpto. 437742 Samplypee MBLK TestNos SW0021 Anaysis Date. 4222006 Serpto. 472001 Samplypee MBLK TestNos SW0021 Anaysis Date. 4222006 Serpto. 472003 Samplypee MBLK TestNos SW0021 Anaysis Date. 4222006 Serpto. 472001 Samplypee MBLK TestNos SW0021 Anaysis Date. 4222006 Serpto. 472100 Samplypee MBLK TestNos SW0021 Serpto. 472000 Serpto. 473100 Samplypee MBLK TestNos SW0021 SerpNo. 473100 473100 <th></th> <th>./17/06</th> <th></th> <th></th> <th></th> <th>TestCode:</th> <th>8021BTEX_W</th> <th></th>		./17/06				TestCode:	8021BTEX_W	
Each D. FIO1.TestNo. SW021TestNo. SW021Analysis Data471/206SerNo. 47242Result10109999999910ND10101099999991010ND1010101010910910 <t< th=""><th>Sample ID: 5ML REAGENT B</th><th>11</th><th></th><th>ts: µa/L</th><th>Ē</th><th>ep Date:</th><th>RunNo: 19011</th><th></th></t<>	Sample ID: 5ML REAGENT B	11		ts: µa/L	Ē	ep Date:	RunNo: 19011	
Result PQL SPK value SPK Ref Val %RPD RPD Ref Val %RPD RPD Limit ND 1,0 1,0 1,0 1,0 %RPD Service Service MRD RPD Limit MRD RPD Limit MRD RPD Limit MRD RPD Ref Val %RPD Ref No Service Ref No	Client ID: ZZZZZ) -	Analy		SeqNo: 472742	
ND 10 10 ND 10 10 ND 10 10 Samp/yze MBLK TerCote: 8021BTK_W Miss: JpL Amalysis Date: 4222006 Serial Standing Serial Standing Series RunNo: 1011 Fasho: Sw021 TerSoc. 8021BTK_W Miss: JpL Amalysis Date: 4222006 Serial Standing Serial Standing Series RunNo: 1012 Samp/yze MBLK 10 10 Amalysis Date: 4222006 Serial Standing Serial Serial Standing Serial Standing Serial Standing Serial Serial Serial Serial Standing Serial Standing Serial Standing Serial Serial Serial Serial Standing Serial Seria Serial Serial Seria Serial Serial Seria Serial Serial	Analyte	Result	SPK value			HighLimit		Qual
ND 10 ND 10 SampType: MELK TestCode: 8021ETEX_W Units: pgL Prep Date: RunNo: 1011 Batch ID: R1001 TestCode: 8021ETEX_W Units: pgL Prep Date: RunNo: 1011 Batch ID: R1001 TestRo: 80021 Analysis bate: 4222006 RunNo: 1011 Batch ID: R1001 TestRo: 80021 Analysis bate: 4222006 RunNo: 1011 ND 10 SPK Ref Val %REC LowUmit RpD.Init SampType: MELK Pol. SPK Ref Val %REC LowUmit RpD.Init SampType: MELK 10 10 Manipsis Date: 4222006 Rent-4222006 Rent-4222006 SampType: MELK Pol. SPK Ref Val %REC LowUmit RpD.Init SampType: MELK TestCode: SPK Ref Val %REC LowUmit RpD.Init SampType: MELK Pol. SPK Ref Val %REC LowUmit RpD.Init SampType: MELK Pol. SPK Ref Val %REC LowUmit RpD.Init Result Pol. SPK with	Benzene	QN	1.0					
ND1010SampType:TestNoc:8021BTEX_WUnits:Mol.10011Batch ID:TestNoc:8021BTEX_WUnits:Mol.10011Batch ID:TestNoc:8021BTEX_WUnits:Mol.10011Batch ID:ResultPCLSPK Ref Val%RECLowLimitRPD Ref Val%RPDND101010AnalysisDate:4722006SeqNo:472803ND101010AnalysisDate:4722006SeqNo:472803ND10101010AnalysisDate:4724006SeqNo:472803SampType:ND1010AnalysisAnalysisDate:4724006SeqNo:473100SampType:ResultPCLSYKRef Val%RECLowLimitRPD Ref Val%RPD747100SampType:ResultPCLSYKRef Val%RECLowLimitRPD Ref Val%RPD747100SampType:1010No10No10No1001ND1010No10No10011001SampType:101010No101001ND10101010No1001ND10101010101001ND10101010101001ND1010101010011001ND	Toluene	QN	1.0					
ND3030RunNo: 1901Samptype: MBLKrestCade: 8021BTEX_W Units: µgLPrep Date:RunNo: 1901Batch D: R1901restCade: 8021BTEX_W Units: µgLAnalysis Date:4/222006SeqNo: 47203Batch D: ND10 10 30 30 30 30 30 30 ND1010 10 30 30 30 30 30 Samptype: MBLK10 10 30 30 30 30 30 Samptype: MBLKTestCode: 8021BTEX_W Units: µgLPrep Date: $4/242006$ SeqNo: 47300Samptype: KBLKTestCode: 8021BTEX_W Units: µgLPrep Date: $4/242006$ SeqNo: 473100ND10 10 30 30 30 30 30 Samptype: KBLKPoLSPK RetVal 36 RELowLmitHighLimitRPD RetVal 56 ReSamptype: KBLKPoLSPK RetVal 56 RELowLmitHighLimitRPD RetVal 56 Re $4/24206$ Batch D: R100110 10 10 10 10 30 30 30 30 Samptyse1010 10 10 10 30 30 30 30 30 Samptyse1010 10 10 10 10 30 30 30 30 Samptyse1020 10 20 30 30 30 30 30 Samptyse1020 10 30 10 30	Ethyltrenzene	QN	1.0					
Samplype:TestCode:BO21 ETX_WUnits:JupTestCode:B021 EqtCode:RunNio:1001Batch ID:Frep Date:Analysis Date:41222006SeqNo:47203Batch ID:1010 (10) (10) (10) (10) (10) ND1010 (10) (10) (10) (10) (10) ND1010 (10) (10) (10) (10) (10) ND10 (10) (10) (10) (10) (10) (10) ND10 (10) (10) (10) (10) (10) (10) SampType:MBLKTestCode:80216TEX_WUnits: $JI242006$ SeqNo: 473100 Batch ID:F100 (10) (10) (10) (10) (10) (10) (10) (10) ND (10) (10) (10) (10) (10) (10) (10) (10) ND (10) (10) (10) (10) (10) (10) (10) (10) ND (10) (10) (10) (10) (10) (10) (10) (10) ND (10) (10) (10) (10) (10) (10) (10) (10) ND (10) (10) (10) (10) (10) (10) (10) (10) ND (10) (10) (10) (10) (10) (10) (10) (10) ND	Xylenes. Total	QN	3.0					
Batch ID: R1901TeetNo: SW021Analysis Date:472/2006SeqNo: 472803ResultPOLSPK rature%REd Val%REdLowLinitRPD Raf Val%RPD Raf Val </td <td>Sample ID: 5ML RB-II</td> <td>SampType: MBLK</td> <td>TestCode: 8021BTEX_W Uni</td> <td>ts: µg/L</td> <td>Pr</td> <td>ep Date:</td> <td></td> <td></td>	Sample ID: 5ML RB-II	SampType: MBLK	TestCode: 8021BTEX_W Uni	ts: µg/L	Pr	ep Date:		
ResultPOLSPK ratureSMR clumitMIDMiD		Batch ID: R19011	TestNo: SW8021		Analy		SeqNo: 472803	
ND 10 ND 10 ND 10 ND 10 ND 10 ND TestCode: 8021BTEX_W Units: Jgt. Prep Date: Rumu. 1902 Batch ID: R19029 TestCode: 8021BTEX_W Units: Jgt. Prep Date: Rumu. 1902 Batch ID: R19029 TestCode: 8021BTEX_W Units: Jgt. Analysis Date: At24/2006 SeqNo. At3100 Batch ID: R19029 TestCode: 8021BTEX_W Units: Jgt. Analysis Date: At24/2006 SeqNo. At3100 ND 10 ND ND ND ND ND ND ND 10 ND ND ND ND ND ND ND SampType: LCS TestCode: 8021BTEX_W Units: Jgt. Analysis Date: At24/2006 SeqNo. At3100 SampType: LCS TestCode: 8021BTEX_W Units: Jgt. Analysis Date: At2012BL Rumu. ND SampType: LCS TestCode: 8021BTEX_W Units: Jgt. Prep Date: Rumu. Rumu. Rumu. Rumu.<	Analyte	Result	SPK value			HighLimit	RPDLimit	Qual
ND1010ND1010SampType10SampTypeTestCode: 80218TEX_W Units: µgLPrep Date:Batch ID:R19029TestNo: SW8021Analysis Date:Batch ID:R19029SeqNo: SW8021Analysis Date:ResultPcLSPK valueSPK Ret ValND10Analysis Date:4/24/2006ND10Analysis Date:4/24/2006ND1020Analysis Date:ND20010320.49102001020010320.531020103Analysis exceeded1Analysis exceededAnalysis Ansected recovery limits1Analysis Ansected recovery limits1A	Benzene	DN	1.0					
ND1010ND3.03.0SampType: MBLKTestCode: 8021BTEX_W Units: µg/LPrep Date:SampType: K100: 8021BTEX_W Units: µg/LFrep Date:RunNo: 19029Batch ID: K19029TestNo: SW8021Analysis Date:4/24/2006ResultPOLSPK valueSPK Ref Val%RPCND1010No10ND1010Analysis Date:4/24/2006ND1010No10ND1010Analysis Date:4/24/2006ND1010No10ND1010Analysis Date:4/21/2006SampType: LCSTestCode: 8021BTEX_W Units: µg/LAnalysis Date:4/21/2006SampType: LCSTestCode: 8021BTEX_W Units: µg/LAnalysis Date:4/21/2006SampType: LCSTestCode: 8021BTEX_M Units: µg/LAnalysis Date:4/21/2006Satch ID: R1901TestNo: SW8021Analysis Date:4/21/2006Satch ID: R190120010288.5Analysis Date:114Analysis Date:4/21/2006Satch ID: R190120010387.2Analysis Batch ID: R1901114114Satch ID: R190110138.6Analysis Batch ID: R1901114Analysis Batch ID: R190138.6Analysis Batch ID: R190138.6Analysis Batch ID: R190138.6Analysis Batch ID: R1901114Analysis Batch ID: R1901114 <td< td=""><td>Toluene</td><td>QN</td><td>1.0</td><td></td><td></td><td></td><td></td><td></td></td<>	Toluene	QN	1.0					
ND 3.0 3.0 3.0 3.0 3.0 3.0 $RunNo:$ 19029 SampType:TestCode: $8021BTEX_W$ Units: μOL $Pep Date:$ $RunNo:$ 19029 Batch ID:R19029TestNo: $Sw8021$ $Analysis Date:$ $474/2006$ $SeqNo:$ 473100 ResultPQLSPK Ret Val $\% REC$ $LowLimit$ $HighLimit$ $RPD Ref Val\% RPDRPDLimitND1.01.0ND1.0Analysis Date:474/2006SeqNo:473100ND1.01.0Analysis Date:474/20065eqNo:473100SampType:LCSTestCode:8021BTEX_WNits: Jg/LAnalysis Date:4721/2006SeqNo:4721/3Batch ID:R19011TestNo:Sw8021Analysis Date:4121/2006SeqNo:4721/3SampType:LCSTestNo:Sw8021Analysis Date:4121/2006SeqNo:4721/3Batch ID:R19011R101R101R101R101R101SampType:CS10020010032.04121/3SampType:CS10088.6114800800114SampType:10020010388.6114114SampType:10020010388.6114114SampType:114114114$	Ethylcenzene	QN	1.0					
SampType:MBLKTestCode:B02LSPEK wileMnils: <th< td=""><td>o (ylenes, Total</td><td>QN</td><td>3.0</td><td></td><td></td><td></td><td></td><td></td></th<>	o (ylenes, Total	QN	3.0					
Batch ID: R1002TestNo: SW001:Analysis Date: $4/24/2006$ SeqNo: 473100ResultPQLSPK valueSPK Ref Val%RECLowLimitRPD Ref Val%RPDRPDLimitND1.01.0ND1.0S.SeqNo: 47310SeqNo: 47310ND1.01.0ND1.0SeqNo: 47310SeqNo: 47310ND1.01.0ND1.0SeqNo: 4731SeqNo: 4731ND1.01.0ND1.0SeqNo: 4731SeqNo: 4731SampType: LCSTestCode:SetCode:Analysis Date:4/21/2006SeqNo: 472143Batch ID: R1001TestNo: SW0021Analysis Date:4/21/2006SeqNo: 472143Batch ID: R101D: R101D: R101D: R101TestNo: SW0021Analysis Date:4/21/2006SeqNo: 472143Second: SOLD20010388.5114SeqNo: 472143Later LCS1.020010388.5114Sold1.020010388.5114Later LCS1.120.561.1114Later LCS1.120.561.1114Later LCS1.11.11.11.1Later LCS1.11.11.11.1Later LCS1.11.11.11.1Later LCS1.11.11.11.1Later LCS1.11.11.1Later LCS1.11.11.1Later LCS1.11.11.1	Sample ID: 5ML REAGENT B			s: µg/L	- P	ep Date:		
ResultPQLSPK valueSPK kef Val $\%$ RELowLimitHighLimitRPD Ref Val $\%$ RPDRPD Limit01.0 <td>Client ID: ZZZZ</td> <td></td> <td>TestNo: SW8021</td> <td></td> <td>Analy</td> <td></td> <td>SeqNo: 473100</td> <td></td>	Client ID: ZZZZ		TestNo: SW8021		Analy		SeqNo: 473100	
action1.01.0 2 ND 1.0 2 ND 1.0 2 ND 1.0 2 ID 1.0 2 ID 1.0 2 ID 2.0 2 ID 2.0 2 ID 2.0 2 ID 1.0 2 ID 1.0 2 ID 1.0 2 ID 2.0 2 ID 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 <td>Analyte</td> <td>Result</td> <td>SPK value</td> <td></td> <td></td> <td>HighLimit</td> <td>RPDLimit</td> <td>Qual</td>	Analyte	Result	SPK value			HighLimit	RPDLimit	Qual
arzene nzene NDND10 10nzene 	Benzene	QN	1.0					
nzene nzene N D1.0 3.0<	Toluene	QN	1.0					
I. TotalND 3.0 1D: 100NG BTEX LCSSampType: LCSTestCode: 8021BTEX_W Units: Jg/LPrep Date: $RunNo:$ 19011D: 100NG BTEX LCSSampType: LCSTestCode: 8021BTEX_W Units: Jg/LPrep Date: $4/21/2006$ SeqNo:47274310: 22222Batch ID: R19011TestNo: SW8021Analysis Date: $4/21/2006$ SeqNo: 472743 10: 220261:020010288.511410: 20:651:020010387.211410: 20:531:020010388.611311: 2: EValue above quantitation rangeHHolding times for preparation or analysis exceededJAnalyte detected below quantitation fimitsNDNot Detected at the Reporting LimitRRPD outside accepted recovery limitsSSpike Recovery outside accepted recovery limits	Ethylbenzene	QN	1.0					
ID:100 KB TEX LCsSampType:LCsTestCode:Botcl TEX_WUnits: Jg/L $Prep Date:RunNo:19011D:ZZZZZBatch ID:R19011TestNo:SW8021Analysis Date:4/21/2006SeqNo:472743D:ZZZZZBatch ID:ResultPCLSPK Ref Val\% RCLwLimitHighLimitRPD Ref Val\% RPDResult20.491.020010288.5114Pace20.651.020010387.2114Pace20.531.020010388.6114Pace20.531.020010388.6114Pace20.531.020010388.6114NDNot Detected at the Reporting LimitRHolding times for preparation or analysis exceeded1Analyte detected below quantitation fimitsNDNot Detected at the Reporting LimitRRPD outside accepted recovery limitsSSpike Recovery outside accepted recovery limits$	Xylenes, Total	QN	3.0					
D:ZZZZBatch ID:R1901TestNo:SW8021Analysis Date:4/21/2006SeqNo:472743ResultPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLResultPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLResultPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPOLPOLPOLPOLPOLPOLPOLPOLPOLPolPOLPO	Sample ID: 100NG BTEX LCS			s: µg/L	Pre	ep Date:	RunNo: 19011	
ResultPQLSPK valueSPK Ref Val%RECLowLimitHighLimitRPD Ref Val%RPDRPD LimitRe20.491.020010288.5114Nen20.651.020010387.2114Nen20.531.020010388.6113rs:EValue above quantitation rangeHHolding times for preparation or analysis exceededJAnalyte detected below quantitation fimitsNDNo Detected at the Reporting LimitRRD outside accepted recovery limitsSSpike Recovery outside accepted recovery limits		Batch ID: R19011	TestNo: SW8021		Analys		SeqNo: 472743	
20.49 1.0 20 0 102 88.5 114 20.65 1.0 20 0 103 87.2 114 20.53 1.0 20 0 103 88.6 113 E Value above quantitation range H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit R R PD outside accepted recovery limits S	Analyte	Result	SPK value			HighLimit	RPDLimit	Qual
20.65 1.0 20 0 103 87.2 114 20.53 1.0 20 0 103 88.6 113 E Value above quantitation range H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S	Benzene	20.49						
20.53 1.0 20 0 103 88.6 113 E Value above quantitation range H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit R R PD outside accepted recovery limits S	Toluene	20.65						
E Value above quantitation range H Holding times for preparation or analysis exceeded J ND Not Detected at the Reporting Limit R RPD outside accepted recovery limits S	Ethylbenzene	20.53						
Not Detected at the Reporting Limit R PD outside accepted recovery limits S	н н н	ve quantitation range	i.	- preparation or a	nalysis excee	-	below quantitation fimits	
		ed at the Reporting Limit		pted recovery lir	nits		utside accepted recovery limits	

Page 3

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CLIENT: San Juan Refining	efining					ANAL	ANALYTICAL QC SUMMARY REPORT	SUMN	IARY R	EPOR	[
Project: GAC - 4/17/06	//06						TestCode:	e: 8021BTEX	TEX_W		
Sample (D: 100NG BTEX LCS	SampType: LCS	TestCode	TestCode: 8021BTEX W	V Units: µg/L		Prep Date:	e:	Run	RunNo: 19011		
	Botch ID: D10011	ToetNo	Terthio: CM/8021)		Analysis Date:	a. 4/21/2006	Con	SecNo: 472743		
			1700000			Allalysis Ual		ihac	10. 412143		
Analyte	Result	PQL	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val		%RPD RPC	RPDLimit Qu	Qual
Xylenes, Total	42.11	3.0	40	0	105	83.3	114				
Sample ID: 100NG BTEX LCS-II	SampType: LCS	TestCode	TestCode: 8021BTEX_W	V Units: µg/L		Prep Date:		Run	RunNo: 19011		[
Client ID: ZZZZ	Batch ID: R19011	TestNo	TestNo: SW8021			Analysis Date:	e: 4/22/2006	Seq	SeqNo: 472804		
Analyte	Result	Par	SPK value S	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val		%RPD RPD	RPDLimit Qual	ler
Benzene	21.40	1.0	20	0	107	88.5	114]
Toluene	22.09	1.0	20	0	110	87.2	114				
Ethylbenzene	21.67	1.0	20	0	108	88.6	113				
Xylenes, Total	44.41	3.0	40	0	111	83.3	114				
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode	TestCode: 8021BTEX_W	V Units: µg/L		Prep Date:	.0	Run	RunNo: 19029		
A lient ID: ZZZZ	Batch ID: R19029	TestNo	TestNo: SW8021			Analysis Date:	a: 4/25/2006	SeqN	SeqNo: 473101		
∞ Analyte	Result	PQL	SPK value Si	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val		%RPD RPD	RPDLimit Qual	<u>a</u>
Benzene	22.07	1.0	20	0	110	85	115]
Toluere	22.68	1.0	20	0	113	85	118				
Ethylbenzene	22.07	1.0	20	0	110	85	116				
Xylenes, Total	46.39	3.0	40	0	116	85	119				
Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCode	TestCode: 8021BTEX_W	V Units: µg/L		Prep Date:		RunNo:	Jo: 19029		
Client ID: ZZZZ	Batch ID: R19029	TestNo	TestNo: SW8021			Analysis Date:	e: 4/25/2006	SeqNo:	lo: 473102		
Analyte	Result	PQL	SPK value SI	SPK Ref Val	%REC	LowLimit	HighLimit RPD Ref Val		%RPD RPD	RPDLimit Qual	a a
Benzene	21.13	1.0	20	0	106	85	115 22	22.07	4.37	27]
Toluer e	21.83	1.0	20	0	109	85	118 22	22.68	3.81	19	
Ethylbenzene	20.68	1.0	20	0	103	85	116 22	22.07	6.50	10	
Xylenes, Total	43.04	3.0	40	0	108	85	119 46	46.39	7.50	13	
Qualifiers: E Value above qi ND Not Detected a	Value above quantitation range Not Detected at the Reporting Limit	r	H Holding (i R RPD outsi	Holding times for preparation or analysis exceeded RPD outside accepted recovery limits	n or analysis ery limits	exceeded	J Analyte de f e S Spike Recov	cted helow qu ery outside ac	Analyte defected helow quantitation limits Spike Recovery outside accepted recovery limits	s / limits	
											Page 4

Hall Environmental Analysis Laboratory

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•	Sample Red	ceipt Che	cklist		
int Name SJR			Date and Time	Received:	4/18/2006
Work Order Number 0604155			Received by	LMM	
Checklist completed by Kuse, Hell	ikca i)C		
Matrix	Carrier name <u>UP</u>	<u>s</u>			
Shipping container/cooler in good condition?	Ye	s 🔽	No 🗌	Not Present	
Custody seals intact on shipping container/cooler	? Ye	s 🔽	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Ye	s 🗔	No 🔽	N/A	
Chain of custody present?	Ye	s 🔽	No 🗔		
Chain of custody signed when relinquished and re	eceived? Ye	s 🗹	No 🗌		
Chain of custody agrees with sample labels?	Ye	s 🖌	No 🗌		
Samples in proper container/bottle?	Ye	s 🗹	No 🗌		
Sample containers intact?	Ye	s 🔽	No 🗌		
Sufficient sample volume for indicated test?	Ye	s 🔽	No 🗌		
All samples received within holding time?	Ye	s 🗹	No 🗌		
Vater - VOA vials have zero headspace?	No VOA vials submitted	± 🗋	Yes 🗹	No 🗌	
ater - pH acceptable upon receipt?	Ye	s 🗌	No 🗌	N/A 🔽	
Container/Temp Blank temperature?		1°	4° C ± 2 Accepta If given sufficient		
COMMENTS:					
	· ·				· · · · · · · · · · · · · · · · · · ·
Client contacted	Date contacted:		Pers	on contacted	
Contacted by:	Regarding				
Comments:					
					A 1 4
				·	
Corrective Action					
	and a second second second second second second second second second second second second second second second				

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3375 Fax 505.345.4107 www.hallenvironmental.com	0 (PNA or PAH) A 8 Metals 1 Pesticides / PCB's (8082) 0 (Semi-VOA) 0 (Semi-VOA) 1 Pesticides (Y or N) 1 Pest	ADA Anior 808' 826 826 8270 2528 7228			
	(+ M TGE+1TM B's (8021) (+ MTBE + TPH (Gasoline On Method 8015B (Gas/Diesel) (Method 504.1) (Method 8021)	EDB LIDH I BLEX BLEX	× × × ×		Remarks:
$\begin{array}{c c} 0A/0C \text{ Package:} \\ \text{Std} \Box \text{ Level 4} \Box \\ \hline \text{Other:} \\ \hline \text{Project Name:} \\ \hline \mathcal{C}\mathcal{MC} - \mathcal{V}/\mathcal{I}\mathcal{Z}/\delta\mathcal{C} \\ \hline \text{Project #:} \end{array}$	in Hurtado Luchen une: O Preservative	HEAL NO. HIGCI2 HND3 RU OGO-1150			Received By: (Signature) CL2(0) 14 (ULK) (CC) 1181) Received By: (Signature)
6000 ECORD		Hatrix Sample I.D. No. Number/You Hz U GAC INF 4-10A	GAC I EFF GAC A EFF		Relinquished By: (Signature) Relinquished By: (Signature)
CHAIN-OF-GUSTODY R Client: SAN Juen Refining Address: 450 Rulan 1990		Uate lime W 4//2/06 [0AM H,			4 Date: Times Reli



COVER LETTER

Friday, April 28, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 4/24/06

Dear Cindy Hurtado:

Order No.: 0604235

Hall Environmental Analysis Laboratory received 3 sample(s) on 4/25/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

Hall Envir	onmental Analysis	s Labora	tory		Date:	28-Aj	or-06
CLIENT:	San Juan Refining			C	lient Sample ID:	GAC	INF
Lab Order:	0604235				Collection Date:	4/24/2	2006 1:00:00 PM
Project:	GAC Analysis 4/24/06				Date Received:	4/25/2	2006
Lab ID:	0604235-01				Matrix:	AQU	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: JMP
Diesel Range C	Organics (DRO)	ND	1.0		mg/L	1	4/27/2006 10:51:55 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	4/27/2006 10:51:55 PM
Surr: DNOP		137	58-140		%REC	1	4/27/2006 10:51:55 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: HLM
Gasoline Rang	e Organics (GRO)	13	1.0		mg/L	20	4/25/2006 4:08:04 PM
Surr: BFB		109	80-123		%REC	20	4/25/2006 4:08:04 PM
EPA METHOD	8021B: VOLATILES						Analyst: HLM
Benzene		65	20		µg/L	20	4/25/2006 4:08:04 PM
Toluene		ND	20		µg/L	20	4/25/2006 4:08:04 PM
Ethylbenzene		820	20		µg/L	20	4/25/2006 4:08:04 PM
Xylenes, Total		4600	60		µg/L	20	4/25/2006 4:08:04 PM
Surr: 4-Brom	nofluorobenzene	99.0	85-115		%REC	20	4/25/2006 4:08:04 PM

*

Value exceeds Maximum Contaminant Level

Е Value above quantitation range

J Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits S

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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Hall Envir	onmental Analysi	s Labora	tory	I	Date: 28-A	
CLIENT:	San Juan Refining			Client Sampl	e ID: GAC	1 EFF
Lab Order:	0604235					2006 1:10:00 PM
Project:	GAC Analysis 4/24/06			Date Rece	ived: 4/25/	2006
Lab ID:	0604235-02				trix: AQL	IEOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: JMP
Diesel Range (Organics (DRO)	ND	1.0	mg/L	1	4/27/2006 11:25:33 PM
Motor Oil Rang	je Organics (MRO)	ND	5.0	mg/L	1	4/27/2006 11:25:33 PM
Surr: DNOP		128	58-140	%REC	1	4/27/2006 11:25:33 PM
EPA METHOD	8015B: GASOLINE RANG	θE				Analyst: HLM
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L	1	4/25/2006 4:38:55 PM
Surr: BFB		90.7	80-123	%REC	1	4/25/2006 4:38:55 PM
EPA METHOD	8021B: VOLATILES					Analyst: HLM
Benzene		ND	1.0	µg/L	1	4/26/2006 4:32:53 PM
Toluene		ND	1.0	нд/Г	1	4/26/2006 4:32:53 PM
Ethylbenzene		ND	1.0	hð\r	1	4/26/2006 4:32:53 PM
Xylenes, Total		ND	3.0	µg/L	1	4/26/2006 4:32:53 PM
Surr: 4-Bron	nofluorobenzene	102	85-115	%REC	1	4/26/2006 4:32:53 PM



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Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0604235 GAC Analysis 4/24/0 0604235-03	6		Date Recei	ate: 4/24/2	2006 1:20:00 PM 2006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: JMP
Diesel Range C	Organics (DRO)	ND	1.0	mg/L	1	4/27/2006 11:59:10 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	4/27/2006 11:59:10 PM
Surr: DNOP		123	58-140	%REC	1	4/27/2006 11:59:10 PM
EPA METHOD	8015B: GASOLINE RAN	GE				Analyst: HLM
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L	1	4/25/2006 5:09:54 PM
Surr: BFB		93.2	80-123	%REC	1	4/25/2006 5:09:54 PM
EPA METHOD	8021B: VOLATILES					Analyst: HLM
Benzene		ND	1.0	µg/L	1	4/26/2006 5:02:00 PM
Toluene		ND	1.0	μg/L	1	4/26/2006 5:02:00 PM
Ethylbenzene		ND	1.0	µg/L	1	4/26/2006 5:02:00 PM
Xylenes, Total		ND	3.0	µg/L	1	4/26/2006 5:02:00 PM
	nofluorobenzene	105	85-115	%REC	1	4/26/2006 5:02:00 PM

Date: 28-Apr-06

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Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

	cefining		A	ANALYTICAL QC SUMMARY REPORT	MMARY REPORT
Work Urder: 0004233 Project: GAC Anal	GAC Analysis 4/24/06			TestCode: 8015DRO_W	8015DRO_W
Sample ID: MB-10270 Client ID: ZZZZ	SampType: MBLK Batch ID: 10270	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Ana	Prep Date: 4/26/2006 Analysis Date: 4/27/2006	RunNo: 19081 SeqNo: 474478
Analyte	Result	PQL SPK value SPK Ref Val	%REC LO	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO)	DN (1	1.0 5.0			
Sample ID: LCS-10270 Client ID: ZZZZ	SampType: LCS Batch ID: 10270	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Ana	Prep Date: 4/26/2006 Analysis Date: 4/27/2006	RunNo: 19081 SeqNo: 474479
Analyte	Result	PQL SPK value SPK Ref Val	%REC Lo	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.461	1.0 5 0	109	81.2 149	
Sample ID: LCSD-10270 Client ID: ZZZZ	SampType: LCSD Batch ID: 10270	TestCode: 8015DRO_W Units: mg/L TestNo: SW8015	Ana	Prep Date: 4/26/2006 Analysis Date: 4/27/2006	RunNo: 19081 SeqNo: 474481
6 Analyte	Result	PQL SPK value SPK Ref Val	%REC Lo	%REC LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Diesel Range Organics (DRO)	5.477	1.0 5 0	110	81.2 149 5.461	0.294 23

Date: 28-Apr-1

Hall Avironmental Analysis Laboratory

Holding times for preparation or analysis exceeded RPD outside accepted recovery limits н ч

Not Detected at the Reporting Limit Value above quantitation range

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Qualifiers:

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits

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Page 1

Work Order: 0604235	0604235				ANALYTICAL QC SUMMARY REPORT	UMMARY REPORT
	GAC Analysis 4/24/06				TestCode:	TestCode: 8015GR0_W
Sample ID: 5ML RB Client ID: ZZZZ	SampType: MBLK Batch ID: R19043	TestCode: 8015GRO_W TestNo: SW8015	RO_W Units: mg/L		Prep Date: Analysis Date: 4/25/2006	RunNo: 19043 SeqNo: 473397
Analyte	Result	PQL SPK value	ue SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	DN (0.050				
Sample ID: 5ML REAGENT BLA Client ID: ZZZZ	A SampType: MBLK Batch ID: R19069	TestCode: 8015GRO_W TestNo: SW8015	RO_W Units: mg/L		Prep Date: Analysis Date: 4/26/2006	RunNo: 19069 SeqNo: 474215
Analyte	Result	PQL SPK value	ue SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	GN	0.050				
Sample ID: 2.5UG GRO LCS Client ID: ZZZZZ	SampType: LCS Batch ID: R19043	TestCode: 8015GRO_W TestNo: SW8015	RO_W Units: mg/L 5		Prep Date: Analysis Date: 4/25/2006	RunNo: 19043 SeqNo: 473398
Analyte	Result	PQL SPK value	ue SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Construction Construction (GRO)	0.4580	0.050 0	0.5 0	91.6	73.3 119	
Sample ID: 2.5UG GRO LCS Client ID: ZZZZ	SampType: LCS Batch ID: R19069	TestCode: 8015GRO_W TestNo: SW8015	RO_W Units: mg/L 5		Prep Date: Analysis Date: 4/26/2006	RunNo: 19069 SeqNo: 474216
Analyte	Result	PQL SPK value	Je SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	0.5120	0.050 0.	0.5 0	102	73.3 119	
Sample ID: 0604235-03A MS Client ID: GAC 2 EFF	SampType: MS Batch ID: R19043	TestCode: 8015GRO_W TestNo: SW8015	RO_W Units: mg/L 5		Prep Date: Anałysis Date: 4/25/2006	RunNo: 19043 SeqNo: 473409
Analyte	Result	PQL SPK value	ie SPK Ref Val	%REC	LowLimit HighLimit RPD Ref Val	%RPD RPDLimit Qual
Gasoline Range Organics (GRO)	0.4680	0.050 0.	0.5 0	93.6	73.3 119	

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is exceeded J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Qualifiers: E Value above quantitation range ND Not Detected at the Reporting Limit Page 2

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ANALYTICAL QC SUMMARY REPORT TestCode: 8015GRO_W Prep Date: RunNo: 19043 Analysis Date: 4/25/2006 SeqNo: 473410 Zondinit HighLimit RPD Ref Val %RPD RPDLimit Qual Zondinit 119 0.468 0.428 8.39	
NALYTICAL QC SUMMARY REPC TestCode: 8015GR0_W Prep Date: 4/25/2006 SeqNo: 473410 SeqNo: 473410 SeqNo: 473410 Owllimit HighLimit RPD Ref Val %RPD RPDLimit 73.3 119 0.468 0.428 8.39	
NALYTICAL QC SUMMARY TestCode: 8015GR0_1 Frep Date: RunNo: 190 Prep Date: 4/25/2006 SeqNo: 473 alysis Date: 4/25/2006 SeqNo: 473 73.3 119 0.468 0.428	
NALYTICAL QC SUI TestCode: 80 Frep Date: alysis Date: 4/25/2006 owLimit HighLimit RPD Ref Val 73.3 119 0.468	
NALYTICAL Tesi Prep Date: 4/25/2006 alysis Date: 4/25/2006 owLimit HighLimit RF 73.3 119	
NALY Prep Date: 73.3 73.3	
93.2 93.2	
TestCode: 8015GRO_W Units: mg/L TestNo: SW8015 PQL SPK value SPK Ref Val 0.050 0.5 0	
sstCode: 8015GRO_V TestNo: SW8015 QL SPK value 9 050 0.5	
PQL 0.050	
ining is 4/24/06 SampType: MSD Batch ID: R19043 Result 0.4660	
()	
CLIENT: San Juan R Work Order: 0604235 Project: 0604235-03 MSD Client ID: GAC Analy Client ID: GAC 2 EFF Analyte Gasoline Range Organics (GRO)	

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H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits

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Qualifiers:

Not Detected at the Reporting Limit Value above quantitation range

Page 3

CLIENT: San Juan Refining	Refining				ANALY	TICAL QC SU	ANALYTICAL QC SUMMARY REPORT	RT
	0004233 GAC Analysis 4/24/06					TestCode: 8	8021BTEX_W	
Sample ID: 5ML RB Client ID: ZZZZZ	SampType: MBLK Batch ID: R19043	TestCode: 8021BTI TestNo: SW8021	TestCode: 8021BTEX_W Units: µg/L TestNo: SW8021		Prep Date: Analysis Date:	4/25/2006	RunNo: 19043 SeqNo: 473382	
Analyte	Result	PQL SPK value	alue SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	QN	1.0						
Toluene	DN	1.0						
Ethylbenzene	QN	1.0						
Xylenes, Total	DN	3.0						
Sample ID: 5ML REAGENT BLA	A SampType: MBLK	TestCode: 8021BTEX_W	BTEX_W Units: µg/L		Prep Date:		RunNo: 19069	
Client ID: ZZZZ	Batch ID: R19069	TestNo: SW8021	021		Analysis Date:	4/26/2006	SeqNo: 474175	
Analyte	Result	PQL SPK value	alue SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	QN	1.0						
Toluene	QN	1.0						
Ethylbenzene	QN	1.0						
V Xylenes, Total	ΟN	3.0						
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021	TestCode: 8021BTEX_W Units: µg/L		Prep Date:		RunNo: 19043	
Client ID: ZZZZ	Batch ID: R19043	TestNo: SW8021	021		Analysis Date:	4/25/2006	SeqNo: 473383	<u></u>
Analyte	Result	PQL SPK value	alue SPK Ref Val	%REC	LowLimit Hi	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	19.89	1.0	20 0	99.4	85	115		
Toluene	19.37	1.0	20 0	96.9	85	118		
Ethylbenzene	19.97	1.0	20 0	99.8	85	116		
Xylenes, Total	40.26	3.0	40 0	101	85	119		
Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	BTEX_W Units: µg/L		Prep Date:		RunNo: 19069	
Client ID: ZZZZ	Batch ID: R19069	TestNo: SW8021	021		Analysis Date:	4/26/2006	SeqNo: 474203	
Analyte	Result	PQL SPK value	alue SPK Ref Val	%REC	LowLimit Hig	HighLimit RPD Ref Val	%RPD RPDLimit	Qual
Benzene	21.61	1.0	20 0	108	85	115		
Toluene	22.04	1.0	20 0	110	85	118		
Ethylbenzene	21.77	1.0	20 0	109	85	116		
Qualifiers: E Value above ND Not Detected	Value above quantitation range Not Detected at the Reporting Limit	H R R	Holding times for preparation or analysis exceeded RPD outside accepted recovery limits	ion or analysi: very limits	s exceeded	 J Analyte detected t S Spike Recovery or 	Analyte detected below quantitation limits Spike Recovery outside accepted recovery limits	
								Page 4

Project: GAC Analysis 4/24/06 Froject: GAC Analysis 4/24/06 Sample ID: 100NG BTEX LCS SampType: LCS TestCode: 8021BTEX_W Units: µg Client ID: ZZZZZ Batch ID: R19069 TestCode: 8021BTEX_W Units: µg Analyle Result PQL SPK value SPK Ref Value SPK Ref Value SPK Ref Value Xylenes. Total Analyle Result PQL SPK value SPK Ref Value SPK Ref Value Sample ID: 0604235-0ZA MIS SampType: MS TestCode: 8021BTEX_W Units: µg Client ID: GAC 1 EFF Batch ID: R19043 TestCode: 8021BTEX_W Units: µg Benzene 19.13 1.0 20 20 20 0.604 Result PQL SPK value SPK ref Value SPK ref Value SPK ref Value Benzene 19.13 1.0 20 20 20 20 0 Result PQL SPK value SPK value SPK value SPK ref Value 20 </th <th></th> <th></th> <th></th> <th></th>				
EXLCS SampType: LCS Batch ID: R19069 Result 44.32 A MS SampType: MS Batch ID: R19043 Result 19.13 18.59 19.23 39.62 A MSD SampType: MSD Batch ID: R19043 Result 79.62 73.62 79.62 73.62 79.62 73.62 73.62 73.62 73.62 73.62 73.62 73.62 73.62 73.62 73.62 73.62 73.62 74.63 74.65 75.62 74.65 75.62 74.65 75.62 75			TestCode: 8021BTEX_W	21BTEX_W
Batch ID: R19069 Result Result AMS SampType: MS AMS SampType: MS Batch ID: R19043 Result 19.13 19.23 39.62 AMSD SampType: MS Result 19.13 19.23 39.62 Batch ID: R19043 Result 19.33 19.33	TestCode: 8021BTEX_W Units: µg/L			RunNo: 19069
Result 44.32 44.32 AMS SampType: MS Batch ID: R19043 Result 19,13 19,13 19,23 19,23 39,62 AMSD SampType: MSD Batch ID: R19043 Result 19,13 Result 19,23 AMSD SampType: MSD Batch ID: R19043 Result 19.33	TestNo: SW8021	Analysis Date: 4/26/2006	006	SeqNo: 474203
44.32 AMS SampType: MS Batch ID: R19043 Result 19.13 19.23 39.62 AMSD SampType: MSD Batch ID: R19043 Result	SPK value	%REC LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit Qual
A MS SampType: MS Batch ID: R19043 Result 19.13 19.23 39.62 39.62 A MSD SampType: MSD Batch ID: R19043 Result	40	111 85 119		
Batch ID: R19043 Result 19.13 18.59 19.23 39.62 39.62 Batch ID: R19043 Result Result	TestCode: 8021BTEX_W Units: µg/L	Prep Date:		RunNo: 19043
Result 19.13 18.59 19.23 39.62 39.62 39.62 Batch ID: R19043 Batch ID: R19043 Result 19.33		Analysis Date: 4/25/2006	006	SeqNo: 473395
19.13 18.59 19.23 39.62 39.62 Batch ID: R19043 Result Result	SPK value	%REC LowLimit HighLimit	HighLimit RPD Ref Val	%RPD RPDLimit Qual
19.23 19.23 39.62 A MSD SampType: MSD Batch ID: R19043 Result 19.33	20	95.7 85 115		
19.23 39.62 A MSD SampType: MSD Batch ID: R19043 Result 19.33	20	89.9 85 118		
39.62 A MSD SampType: MSD Batch ID: R19043 Result 19.33	20	96.2 85 116		
A MSD SampType: MSD Batch ID: R19043 Result 19.33	40	95.5 85 119		
Batch ID: R19043 TestNo: SW8021 Result PQL SPK value SPK Ref Value 19.33 1.0 20	TestCode: 8021BTEX_W Units: µg/L	Prep Date:		RunNo: 19043
Result PQL SPK value SPK Ref V	TestNo: SW8021	Analysis Date: 4/25/2006	006	SeqNo: 473396
19.33 1.0 20	SPK value	%REC LowLimit HighLimit	RPD Ref Val	%RPD RPDLimit Qual
	20	96.6 85 115	19.13	1.02 27
Toluene 18.89 1.0 20 0.604	20	91.4 85 118	18.59	1.59 19
Ethylbenzene 19.73 1.0 20 0	20	98.6 85 116	19.23	2.55 10
Xylenes, Total 40.27 3.0 40 1.422	40	97.1 85 119	39.62	1.64 13

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Value above quantitation range Not Detected at the Reporting Limit ы ND Е

Qualifiers:

H Holding times for preparation or analysis exceeded
 R RPD outside accepted recovery limits

Spike Recovery outside accepted recovery limits Analyte detected below quantitation limits

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Sample Receipt Checklist

Client Name SJR		Date and Time	Received:	4/25/2006
Work Order Number 0604235		Received by	LMM	
Checklist completed by Jue Hedl	ARS 4/25 Date	$) \circ \in$		
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 rece	eived? Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?	Yes 🗹	No		
Samples in proper container/bottle?	Yes 🔽	No 🗌		
Sample containers intact?	Yes 🔽	No 🗌		
Sufficient sample volume for indicated test?	Yes 🔽	No 🗌		
All samples received within holding time?	Yes 🔽	No		
Water - VOA vials have zero headspace?	No VOA vials submitted	Yes 🗹	No	
Water - pH acceptable upon receipt?	Yes 🗌	No 🗌	N/A 🔽	
Container/Temp Blank temperature?		4° C ± 2 Accepta		
COMMENTS:		5		
·····				
				Land
Client contacted Da	ate contacted:	Pers	on contacted	
Contacted by: Re	egarding			
Comments:				
		111 //		
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Corrective Action	· •	-		
	· · · · · · · · · · · · · · · · · · ·			

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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.345.345.4107 www.hallenvironmental.com	8TEX + MTBE + TPH ((TPH Method 8015B (G5 TPH Method 504.1) EDB (Method 504.1) EDC (Method 504.1) BCRA 8 Metals Anions (F, CJ, NO ₃ , NO ₂ , 8081 Pesticides / PCB's 8081 Pesticides / PCB's 82505 (VOA) 82505 (YOA) 82505			Remarks:	
CHAIN-OF-CUSTODY RECORD CHAIN-OF-CUSTODY RECORD CHAIN-OF-CUSTODY RECORD Dient: Can Juch Record and later Dient: Can Juch Recht Amerikans Address-HEC RA 2990 Robert #: Project Manneger.	Phone #: 5us - 632 - 416 Samplegan Imperature Fax #505 - 632 - 396 Sample Temperature Date Time Matrix Sample 1.D. No. Number/Volume Preservative HgCl ₂ HNO ₃ HL Co.103	4/24/04 1Pm HZD GHE INF 3-VO3 V1 N 1 1100m 1 GHC 1 EPF 3-VO3 V -3 N	V 120pm V CTAC ZEPP 3-VO3 V -3 X		Date: Time: Refinduished By: (Bignature) Concerned By: (Bignature) Con



COVER LETTER

Wednesday, May 10, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 5/2/06

Dear Cindy Hurtado:

Order No.: 0605028

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/3/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

-		-				
San Juan Refining 0605028 GAC Analysis 5/2/06 0605028-01			С	lient Sample ID: Collection Date: Date Received: Matrix:	GAC 5/2/20 5/3/20 AQU	INF 006 8:15:00 AM 006 EOUS
· · · · · · · · · · · · · · · · · · ·	Result				DF	
8015B: DIESEL RANGE Organics (DRO) e Organics (MRO)	ND ND 93.9	1.0 5.0 58-140		mg/L mg/L %REC	1 1 1	Analyst: SCC 5/10/2006 6:39:50 AM 5/10/2006 6:39:50 AM 5/10/2006 6:39:50 AM
8015B: GASOLINE RANC e Organics (GRO)	5 E 13 93.8	1.0 80-123		mg/L %REC	20 20	Analyst: NSB 5/4/2006 1:49:50 AM 5/4/2006 1:49:50 AM
8021B: VOLATILES	60 ND 830 4500	20 20 20 60		μg/L μg/L μg/L	20 20 20 20	Analyst: NSB 5/4/2006 1:49:50 AM 5/4/2006 1:49:50 AM 5/4/2006 1:49:50 AM 5/4/2006 1:49:50 AM 5/4/2006 1:49:50 AM
	San Juan Refining 0605028 GAC Analysis 5/2/06 0605028-01 8015B: DIESEL RANGE Organics (DRO) e Organics (MRO) 8015B: GASOLINE RANG e Organics (GRO)	San Juan Refining 0605028 GAC Analysis 5/2/06 0605028-01 Result 8015B: DIESEL RANGE Organics (DRO) ND e Organics (MRO) ND 93.9 93.9 8015B: GASOLINE RANGE e Organics (GRO) 13 93.8 93.8 8021B: VOLATILES 60 ND 830 4500 4500	San Juan Refining 0605028 GAC Analysis 5/2/06 0605028-01 Result PQL 8015B: DIESEL RANGE Organics (DRO) ND 1.0 e Organics (MRO) ND 5.0 93.9 58-140 8015B: GASOLINE RANGE e Organics (GRO) 13 1.0 93.8 80-123 8021B: VOLATILES 60 20 ND 20 830 20 4500 60	San Juan Refining C 0605028 GAC Analysis 5/2/06 0605028-01 PQL Qual Result PQL Qual 8015B: DIESEL RANGE Organics (DRO) ND 1.0 e Organics (MRO) ND 5.0 93.9 58-140 8015B: GASOLINE RANGE 1.0 e Organics (GRO) 13 1.0 93.8 80-123 8021B: VOLATILES 60 20 ND 20 830 20 4500 60 20	San Juan Refining Client Sample ID: 0605028 Collection Date: GAC Analysis 5/2/06 Date Received: 0605028-01 Matrix: Result PQL Qual Units 8015B: DIESEL RANGE Matrix: Matrix: Organics (DRO) ND 1.0 mg/L 93.9 58-140 %REC 8015B: GASOLINE RANGE 93.8 80-123 %REC 8021B: VOLATILES 60 20 µg/L 830 20 µg/L 830 20 µg/L 4500 60 µg/L 830 20 µg/L	San Juan Refining Client Sample ID: GAC 0605028 Collection Date: 5/2/20 GAC Analysis 5/2/06 Date Received: 5/3/20 0605028-01 Matrix: AQU Result PQL Qual Units DF 8015B: DIESEL RANGE Organics (DRO) ND 1.0 mg/L 1 93.9 58-140 %REC 1 8015B: GASOLINE RANGE e Organics (GRO) 13 1.0 mg/L 20 93.8 80-123 %REC 20 8021B: VOLATILES 60 20 µg/L 20 ND 20 µg/L 20 830 20 µg/L 20 4500 60 µg/L 20

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

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	all Environmental Analysis Laboratory Date:					ay-06
CLIENT: Lab Order:	San Juan Refining 0605028		C	Client Sample ID:	GAC 1 EFF 5/2/2006 8:25:00 AM	
Project:	GAC Analysis 5/2/06					
-				Date Received:	. –	
Lab ID:	0605028-02			Matrix:	AQUI	EOUS
Analyses		Result	PQL Qual		DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range (Organics (DRO)	ND	1.0	mg/L	1	5/10/2006 7:12:02 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	5/10/2006 7:12:02 AM
Surr: DNOP		139	58-140	%REC	1	5/10/2006 7:12:02 AM
EPA METHOD	8015B: GASOLINE RANG	GE				Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L	1	5/4/2006 2:48:02 AM
Surr: BFB		88.7	80-123	%REC	1	5/4/2006 2:48:02 AM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		ND	1.0	µg/L	1	5/4/2006 2:48:02 AM
Toluene		ND	1.0	µg/L	1	5/4/2006 2:48:02 AM
Ethylbenzene		ND	1.0	µg/L	1	5/4/2006 2:48:02 AM
Xylenes, Total		ND	3.0	µg/L	1	5/4/2006 2:48:02 AM
Surr: 4-Bron	nofluorobenzene	93.7	85-115	%REC	1	5/4/2006 2:48:02 AM



* Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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Hall Envir	ronmental Analysis	10-Ma	ау-06				
CLIENT:	San Juan Refining			Client Sample ID:	GAC 2 EFF		
Lab Order:	0605028		Collection Date Date Received:			006 8:40:00 AM	
Project:	GAC Analysis 5/2/06					006	
Lab ID:	0605028-03			Matrix:	AQUI	EOUS	
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	5/10/2006 7:44:15 AM	
Motor Oil Rang	ge Organics (MRO)	ND	5.0	mg/L	1	5/10/2006 7:44:15 AM	
Surr: DNOP		127	58-140	%REC	1	5/10/2006 7:44:15 AM	
EPA METHOD	8015B: GASOLINE RANG	ε				Analyst: NSB	
Gasoline Rang	je Organics (GRO)	ND	0.050	mg/L	1	5/4/2006 3:17:05 AM	
Surr: BFB		92.1	80-123	%REC	1	5/4/2006 3:17:05 AM	
EPA METHOD	8021B: VOLATILES					Analyst: NSB	
Benzene		ND	1.0	μg/L	1	5/4/2006 3:17:05 AM	
Toluene		ND	1.0	µg/L	1	5/4/2006 3:17:05 AM	
Ethylbenzene		ND	1.0	μg/L	1	5/4/2006 3:17:05 AM	
Xylenes, Total		ND	3.0	µg/L	1	5/4/2006 3:17:05 AM	
Surr: 4-Bron	nofluorobenzene	97.1	85-115	%REC	1	5/4/2006 3:17:05 AM	

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Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

3/5

QA/QC SUMMARY REPORT

Client: San Juan Ref	~								
GAC Analysi	s 5/2/06							Work Order: 06	605028
Analyte	Result	Units	PQL	%Rec		HighLimit	%RPD	RPDLimit Qual	
Method: SW8015								Batch ID:	10375
Sample ID: MB-10375		MBLK						Analysis Date:	5/9/2006
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-10375		LCS						 Analysis Date: 	5/9/2006
Diesel Range Organics (DRO)	5.552	mg/L	1.0	111	74	157			
Sample ID: LCSD-10375		LCSD						Analysis Date:	5/9/2006
Diesel Range Organics (DRO)	5.738	mg/L	1.0	115	74	157	3.29	23	
Method: SW8015								Batch ID:	R19148
Sample ID: 5ML REAGENT BLA		MBLK						Analysis Date:	5/3/2006
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		LCS						Analysis Date:	5/3/2006
Gasoline Range Organics (GRO)	0.4860	mg/L	0.050	97.2	73.3	119			
Method: SW8021								Batch ID:	R19148
Sample ID: 5ML REAGENT BLA		MBLK						Analysis Date:	5/3/2006
Benzene	ND	hð\r	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
e ID: 100NG BTEX LCS		LCS						Analysis Date:	5/3/2006
Benzene	21.72	µg/L	1.0	109	85	115			
Toluene	23.07	µg/L	1.0	115	85	118			
Ethylbenzene	22.01	µg/L	1.0	110	85	116			
Xylenes, Total	44.11	µg/L	3.0	110	85	119			

fiers:

Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S

Spil $4/5^{very}$ outside accepted recovery limits

	Sample	Rece	eipt C	hecklist			
Client Name SJR				Date and Time	Received:		5/3/2006
Work Order Number 0605028	2			Received by	LMM		
Checklist completed by	ippe.		Date	5-3-06			
Matrix	Carrier name	UPS					
Shipping container/cooler in good condition?		Yes	\checkmark	No 🗌	Not Present		
Custody seals intact on shipping container/coole	r?	Yes	\checkmark	No 🗌	Not Present		Not Shipped
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	\checkmark	
Chain of custody present?		Yes		No 🗌			
Chain of custody signed when relinquished and	received?	Yes	\checkmark	No 🗌			
Chain of custody agrees with sample labels?		Yes		No 🗌			
Samples in proper container/bottle?		Yes	\checkmark	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 subr	nitted		Yes 🔽	No 🗌		
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A 🔽		
Container/Temp Blank temperature?			7°	4° C ± 2 Accepta			
COMMENTS:							
Client contacted	Date contacted:			Pers	on contacted		
Contacted by:	Regarding						
Comments:							
							na i a a anna ann an ann an ann ann ann
				····			
						••••••	
Corrective Action							
							• ************************************

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	BTEX +:+MTBE == TMB+5 (8021) BTEX + MEE = TMB+5 (6asoline Only) TPH Method 8015B (Gas/Diesel) EDG (Method 504.1) EDG (Method 504.1) EDC (Method 504.1) B310 (PNA or PAI) Anions (F, Cl, NO ₂ , NO ₂ , PO ₄ , SO ₄) B3210 (PNA or PAI) B320 (YOA) B260B (YOA) B260B (YOA) B270 (Semi-YOA) B270 (Semi-YOA) B270 (Semi-YOA) B270 (Semi-YOA) B250 (YOA) B270 (Semi-YOA) B270 (Remarks:
Duther: Project Name: Project Name: Project #:	Project Manager:		Received By: (Bignafure)
CHAIN-OF-CUSTODY RECORD	d, NN & 74113 33-41161 23-3911	72/14 8:15 HILO GAC 1 EPP 8:25 C GAC 1 EPP 2 8:40 J. GAC 2 EPP 1 9:40 J. GAC 2 EPP	Date: Time: Belinpuished By: (Signature) 12/clv 7:00 Date: Time: Relinquished By: (Signature)

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COVER LETTER

Tuesday, May 16, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis - 5/8/06

Dear Cindy Hurtado:

Order No.: 0605088

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/9/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0605088 GAC Analysis - 5/8/06 0605088-01		C	Date Received:		5/8/2006 9:00:00 AM		
Analyses		Result	PQL Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC		
Diesel Range C	Organics (DRO)	ND	1.0	mg/L	1	5/12/2006 7:26:41 AM		
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	5/12/2006 7:26:41 AM		
Surr: DNOP		123	58-140	%REC	1	5/12/2006 7:26:41 AM		
EPA METHOD	8015B: GASOLINE RANG	E				Analyst: HLM		
Gasoline Range	e Organics (GRO)	13	1.0	mg/L	20	5/10/2006 1:59:09 PM		
Surr: BFB		95.5	80-123	%REC	20	5/10/2006 1:59:09 PM		
EPA METHOD	8021B: VOLATILES					Analyst: HLM		
Benzene		60	20	µg/L	20	5/10/2006 1:59:09 PM		
Toluene		ND	20	µg/L	20	5/10/2006 1:59:09 PM		
Ethylbenzene		850	20	µg/L	20	5/10/2006 1:59:09 PM		
Xylenes, Total		4500	60	µg/L	20	5/10/2006 1:59:09 PM		
Surr: 4-Brom	ofluorobenzene	106	85-115	%REC	20	5/10/2006 1:59:09 PM		

Date: 16-May-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT:	San Juan Refining			Client Sample]	D: GAC-	1 Eff
Lab Order:	0605088			Collection Da	te: 5/8/20	06 9:10:00 AM
Project:	GAC Analysis - 5/8/06			Date Receiv	ed: 5/9/20)06
Lab ID:	0605088-02			Matu	rix: AQUI	EOUS
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	5/12/2006 7:59:09 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	5/12/2006 7:59:09 AM
Surr: DNOP		127	58-140	%REC	1	5/12/2006 7:59:09 AM
EPA METHOD	8015B: GASOLINE RANG	E				Analyst: HLM
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	5/10/2006 2:28:25 PM
Surr: BFB		95.6	80-123	%REC	1	5/10/2006 2:28:25 PM
EPA METHOD	8021B: VOLATILES					Analyst: HLN
Benzene		ND	1.0	µg/L	1	5/10/2006 2:28:25 PM
Toluene		ND	1.0	µg/L	1	5/10/2006 2:28:25 PM
Ethylbenzene		ND	1.0	µg/L	1	5/10/2006 2:28:25 PM
Xylenes, Total		ND	3.0	µg/L	1	5/10/2006 2:28:25 PM
Surr: 4-Brom	ofluorobenzene	105	85-115	%REC	1	5/10/2006 2:28:25 PM

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

Hall Environmental Analysis Laboratory

J Analyte detected below quantitation limits

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

Date: 16-May-06

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

CLIENT:	San Juan Refining			Clien	t Sample ID:	GAC-	2 Eff		
Lab Order:	0605088			Collection Date:			5/8/2006 9:20:00 AM		
Project:	GAC Analysis - 5/8/06			Da	Date Received:		5/9/2006		
Lab ID:	0605088-03				Matrix:	AQUI	EOUS		
Analyses	<u>.</u>	Result	PQL	Qual Un	its	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Prganics (DRO)	ND	1.0	mg	/L	- 1	5/12/2006 8:30:11 AM		
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg	/L	1	5/12/2006 8:30:11 AM		
Surr: DNOP	۰.	123	58-140	%R	EC	1	5/12/2006 8:30:11 AM		
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: HLM		
Gasoline Range	e Organics (GRO)	ND	0.050	mg	/L	1	5/10/2006 2:57:26 PM		
Surr: BFB		96.5	80-123	%F	REC	1	5/10/2006 2:57:26 PM		
EPA METHOD	8021B: VOLATILES						Analyst: HLM		
Benzene		ND	1.0	/gų	Ľ	1	5/10/2006 2:57:26 PM		
Toluene		ND	1.0	μg/	Ľ	1	5/10/2006 2:57:26 PM		
Ethylbenzene	:	ND	1.0	μg/	ïL.	1	5/10/2006 2:57:26 PM		
Xylenes, Total		ND	3.0	μg/	Ľ	1	5/10/2006 2:57:26 PM		
Surr: 4-Brom	ofluorobenzene	107	85-115	%F	REC	1	5/10/2006 2:57:26 PM		

Date: 16-May-06

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

QA/QC SUMMARY REPORT

	Refining							
Perfect: GAC Ar	alysis - 5/8/06						······	Work Order: 0605088
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
Method: SW8015				· · · · · · · · · · · · · · · · · · ·				Batch ID: 10398
Sample ID: MB-10398		MBLK						Analysis Date: 5/11/2006
Diesel Range Organics (DRO) Vlotor Oil Range Organics (MR Sample ID: LCS-10398	ND O) ND	mg/L mg/L LCS	1.0 5.0					Analysis Date: 5/11/2006
•	0.004		1.0	400	74	457		Analysis Date. 5/ 1/2000
Diesel Range Organics (DRO) Sample ID: LCSD-10398	6.604	mg/L LCSD	1.0	132	74	157		Analysis Date: 5/11/2006
Diesel Range Organics (DRO)	6.004	mg/L	1.0	120	74	157	9.52	23
Method: SW8015 Sample ID: 5ML REAGENT	BLA	MBLK						Batch ID: R19214 Analysis Date: 5/10/2006
Sasoline Range Organics (GR Sample ID: 2.5UG GRO LCS	O) ND	mg/L LCS	0.050					Analysis Date: 5/10/2006
Sasoline Range Organics (GR Sample ID: 2.5UG GRO LCS		mg/L LCSD	0.050	94.8	73.3	119		Analysis Date: 5/10/2006
Sasoline Range Organics (GR	O) 0.4740	mg/L	0.050	94.8	73.3	119	0	8.39
Method: SW8021								Batch ID: R19214
Sample ID: 5ML REAGENT	BLA	MBLK						Analysis Date: 5/10/2006
Benzene	ND	μg/L	1.0					
Toluene	ND	µg/L	1.0					
enzene	ND	μg/L	1.0					
Xyrones, Total	ND	μg/L	3.0					
Sample ID: 100NG BTEX LC	s	LCS						Analysis Date: 5/10/2006
Benzene	21.20	µg/L	1.0	106	85	115		
Toluene	22.66	µg/L	1.0	113	85	118		
Ethylbenzene	22.30	µg/L	1.0	111	85	116		
Xylenes, Total	45.45	µg/L	3.0	114	85	119		
Sample ID: 100NG BTEX LC	SD	LCSD						Analysis Date: 5/10/2006
Benzene	21.66	µg/L	1.0	108	85	115	2.16	27
Toluene	23.51	µg/L	1.0	118	85	118	3.67	19
Ethylbenzene	22.97	µg/L	1.0	115	85	116 *	2.98	10
Xylenes, Total	46.57	µg/L	3.0	116	85	119	2.42	13

fiers:

Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S

Spike Recovery outside accepted recovery limits 4 / 5

	Sample	Rec	eipt Che	ecklist		
Client Name SJR				Date and Time	Received:	5/9/2006
Work Order Number 0605088				Received by	GLS	
Checklist completed by <u>Lists Teelud</u>	63		5/9, Date	106		
Matrix	Carrier name	UPS	i			
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present	
Custody seals intact on shipping container/cooler?	1	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 re	ceived?	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	\checkmark	No 🗔		
Water - VOA vials have zero headspace?	No VOA vials sub	mitted		Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?		Yes		No 🗆	N/A 🗹	
Container/Temp Blank temperature?			2°	4° C ± 2 Accepta		
COMMENTS:						
	· · · · · · · · · · · · · · · · · · ·	 				
Client contacted [Date contacted:			Pers	on contacted	
Contacted by:	Regarding					·····
Comments:						
·····						····
					· · · · ·	······································
				· · · · · · · · · · · · · · · · ·		
Corrective Action						
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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	EDB (Method 504,1) EDC (Method 8021) B310 (PVA or PAH) Anions (F, Cl, VO ₃ , VO ₂ , PO ₄ , SO ₄) B081 Pesticides / PCB's (8082) B260B (VOA) B270 (Semi-VOA) B270 (Semi-VOA)		
	TFX + TYLEE - TORE (8021) BTEX + MTBE + TPH (Gasoline Only) TPH Method 8015B (Gas/Diesel) TPH (Method 418.1)		Remarks:
04/0C Package: Std D Level 4 D Project Name: Project #:	PALNO.		Received By: (Signature) 5-9-01- R Received By: (Signature) 7-9-01- R
CHAIN-OF-CUSTODY RECORD Client: Shn Tuch Refining	Matri	518/49 20 HZO GAC TWE 29:0 C GAC-1EFF 29:20 V GAC-1EFF 19:20 V GAC-1EFF	Date: Time: Relinquished By (Signature) 5/5/0/c 0.05 0.05 Date: Time: Relinquished By: (Signature)

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COVER LETTER

Tuesday, May 30, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 5/16/06

Dear Cindy Hurtado:

Order No.: 0605171

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/17/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			С	lient Sample ID:	GAC	INF		
Lab Order:	ab Order: 0605171			Collection Date:		5/16/2	5/16/2006 8:35:00 AM		
Project:	GAC Analysis 5/16/06				Date Received:	5/17/2	2006		
Lab ID:	0605171-01				Matrix:	AQUI	EOUS		
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	5/26/2006 2:47:57 AM		
Motor Oll Range	e Organics (MRO)	ND	5.0		mg/L	1	5/26/2006 2:47:57 AM		
Surr: DNOP		140	58-140	,	%REC	1	5/26/2006 2:47:57 AM		
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: HLN		
Gasoline Range	Organics (GRO)	14	1.0		mg/L	20	5/18/2006 1:00:20 PM		
Sur: BFB		95.3	80-123		%REC	20	5/18/2006 1:00:20 PM		
EPA METHOD	8021B: VOLATILES						Analyst: HLN		
Benzene		64	20		µg/L	20	5/18/2006 1:00:20 PM		
Toluene		ND	20		μg/L	20	5/18/2006 1:00:20 PM		
Elhylbenzene		930	20		µg/L	20	5/18/2006 1:00:20 PM		
Xylenes, Total		4600	60		μg/L	20	5/18/2006 1:00:20 PM		
Surr: 4-Brom	ofluorobenzene	99.5	85-115		%REC	20	5/18/2006 1:00:20 PM		

Date: 30-May-06

Qualifiers:	٠	Value exceeds Maximum Contaminant Level
	Е	Value above quantitation range

Hall Environmental Analysis Laboratory

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 1 of 3

Hall Envir		Date:	30-Ma	ау-Об			
CLIENT: San Juan Refining Lab Order: 0605171					lient Sample ID: Collection Date:		
Project:	GAC Analysis 5/16/06				Date Received:	5/17/2	2006
Lab ID:	0605171-02				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	3015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0		mg/L	1	5/26/2006 3:20:41 AM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	5/26/2006 3:20:41 AM
Surr: DNOP		112	58-140		%REC	1	5/26/2006 3:20:41 AM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: HLM
Gasoline Range	Organics (GRO)	ND	0.050		mg/L	1	5/18/2006 1:29:22 PM
Surr: BFB		88.0	80-123		%REC	1	5/18/2006 1:29:22 PM
EPA METHOD	8021B: VOLATILES						Analyst: HLM
Benzene		ND	1.0		µg/L	1	5/18/2006 1:29:22 PM
Toluene		ND	1.0		µg/∟	1	5/18/2006 1:29:22 PM
Ethylbenzene		ND	1.0		µg/L	1	5/18/2006 1:29:22 PM
Xylenes, Total		ND	3.0		µg/L	1	5/18/2006 1:29:22 PM
Surr: 4-Brom	ofluorobenzene	91.B	85-115		%REC	1	5/18/2006 1:29:22 PM

* Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

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Page 2 of 3

	v									
CLIENT:	San Juan Refining			Client Sample	ID: GAC	2 EFF				
Lab Order: 0605171				Collection D	ate: 5/16/2	5/16/2006 8:55:00 AM				
Project:	GAC Analysis 5/16/06			Date Recei	ved: 5/17/2	2006				
Lab ID:	0605171-03			Mat	rix: AQUI	EOUS				
Analyses		Result	PQL	Qual Units	DF	Date Analyzed				
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC				
Diesel Range C	rganics (DRO)	ND	1.0	mg/L	1	5/26/2006 3:53:32 AM				
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	5/26/2006 3:53:32 AM				
Sur: DNOP		113	58-140	%REC	1	5/26/2006 3:53:32 AM				
EPA METHOD	8015B: GASOLINE RANG	3E				Analyst: HLN				
Gasoline Range	a Organics (GRO)	ND	0.050	mg/L	1	5/18/2006 1:58:19 PM				
Sur: BFB		88.0	80-123	%REC	1	5/18/2006 1:58:19 PM				
EPA METHOD	8021B: VOLATILES					Analyst: HLN				
Benzene		ND	1.0	µg/L	1	5/18/2006 1:58:19 PM				
Toluene		ND	1.0	μ g/ L	1	5/18/2006 1:58:19 PM				
Ethylbenzene		ND	1.0	µg/L	1	5/18/2006 1:58:19 PM				
Xylenes, Total		ND	3.0	µg/L	1	5/18/2006 1:58:19 PM				
Sur: 4-Brom	ofluorobenzene	91.8	85-115	%REC	1	5/18/2006 1:58:19 PM				

Date: 30-May-06

Qualifiers:	٠	Valu
	Е	Valu

Value exceeds Maximum Contaminant Level

- Value above quantitation range
- J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

QA/QC SUMMARY REPORT

oject: San Juan Ref GAC Analys	-						•	Work Order: 06051
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
Nethod: SW8015							<u> </u>	Batch ID: 10
Sample ID: MB-10456		MBLK						Analysis Date: 5/26/2
Diesel Range Organics (DRO)	ND	mg/L	1.0				•	
Motor Oll Range Organics (MRO)	ND	mg/L	5.0					
Sample ID: LCS-10456		LCS						Analysis Date: 5/26/2
Diesel Range Organics (DRO)	6.750	mg/L	1.0	135	74	157		
Sample ID: LCSD-10456		LCSD						Analysis Date: 5/26/2
Diesel Range Organics (DRO)	6.576	mg/L	1.0	132	74	157	2,60	23
Method: SW8015								Batch ID: R19
Sample ID: 5ML REAGENT BLA		MBLK				,		Analysis Date: 5/18/2
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS	112	LCS						Analysis Date: 5/18/2
Gasoline Range Organics (GRO)	0.5060	mg/L	0.050	101	73.3	119		
Method: SW8021								Batch ID: R19
Sample ID: 5ML REAGENT BLA		MBLK						Analysis Date: 5/18/2
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
ample ID: 100NG BTEX LCS		LCS						Analysis Date: 5/18/2
senzene	19.91	µg/L	1.0	99.6	85	115		
Toluene	21.02	µg/L	1.0	105	85	118		
Ethylbenzene	20.65	µg/L	1.0	103	85	116		
Xylenes, Total	41.75	μg/L	3.0	104	85	119		

Qualifiers:

Е Value above quantitation range

Analyte detected below quantitation limits J

R RPD outside accepted recovery limits Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit Sp¹¹ Provery outside accepted recovery limits 5

Page 1

	Sample	Receipt Ch	ecklist		
Client Name SJR			Date and Time	Received:	5/17/2006
Work Order Number 0605171			Received by	AT	
Checklist completed by <u>Liger Healed</u> Signature	Rad	5/1 Date	710 <u>6</u>		
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	\checkmark
Chain of custody present?		Yes 🗹	No 🗀		
Chain of custody signed when relinquished and rece	ived?	Yes 🗹			
Chain of custody agrees with sample labels?		Yes 🗹	No 🗔		
Samples in proper container/bottle?		Yes 🗹			
Sample containers intact?		Yes 🗹			
Sufficient sample volume for indicated test?		Yes 🗹	No 🗔		
All samples received within holding time?		Yes 🗹	No 🗆		
Water - VOA vials have zero headspace? N	io VOA vials subr	nitted	Yes 🗹	No 🗔	
Water - pH acceptable upon receipt?		Yes 🗌	Νο 🗖	N/A 🗹	
Container/Temp Blank temperature?		16°	4° C ± 2 Accepta If given sufficient		
COMMENTS:					
	* *** **** ****				
Client contacted Dat	le contacted:		Pers	on contacted	
Contacted by: Reg	garding	<u> </u>	·		
Comments:					
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Corrective Action			<u> "</u>		
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HALL ENVIRCINIMENTAL ANALYSIS LABCHATOR 4901 Hawkins NE, Suite D Albiquerque, New Mexico 87109 fel. 505.345.3875 Fax 505.345. Mow hallenvironmental.com	<u>···\</u>							 ,		<u>·-</u> ,				·	•	•	•
HALL ENVIRCINITA ANALVEIS LABCHATO 4901 Hawkins NE, Suite D Albiquerque, New Mexico 87109 Tel. 505, 345, 3975 Fax 505, 34 Www.hallenvironmental.com	••	(ADV-in	182) OVS8-							. :					•		
HALL ENVIRONNE ANALYSIS LABOHZ 4901 Hawkins NE, Suite D Albiquerque, New Mexico B Tel. 505, 345, 3975 Fax 50 Www.hallenvironmental.com			8560B (V		·					,							•
HALL ENVIRON ANALYSIS LAB 4901 Hawkins NE, SL Albuquerque, New Me Tel. 505, 345, 3975 Www.hallenvironments WALYSIS, REAU		BD9 / sebioi											•••				•
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COVER LETTER

Monday, June 05, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis - 5/22/06

Dear Cindy Hurtado:

Order No.: 0605250

Hall Environmental Analysis Laboratory received 3 sample(s) on 5/23/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



4901 Hawkins NE ESuite D EAlbuquerque, NM 87109 505.345.3975 EFax 505.345.4107 www.hallenvironmental.com

CLIENT:San Juan RefiningLab Order:0605250Project:GAC Analysis - 5/23Lab ID:0605250-01		1		· C	Client Sample ID: Collection Date: Date Received: Matrix:	5/22/2 5/23/2	2006 1:25:00 PM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0		mg/L	1	5/26/2006 7:43:02 AM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	5/26/2006 7:43:02 AM
Sum DNOP		113	58-140		%REC	1	5/26/2006 7:43:02 AM
EPA METHOD	8015B: GASOLINE RANG	Ē					Analyst: NSB
Gasoline Range	Organics (GRO)	8.8	1.0		mg/L	20	6/1/2006 4:12:27 PM
Sur: BFB		91.7	80-123		%REC	20	6/1/2006 4:12:27 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		37	20		µg/L	20	6/1/2006 4:12:27 PM
Toluene		ND	20	•	μg/L	20	6/1/2006 4:12:27 PM
Ethylbenzene		670	20		μg/L	20	6/1/2006 4:12:27 PM
Xvienes, Total		3300	60		μα/L	20	6/1/2006 4:12:27 PM
	ofluorobenzene	97.7	84-115		%REC	20	6/1/2006 4:12:27 PM

Date: 05-Jun-06

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Value exceeds Maximum Contaminant Level Value above quantitation range Ε

Analyte detected below quantitation limits J

S Spike Recovery outside accepted recovery limits В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded Н

ND Not Detected at the Reporting Limit

Page 1 of 3

1/5

Hall Environmental Analysis Laboratory					Date:	05-Ju	n-06		
CLIENT: San Juan Refining Lab Order: 0605250						5/22/2006 1:35:00 PM			
Project: Lab ID:	GAC Analysis - 5/22/06 0605250-02				Date Received: Matrix:				
Analyses		Result	PQL	Qual		DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range O	rganics (DRO)	ND	1.0		mg/L	1	5/26/2006 8:15:50 AM		
Molor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	5/26/2006 8:15:50 AM		
Surr. DNOP		110	58-140		%REC	1	5/26/2006 8:15:50 AM		
EPA METHOD	8015B: GASOLINE RANGE	Ξ					Analyst: NSB		
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	6/1/2006 4:42:51 PM		
Surr: BFB		86.2	80-123		%REC	1	6/1/2006 4:42:51 PM		
EPA METHOD	8021B: VOLATILES						Anaiyst: NSB		
Benzene		ND	1.0		µg/L	1	6/1/2006 4:42:51 PM		
Toluene		ND	1.0		μg/L	1	6/1/2006 4:42:51 PM		
Ethylbenzene		ND	1.0		µg/L	1	6/1/2006 4:42:51 PM		
Xylenes, Total		ND	3.0		µg/L	1	6/1/2006 4:42:51 PM		
Surr: 4-Brom	ioiluorobenzene	84.7	84-115		%REC	1	6/1/2006 4:42:51 PM		



Value exceeds Maximum Contaminant Level ¥ E

Value above quantitation range

Analyte detected below quantitation limits J Spike Recovery outside accepted recovery limits S

В Analyte detected in the associated Method Blank

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

2/5

	P*								
CLIENT:	San Juan Refining			Client Sample I	D: GAC	2-EFF			
Lab Order:	0605250			Collection Da	te: 5/22/2	5/22/2006 1:45:00 PM			
Project:	GAC Analysis - 5/22/06	6		Date Receive	ed: 5/23/2	5/23/2006			
Lab ID:	0605250-03			Matr	ix: AQUI	EOUS			
Analyses		Result	PQL	Qual Units	DF	Date Analyzed			
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC			
Diesel Range C	Organics (DRO)	ND	1.0	mg/L	1	5/26/2006 8:48:41 AM			
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	5/26/2006 8:48:41 AM			
Surr: DNOP	-	110	58-140	%REC	1	5/26/2006 B:48:41 AM			
EPA METHOD	8015B: GASOLINE RANG	E				Analyst: NSE			
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	6/1/2006 5:13:09 PM			
Sun: BFB		85.1	80-123	%REC	1	6/1/2006 5:13:09 PM			
EPA METHOD	8021B: VOLATILES					Analyst: NSE			
Benzene		ND	1.0	µg/L	1	6/1/2006 5:13:09 PM			
Toluene		· ND	1.0	µg/L	1	6/1/2006 5:13:09 PM			
Ethylbenzene		ND	1.0	µg/L	1	6/1/2006 5:13:09 PM			
Xylenes, Total		ND	3.0	µg/L	1	6/1/2006 5:13:09 PM			
Surr: 4-Brom	nofluorobenzene	85.8	84-115	%REC	1	6/1/2006 5:13:09 PM			

Date: 05-Jun-06

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

3/5

QA/QC SUMMARY REPORT

ient: San Juan Rei iject: GAC Analys	_	ī						Work Order: 0	605250
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual	
								Batch ID:	10500
Sample ID: MB-10500		MBLK						Analysis Date:	5/26/2008
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-10500		LCS						Analysis Date:	5/26/2005
Diesel Range Organics (DRO)	5.150	mg/L	1.0	103	74	157			
Sample ID: LCSD-10500		LCSD						Analysis Date:	5/26/2006
Diesel Range Organics (DRO)	5.271	mg/L	1.0	105	74	.157	2.33	23	
Method: SW8015								Batch ID:	R19469
Sample ID: 5ML RB		MBLK						Analysis Date:	6/1/2006
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG LCS		LCS						Analysis Date:	6/1/2008
Gasoline Range Organics (GRO)	0.4320	mg/L	0.050	86.4	73.3	119	······································	· · · · · · · · · · · · · · · · · · ·	
Method: SW8021								Batch ID:	R19469
Sample ID: 5ML RB		MBLK						Analysis Date:	6/1/2000
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Tolal	ND	µg/L	3.0						
aple ID: 100NG BTEX LCS		LCS						Analysis Date:	6/1/200
hzene	19.05	μg/L	1.0	95.2	85	115			
Toluene	19.50	µg/L	1.0	97.5	85	118			
Ethylbenzene	19.25	μg/L	1.0	96.3	8 5	116			
Xylenes, Total	59.73	μg/L	3.0	99.6	85	119			

Qualifiers:

R

Value above quantitation range

Analyte detected below quantitation limits RPD outside accepted recovery limits H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spil 4 / 5 very outside accepted recovery limits

Page 1

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	Sample	Rece	apt Ch	ecklist		
Client Name SJR				Date and Time	Received:	5/23/2006
Work Order Number 0605250				Received by	LMM	
Checklist completed by <u>Augu</u> , <u>Heelup</u>	las	6	<u>) / 2 3</u> Date	3/06		
Matrix	Carrier name	<u>Grey</u>	hound			
Shipping container/cooler in good condition?		Yes			Not Present	
Custody seals intact on shipping container/cooler	?	Yes	V	No 🗔	Not Present	Not Shipped
Custody seals intact on sample bottles?		Yes		No 🗖	N/A	
Chain of custody present?		Yes	\checkmark	Νο		
Chain of custody signed when relinquished and re	ceived?	Yes		No 🗀		
Chain of custody agrees with sample labels?		Yes	V	No 🗌		
Samples in proper container/bottle?		Yes	\checkmark	No 🗔		
Sample containers intact?		Yes	\checkmark	No 🗆		
Sufficient sample volume for indicated test?		Yes	V	No 🗔		
All samples received within holding time?		Yes	~	Νο		
Water - VOA vials have zero headspace?	No VOA vials sub	mitted		Yes 🗹	No 🗆	
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A	
Container/Temp Blank temperature?			1°	4° C ± 2 Accepta		
COMMENTS:						
	and a					=======================================
Client contacted	Date contacted:			Pers	ion contacted	
Contracted by	Regarding					
Contacted by:	Кеуагону					· · · · · · · · · · · · · · · · · · ·
Comments:	·····			<u></u>	*** · · · · · · · · · · · · · · · · · ·	
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Corrective Action	······					

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Tell, 505,345,3975 Fax 505,345,4107 www.hallenvironmental.com	ANALYSIS HEUDEST		(leseiO\a (leseiO\a (, 02 , 00 (, 808) (5808)) \ 608's (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	r08 bor 02 bor 08 bor 08 bor 100 r 100 Metha (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth (Meth) (Meth (Meth)	НТРН 500 8031 803 803 803 803 803 803 803 803 803 803								<u>:5</u>	
Accreditation Applied: NELAC USACE C	Project Name:			Project Manager:	Sampler Milder C. Marken	Sample Temperature: 0	Preservative	HgCl ₂ HND ₃ HL20605350	X1- X Env	$3We = \chi - a \chi $	X10- X1 -3X	~				 Repeived By: (Signature) 0.01 Remarks: NAAA Fourty (Signature)
CHAIN-OF-CUSTODY RECORD	Client Sign Judy Refining	Additess: Then and Liggh	R.eld.		Phone #:	Fix#: <0.50-1.30-2911			5/12HM 1: 35 HZC CHY IN	1:35 1 CARI-FFF	V GAUZ-EFP					SD221014).55 Relinquished By: (Bigneture) Date: Relinquished By: (Signeture)



COVER LETTER

Monday, June 12, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 6/1/2006

Dear Cindy Hurtado:

Order No.: 0606035

Hall Environmental Analysis Laboratory received 3 sample(s) on 6/2/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

Date: 12-Jun-06

CLIENT:San Juan RefiningProject:GAC Analysis 6/1/2006Lab Order:0606035

CASE NARRATIVE

Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0606035-01A: Elevated surrogate due to matrix interference

Hall Envir	onmental Analysis		Date:	12-Jun-06			
CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0606035 GAC Analysis 6/1/2006 0606035-01			C	Client Sample ID: Collection Date: Date Received: Matrix:	6/1/2(6/2/2(006 9:00:00 AM 006
Analyses		Result	PQL	Quai	Units	DF	Date Analyzed
Diesel Range O Molor Oll Range Surr: DNOP EPA METHOD I	3015B: DIESEL RANGE rganics (DRO) Organics (MRO) 8015B: GASOLINE RANGE Organics (GRO)	ND ND 116	1.0 5.0 58-140 1.0		mg/L mg/L %REC mg/L	1 1 1 20	Analyst: SCC 6/7/2006 6:47:53 PM 6/7/2006 6:47:53 PM 6/7/2006 6:47:53 PM Analyst: HLM 6/8/2006 2:33:26 PM
Sur: BFB		113	80-123		%REC	20	6/8/2006 2:33:26 PM
EPA METHOD Benzene Toluene Ethylbenzene	8021B: VOLATILES	59 ND 640	20 20 20		µg/L µg/L	20 20 20	Analyst: HLM 6/8/2006 2:33:26 PM 6/8/2006 2:33:26 PM 6/8/2006 2:33:26 PM
Xylenes, Total Surr: 4-Brom	ofluorobenzene	3100 115	60 85-115	5	µg/L %REC	20 20	6/8/2006 2:33:26 PM 6/8/2006 2:33:26 PM

Qualifiers:

٠ Value exceeds Maximum Contaminant Level

- Е Value above quantitation range
- J Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits S

в Analyte detected in the associated Method Blank

- н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- 2/6

Page 1 of 3

Date: 12-Jun-06

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0606035 GAC Analysis 6/1/2006 0606035-02			Collec	ample ID: tion Date: Received: Matrix:	6/1/2(6/2/2(006 9:10:00 AM 006
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE				-		Analyst: SCC
Diesel Range C	Irganics (DRO)	ND	1.0	mg/L		1	6/7/2006 7:20:57 PM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L		1	6/7/2006 7:20:57 PM
Surr: DNOP		123	58-140	%REC		1	6/7/2006 7:20:57 PM
EPA METHOD	8015B: GASOLINE RANGE						Analyst: HLM
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L		1	6/8/2006 3:02:37 PM
Surn BFB		88.2	80-123	%REC		1	6/8/2006 3:02:37 PM
EPA METHOD	8021B: VOLATILES						Analyst: HLM
Benzene		ND	1.0	μg/L		1	6/8/2006 3:02:37 PM
Toluene		ND	1.0	µg/L		1	6/8/2006 3:02:37 PM
Ethylbenzene		ND	1.0	μg/L		1	6/8/2006 3:02:37 PM
Xylenes, Total		3.2	3.0	μg/L		1	6/8/2006 3:02:37 PM
	ofluorobenzene	87.9	85-115	%REC		1	6/8/2006 3:02:37 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level Ε

- Value above quantitation range
- Analyte detected below quantitation limits J

S Spike Recovery outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

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		,

Date: 12-Jun-06

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0606035 GAC Analysis 6/1/2006 0606035-03				ient Sample ID: Collection Date: Date Received: Matrix:	6/1/20 6/2/20	06 9:20:00 AM 06
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	Irganics (DRO)	ND	1.0		mg/L	1	6/7/2006 7:54:00 PM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	6/7/2006 7:54:00 PM
Sur: DNOP		121	58-140		%REC	1	6/7/2006 7:54:00 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: HLM
Gasoline Range	organics (GRO)	ND	0.050		mg/L	1	6/8/2006 3:31:51 PM
Surr: BFB		88.4	80-123		%REC	1	6/8/2006 3:31:51 PM
EPA METHOD	8021B: VOLATILES						Analyst: HLM
Benzene		ND	1.0		µg/L	1	6/8/2006 3:31:51 PM
Toluene		ND	1.0		µg/L	1	6/8/2006 3:31:51 PM
Ethylbenzene		ND	1.0		µg/L	1	6/8/2006 3:31:51 PM
Xylenes, Total		ND	3.0		μg/L	1	6/8/2006 3:31:51 PM
•	ofluorobenzene	88.9	85-115		%REC	1	6/8/2006 3:31:51 PM

Qualifiers:	ŧ	Value exceeds Maximum Contaminant Level		В	Analyte detected in the associated Method Blank
	E	Value above quantitation range		Н	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits		ND	Not Detected at the Reporting Limit
	S	Spike Recovery outside accepted recovery limits			
			4/6		Page 3 of 3

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QA/QC SUMMARY REPORT

Client: San Juan Refin Project: GAC Analysis	-						۲	Work Order: 0	606035
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual	
Method: SW8015								Batch ID:	10573
Sample ID: MB-10573		MBLK						Analysis Date:	6/7/2006
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-10573		LCS						Analysis Date:	6/7/2006
Diesel Range Organics (DRO)	5.228	mg/L	1.0	105	74	157			
Sample ID: LCSD-10573		LCSD						Analysis Date:	6/7/2006
Diesel Range Organics (DRO)	5.511	mg/L	1.0	110	74	157	5.27	23	
Method: SW8015								Batch ID:	R19554
Sample ID: 5ML RB		MBLK						Analysis Date:	6/8/2006
Gasoline Range Organics (GRO)	ND	mg/L	0.050					-	
Sample ID: 2.5UG GRO LCS		LCS	0.000					Analysis Date:	6/8/2006
Gasoline Range Organics (GRO)	0.4380	mg/L	0.050	87.6	73.3	119		-	
Sample ID: 2.5UG GRO LCSD	0.4000	LCSD	0.000	0/10	10.0	110		Analysis Date:	6/8/2006
Gasoline Range Organics (GRO)	0.4400	mg/L	0.050	88.0	73.3	119	0.456	8.39	
							<u></u>	D-1-5 ID:	DADEEA
Method: SW8021		MBLK						Batch ID: Analysis Date:	R19554 6/8/2006
Sample ID: 5ML RB								Analysis Date.	0/0/2000
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0 1.0						
Ethylbenzene Xylenes, Total	ND ND	µg/L µg/L	3.0						
Sample ID: 100NG BTEX LCS	ND	LCS	0.0					Analysis Date:	6/8/2006
Benzene	20.86	μg/L	1.0	104	85	115		,	0,0,000
Toluene	20.80 18.34	μg/L	1.0	91.7	85	118			
Ethylbenzene	18.92	μg/L	1.0	94.6	85	116			
Xylenes, Total	57.89	pg/L	3.0	96.5	85	119			
Sample ID: 100NG BTEX LCSD		LCSD						Analysis Date:	6/8/2006
Benzene	20.53	µg/L	1.0	103	85	115	1.61	27	
Toluene	18.62	μg/L	1.0	93.1	85	118	1.47	19	
Ethylbenzene	19.23	μg/L	1.0	96.2	85	116	1.64	10	
Xylenes, Total	58.60	μg/L	3.0	97.7	85	119	1.23	13	

Qualifiers:

E Value above quantitation mage

J . Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

5 Sp 5 / 6 overy outside accepted recovery limits

Page 1

	Sample	Receipt Ch	ecklist		
Client Name SJR	2		Date and Time	Received:	6/2/2006
Work Order Number 0606035			Received by	AT	
Checklist completed by	the	Date	6/2/0	4	
Mətrix	Carrier name	<u>UPS</u>			
Shipping container/cooler in good condition?		Yes 🗹	No 🗔	Not Present]
Custody seals intact on shipping container/coole	er?	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 🗹	Na 🗖		
All samples received within holding time?		Yes 🗹			
Water - VOA vials have zero headspace?	No VOA vials subr	nitted 🗌	Yes 🗹	No 🗔	
Water - pH acceptable upon receipt?		Yes 🗌	No 🗔	N/A 🗹	
Container/Temp Blank temperature?		22°	4° C ± 2 Accepta If given sufficient		
COMMENTS:					
					. ·
Client contacted	Date contacted:		Pers	on contacted	
Contacted by:	Regarding				
Comments:					
					· · · · · · · · · · · · · · · · · · ·
Corrective Action					·····
			· · · · · · · · · · · · · · · · · · ·		

Hall Environmental Hall Environmental Abalysis Laboratory 4901 Hawkins NE, Suite D Albuquerque, New Mexico B7109 Tel. 505.345.347.4107 www.hallenvironmental.com	(1508) 2 % 6 % 6 % 6 % 6 % 6 % 6 % 6 % 6 % 6 % 		
DA/ GC Package: Std D Level 4 D Other: Project Name: CAAC ANA UCASS Co/1/D Co Project #:	Project Manager: CINULY HULL-JO Sampler: Molley COUCOLOD Sample Temperatures Number/Volume HgCl2 HND3 HCL	310a X 060605-1 310a X -2 310a X -3	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client: Can Than Aldfining Address: #50 Pd 4990	Floom #: SOS-lo33-4116 Phone #: SOS-lo33-4116 Fax #: 505 - lo33 - 4116 Data Time Matrix Sample I.D. No.	91,064:00 H20 GAR TNF V 9:20 V GACIEFF	Contraction of the second seco



COVER LETTER

Tuesday, June 13, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 6/8/06

Dear Cindy Hurtado:

Order No.: 0606102

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 6/9/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:San Juan RefiningProject:GAC Analysis 6/8/06Lab Order:0606102

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO & 8021BTEX, SAMPLE 0606102-01A: elevated surrogate due to matrix interference.



Date: 13-Jun-06

CLIENT:	San Juan Refining			C	lient Sample ID:	GAC	INF		
Lab Order:	0606102				Collection Date:	6/8/20	006 12:30:00 PM		
Project:	GAC Analysis 6/8/06				Date Received:	6/9/20	006		
Lab ID:	0606102-01			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	6/12/2006 12:54:24 PM		
Motor Oli Range Organics (MRO)		ND	5.0		mg/L	1	6/12/2006 12:54:24 PM		
Surr: DNOP		115	58-140		%REC	1	6/12/2006 12:54:24 PM		
FPA METHOD	8015B: GASOLINE RANG	Έ					Analyst: HLM		
	e Organics (GRO)	10	1.0		mg/L	20	6/12/2006 1:09:14 PM		
Surr: BFB		128	80-123	S	%REC	20	6/12/2006 1:09:14 PM		
EPA METHOD	8021B: VOLATILES						Analyst: HLM		
Benzene		480	20		µg/L	20	6/12/2006 1:09:14 PM		
Toluene		39	20		µg/L	20	6/12/2006 1:09:14 PM		
Ethylbenzene		1200	20		μ g /L	20	6/12/2006 1:09:14 PM		
Xvienes, Total		3900	60		μg/L	20	6/12/2006 1:09:14 PM		
-	ofluorobenzene	120	85-115	S	%REC	20	6/12/2006 1:09:14 PM		

Qualifiers:

*

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 2

CLIENT: Lab Order: Project: Lab D:	San Juan Refining 0606102 GAC Analysis 6/8/06 0606102-02		Date Received: Matrix:			6/8/2006 12:40:00 PM		
Analyses		Result	PQL	Qual Units		DF	Date Analyzed	
EPA METHOD 8	015B: DIESEL RANGE						Analyst: SCC	
Diesel Range Organics (DRO)		ND	1.0	mg/L		1	6/12/2006 1:28:03 PM	
Motor Oil Range Organics (MRO)		ND	5.0	mg/L		1	6/12/2006 1:28:03 PM	
Sun: DNOP		118	58-140	%REC		1	6/12/2006 1:28:03 PM	
EPA METHOD 8	015B: GASOLINE RANG	E					Analyst: HLM	
Gasoline Range (Organics (GRO)	ND	0.050	mg/L		1	6/12/2006 12:37:34 PM	
Sur: BFB		94.1	80-123	%REC		1	6/12/2006 12:37:34 PM	
EPA METHOD 8	021B: VOLATILES						Analyst: HLM	
Benzene		ND	1.0	µg/L		1	6/12/2006 12:37:34 PM	
Toluene		ND	1.0	µg/L		1	6/12/2006 12:37:34 PM	
Ethylbenzene		ND	1.0	μg/L		1	6/12/2006 12:37:34 PM	
Xylenes, Total		ND	3.0	μg/L		1	6/12/2006 12:37:34 PM	
Sur: 4-Bromo	luorobenzene	93.9	85-115	%REC	;	1	6/12/2006 12:37:34 PM	

Date: 13-Jun-06

Qualifiers:	*	
	Ε	

Value exceeds Maximum Contaminant Level

Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

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Page 2 of 2

QA/QC SUMMARY REPORT

Juan Refining C Analysis 6/8/06							Work Order:	0606102
Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qu	al
							Batch IE	
	MBLK						Analysis Date:	6/12/2006
RO) ND	mg/L	1,D						
(MRO) ND	mg/L	5.0						
	LCS						Analysis Date:	6/12/2006
RO) 5.846	mg/L	1.0	117	74	157			
1	LCSD						Analysis Date:	6/12/2006
RO) 5.631	mg/L	1.0	113	74 ·	157	3.75	23	
							Batch IC): R195 73
	MBLK						Analysis Date:	6/12/2006
(GRO) ND	mg/L	0.050						
LCS	LCS						Analysis Date:	6/12/2000
(GRO) 0.4980	mg/L	0.050	9 9.6	73.3	119			
							Batch II): R1957
	MBLK						Analysis Date:	6/12/200
ND	µg/L	1.0						
ND	µg/L	1.0						
ND	µg/L	1.0						
ND	µg/L	3.0						
X LCS	LCS						Analysis Date:	6/12/200
19.95	µg/L	1.0	99.8	85	115			
19.22	µg/L	1.0	92.7	85	118			
19.46	µg/L	1.0	94.2	85	116			
60.15	µg/L	3.0	97.4	85	119			
	RO) ND (MRO) ND (MRO) ND (MRO) 5.846 (RO) 5.631 (GRO) ND LCS (GRO) 0.4980 ND ND ND ND ND ND ND ND ND ND ND ND ND	Result Units RO) ND rng/L (MRO) ND rng/L (MRO) ND rng/L (MRO) ND rng/L (MRO) 5.846 mg/L (MRO) 5.631 mg/L (RO) 5.631 mg/L (GRO) ND rng/L LCS LCS (GRO) (GRO) 0.4980 rng/L ND µg/L ND ND µg/L 19.95 19.95 µg/L 19.46	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Result Units PQL %Rec LowLImit HighLimit %RPD RPDLimit Quitable MBLK MBLK Analysis Date: Analysis Date: Analysis Date: Analysis Date: Analysis Date: Analysis Date: MBLK Malkis Analysis Date: Malkis Analysis Date: Malkis M

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

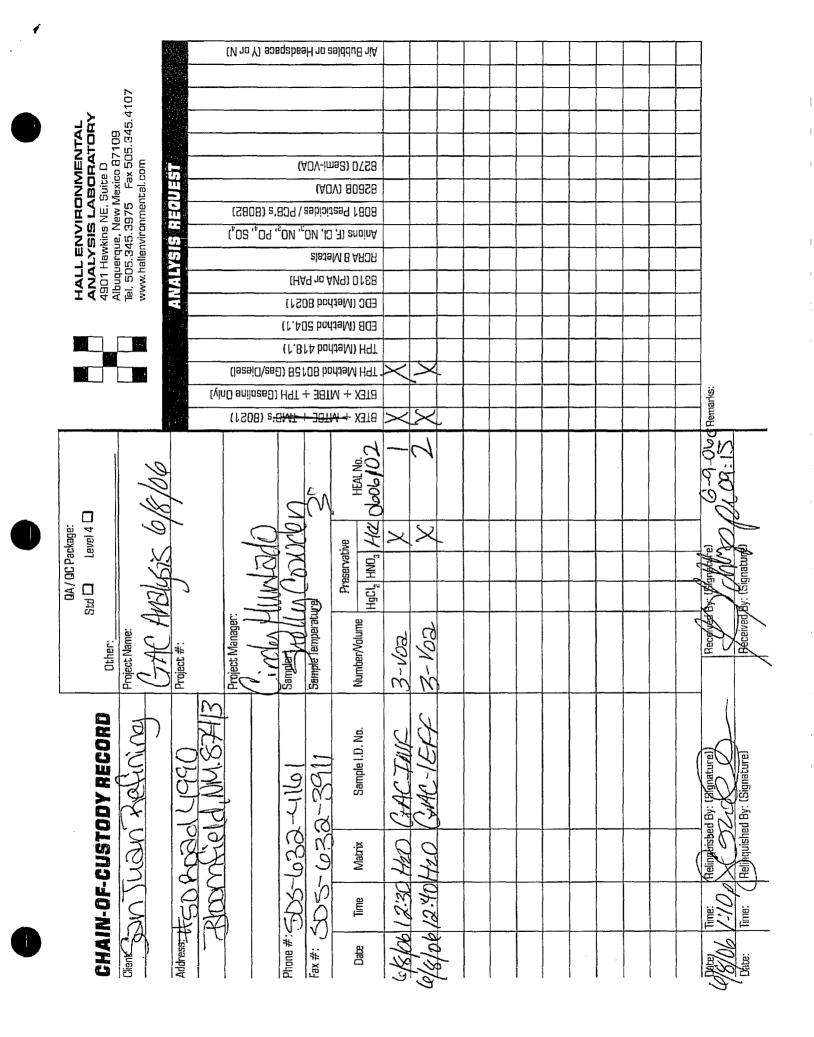
5

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Page !

Sample Receipt Checklist									
Client Name SJR				Date and Time	Received:		6/9/2006		
Work Order Number 0606102	Λ 1			Received by	GLS				
Checklist completed by	hbon		[]	-9-06					
Signalure	1		Date						
Matrix	Carrier name	UPS	ļ						
Shipping container/cooler in good condition?		Yes			Not Present				
Custody seals intact on shipping container/coole	r? .	Yes		No 🗌	Not Present	Not Shipped			
Custody seals intact on sample bottles?		Yes		No 🗆	N/A				
Chain of cuslody present?		Yes	\checkmark	No 🗔					
Chain of custody signed when relinquished and t	received?	Yes		No 🗔					
Chain of custody agrees with sample labels?		Yes		No 🗆					
Samples in proper container/bottle?		Yes	\checkmark	No 🗔					
Sample containers intact?		Yes		No 🗔					
Sufficient sample volume for indicated test?		Yes	V	No 🗆					
All samples received within holding time?		Yes	\checkmark	No 🗔					
Water - VOA vials have zero headspace?	No VOA vials subr	nitted		Yes 🗹	No 🗆				
Water - pH acceptable upon receipt?		Yes			N/A 🗹				
Container/Temp Blank temperature?			3°	4° C ± 2 Accepta If given sufficient					
COMMENTS:									
=======================================		= == =				= = = = = = = = = = = = = =			
Client contacted	Date contacted:			Pers	on contacted	<u></u>			
Contacted by:	Regarding			<u></u>					
Comments:									
······································	, 								
	·······								
<u> </u>	·			<u></u>					
Corrective Action		·				<u></u>			
						·			
			<u>.</u>			<u> </u>			

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COVER LETTER

Wednesday, June 28, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 6/15/06

Dear Cindy Hurtado:

Order No.: 0606170

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 6/16/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

Date: 28-Jun-06

CLIENT:San Juan RefiningProject:GAC Analysis 6/15/06Lab Order:0606170

CASE NARRATIVE

I

Analytical Comments for METHOD 8021BTEX_W, SAMPLE 0606170-01A: elevated surrogate due to matrix interference Analytical Comments for METHOD 8015GRO_W, SAMPLE 0606170-01A: elevated surrogate due to matrix interference

CLIENT: Lab Order:	San Juan Refining 0606170		Client Sample ID: Collection Date: Date Received: Matrix:			6/15/2006 8:10:00 AM		
Project:	GAC Analysis 6/15/06							
	-					0.20.2		
Lab ID:	0606170-01					AQUI		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Organics (DRO)	1.1	1.0		mg/L	1	6/20/2006 11:55:38 AM	
Motor Oil Range Organics (MRO)		ND	5.0		mg/L	1	6/20/2006 11:55:38 AM	
Surr: DNOP		112	58-140		%REC	1	6/20/2006 11:55:38 AM	
EPA METHOD	8015B: GASOLINE RANG	SE					Analyst: HLM	
Gasoline Rang	e Organics (GRO)	12	1.0		mg/L	20	6/16/2006 1:28:05 PM	
Surr: BFB		136	80-123	S	%REC	20	6/16/2006 1:28:05 PM	
EPA METHOD	8021B: VOLATILES						Analyst: HLM	
Benzene		550	20		µg/L	20	6/16/2006 1:28:05 PM	
Toluene		ND	20		µg/L	20	6/16/2006 1:28:05 PM	
Ethylbenzene		1300	20		µg/L	20	6/16/2006 1:28:05 PM	
Xylenes, Total		4600	60		µg/L	20	6/16/2006 1:28:05 PM	
Surr: 4-Bron	nofluorobenzene	126	85-115	s	%REC	20	6/16/2006 1:28:05 PM	

Date: 28-Jun-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT: Lab Order: Project: Lab ID:	Order:0606170Collection Dateect:GAC Analysis 6/15/06Date ReceiveMateria				n Date: eceived:	6/15/2006 8:20:00 AM		
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	6/20/2006 12:28:41 PM	
Motor Oil Range Organics (MRO)		ND	5.0	mg/L		1	6/20/2006 12:28:41 PM	
Surr: DNOP		109	58-140	%REC		1	6/20/2006 12:28:41 PM	
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: HLM	
Gasoline Range	organics (GRO)	ND	0.050	mg/L		1	6/16/2006 1:57:13 PM	
Surr: BFB		93.7	80-123	%REC		1	6/16/2006 1:57:13 PM	
EPA METHOD	8021B: VOLATILES						Analyst: HLM	
Benzene		ND	1.0	µg/L		1	6/16/2006 1:57:13 PM	
Toluene		ND	1.0	µg/L		1	6/16/2006 1:57:13 PM	
Ethylbenzene		1.7	1.0	µg/L		1	6/16/2006 1:57:13 PM	
Xylenes, Total		5.7	3.0	µg/L		1	6/16/2006 1:57:13 PM	
	ofluorobenzene	88.6	85-115	%REC		1	6/16/2006 1:57:13 PM	

Date: 28-Jun-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

.

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

CLIENT: Lab Order:	Order: 0606170 Collection Dat				-	GAC-2 EFF 6/15/2006 8:30:00 AM			
Project:	GAC Analysis 6/15/06		Date Received: Matrix:			6/16/2	6/16/2006 AQUEOUS		
Lab ID:	0606170-03					АQUI			
Analyses		Result	PQL	Qual Uni	ts	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Drganics (DRO)	ND	1.0	mg/	L	1	6/20/2006 1:00:11 PM		
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/	L	1	6/20/2006 1:00:11 PM		
Surr: DNOP		116	58-140	%RI	EC	1	6/20/2006 1:00:11 PM		
EPA METHOD	8015B: GASOLINE RANG	GE					Analyst: HLM		
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/	L	1	6/16/2006 2:26:20 PM		
Surr: BFB		94.0	80-123	%R	EC	1	6/16/2006 2:26:20 PM		
EPA METHOD	8021B: VOLATILES						Analyst: HLM		
Benzene		ND	1.0	hð/ľ	-	1	6/16/2006 2:26:20 PM		
Toluene		ND	1.0	µg/l	-	1	6/16/2006 2:26:20 PM		
Ethylbenzene		ND	1.0	µg/l	-	1	6/16/2006 2:26:20 PM		
Xylenes, Total		ND	3.0	µg/l	-	1	6/16/2006 2:26:20 PM		
Surr: 4-Bron	nofluorobenzene	89.7	85-115	%R	EC	1	6/16/2006 2:26:20 PM		

Date: 28-Jun-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

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QA/QC SUMMARY REPORT

Client: San Juan Ref	fining							
'roject: GAC Analys	is 6/15/06							Work Order: 0606170
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
lethod: SW8015								Batch ID: 10636
ample ID: MB-10636		MBLK						Analysis Date: 6/20/2006
iesel Range Organics (DRO)	ND	mg/L	1.0					
lotor Oil Range Organics (MRO)	ND	mg/L	5.0					
ample ID: LCS-10636		LCS						Analysis Date: 6/20/2006
iesel Range Organics (DRO)	5.244	mg/L	1.0	105	74	157		
ample ID: LCSD-10636		LCSD						Analysis Date: 6/20/2006
iesel Range Organics (DRO)	5.056	mg/L	1.0	101	74	157	3.66	23
lethod: SW8015								Batch ID: R19614
ample ID: 5ML RB		MBLK						Analysis Date: 6/16/2006
asoline Range Organics (GRO)	ND	mg/L	0.050					
ample ID: 2.5UG GRO LCS		LCS						Analysis Date: 6/16/2006
Sasoline Range Organics (GRO)	0.5200	mg/L	0.050	104	73.3	119		
lethod: SW8021								Batch ID: R19614
ample ID: 5ML RB		MBLK						Analysis Date: 6/16/2006
enzene	ND	µg/L	1.0					
oluene	⁵ ND	µg/L	1.0					
Ithylbenzene	ND	µg/L	1.0					
ylenes, Total	ND	µg/L	3.0					
ample ID: 100NG BTEX LCS		LCS						Analysis Date: 6/16/2006
lenzene	19.07	µg/L	1.0	95.3	85	115		
oluene	17.79	µg/L	1.0	89.0	85	118		
ithylbenzene	18.12	µg/L	1.0	90.6	8 5	116		
(ylenes, Total	55.36	µg/L	3.0	92.3	85	119		

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

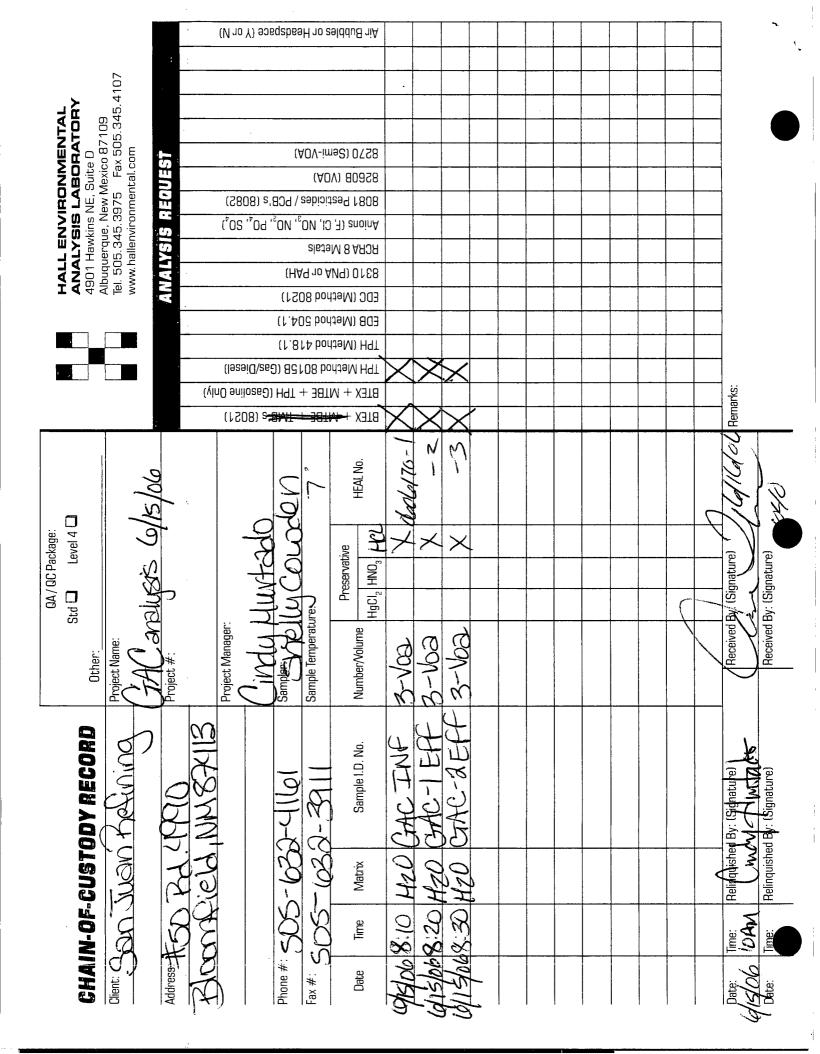
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits 5/6

Page 1

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Hall	Environmental	Analysis	Laboratory,	Inc
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	Sample	Rece	eipt Che	ecklist		
ent Name SJR				Date and Time	Received:	6/16/2006
Work Order Number 0606170	\cap			Received by	AT	
Checklist completed by	him		Date	6//6/	16	
Matrix	Carrier name	<u>UPS</u>				
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present	
Custody seals intact on shipping container/cooler	r?	Yes	\checkmark	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 r	received?	Yes		No 🗌		
Chain of custody agrees with sample labels?		Yes		No 🗌		
Samples in proper container/bottle?		Yes	\checkmark	No 🗔		
Sample containers intact?		Yes		No 🗔		
Sufficient sample volume for indicated test?		Yes		No 🗌		
All samples received within holding time?		Yes		No 🗌		
ater - VOA vials have zero headspace?	No VOA vials subm	nitted		Yes 🗹	No 🗌	
vater - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹	
Container/Temp Blank temperature?			7°	4° C ± 2 Accepta If given sufficient		
COMMENTS:						
Client contacted	Date contacted:			Pers	on contacted	
Contacted by:	Regarding					
Comments:						
					<u></u> ,	
Corrective Action						
	، مربع بالله					





COVER LETTER

Wednesday, June 28, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis - 6/21/2006

Dear Cindy Hurtado:

Order No.: 0606237

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 6/22/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

Date: 28-Jun-06

CLIENT:San Juan RefiningProject:GAC Analysis - 6/21/2006Lab Order:0606237

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO_W, SAMPLE 0606237-01A: elevated surrogate due to matrix interference

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0606237 GAC Analysis - 6/21/2 0606237-01	2006		C	Client Sample ID: Collection Date: Date Received: Matrix:	6/21/2 6/22/2	2006 8:20:00 AM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	1.3	1.0		mg/L	1	6/27/2006 8:58:59 AM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	6/27/2006 8:58:59 AM
Surr: DNOP		121	58-140		%REC	1	6/27/2006 8:58:59 AM
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: HLM
Gasoline Range	e Organics (GRO)	13	1.0		mg/L	20	6/22/2006 7:13:52 PM
Surr: BFB		136	80-123	S	%REC	20	6/22/2006 7:13:52 PM
EPA METHOD	8021B: VOLATILES						Analyst: HLM
Benzene		780	20		µg/L	20	6/22/2006 7:13:52 PM
Toluene		ND	20		μg/L	20	6/22/2006 7:13:52 PM
Ethylbenzene		1600	20		µg/L	20	6/22/2006 7:13:52 PM
Xylenes, Total		5000	60		μg/L	20	6/22/2006 7:13:52 PM
Surr: 4-Brom	ofluorobenzene	122	72.2-125		%REC	20	6/22/2006 7:13:52 PM

Date: 28-Jun-06

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0606237 GAC Analysis - 6/21/2 0606237-02	2006			lient Sample ID: Collection Date: Date Received: Matrix:	6/21/2 6/22/2	2006 8:30:00 AM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8	015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0		mg/L	1	6/27/2006 9:31:26 AM
Motor Oil Range	Organics (MRO)	ND	5.0		mg/L	1	6/27/2006 9:31:26 AM
Surr: DNOP		115	58-140		%REC	1	6/27/2006 9:31:26 AM
EPA METHOD	3015B: GASOLINE RAN	GE					Analyst: HLM
Gasoline Range	Organics (GRO)	ND	0.050		mg/L	1	6/23/2006 2:15:55 PM
Surr: BFB		91.9	80-123		%REC	1	6/23/2006 2:15:55 PM
EPA METHOD	3021B: VOLATILES						Analyst: HLM
Benzene		ND	1.0		µg/L	1	6/23/2006 2:15:55 PM
Toluene		ND	1.0		µg/L	1	6/23/2006 2:15:55 PM
Ethylbenzene		ND	1.0		µg/L	1	6/23/2006 2:15:55 PM
Xylenes, Total		ND	3.0		µg/L	1	6/23/2006 2:15:55 PM
Surr: 4-Bromo	ofluorobenzene	86.5	72.2-125		%REC	1	6/23/2006 2:15:55 PM

Date: 28-Jun-06

Qualifiers:

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Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

CLIENT: Lab Order: Project:	San Juan Refining 0606237 GAC Analysis - 6/21/2	2006			lient Sample ID: Collection Date: Date Received:	6/21/2	2006 8:40:00 AM		
Lab ID:	0606237-03	2000			Matrix:	0	JEOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	6/27/2006 10:03:55 AM		
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	6/27/2006 10:03:55 AM		
Surr: DNOP		108	58-140		%REC	1	6/27/2006 10:03:55 AM		
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: HLM		
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	6/22/2006 8:41:11 PM		
Surr: BFB		89.9	80-123		%REC	1	6/22/2006 8:41:11 PM		
EPA METHOD	8021B: VOLATILES						Analyst: HLM		
Benzene		ND	1.0		µg/L	1	6/22/2006 8:41:11 PM		
Toluene		ND	1.0		µg/L	1	6/22/2006 8:41:11 PM		
Ethylbenzene		ND	1.0		µg/L	1	6/22/2006 8:41:11 PM		
Xylenes, Total		ND	3.0		µg/L	1	6/22/2006 8:41:11 PM		
Surr: 4-Bron	nofluorobenzene	82.4	72.2-125		%REC	1	6/22/2006 8:41:11 PM		

Date: 28-Jun-06

Qualifiers:

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Value exceeds Maximum Contaminant Level

- Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Date: 28-Jun-06

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QA/QC SUMMARY REPORT

	n Juan Ref AC Analysi	-	006						Work Order:	0606237
Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qua	al
Method: SW8015 Sample ID: MB-10667	,		MBLK						Batch ID Analysis Date:	
Diesel Range Organics	(DRO)	ND	mg/L	1.0						
Motor Oil Range Organi		ND	mg/L	5.0						
Sample ID: LCS-1066			LCS						Analysis Date:	6/27/2006
Diesel Range Organics	(DRO)	6.384	mg/L	1.0	128	74	157			
Sample ID: LCSD-106			LČSD						Analysis Date:	6/27/2006
Diesel Range Organics		5.478	mg/L	1.0	110	74	157	15.3	23	
	<u>`</u>		<u>_</u>		•••···					
Method: SW8015 Sample ID: 5ML RB			MBLK						Batch ID Analysis Date:	: R19665 6/22/2006
		ND		0.050					Analysis Dale.	012212000
Gasoline Range Organi Sample ID: 5ML RB	CS (GRU)	ND	mg/L <i>MBLK</i>	0.050					Analysis Date:	6/23/2006
Gasoline Range Organi		ND	mg/L	0.050						0 /00/00000
Sample ID: 2.5UG GF			LCS						Analysis Date:	6/22/2006
Gasoline Range Organi Sample ID: 2.5UG GF		0.5040	mg/L LCS	0.050	101	73.3	119		Analysis Date:	6/23/2006
Gasoline Range Organi	ics (GRO)	0.4780	mg/L	0.050	95.6	73.3	119			
Method: SW8021									Batch ID	: R19665
Sample ID: 5ML RB			MBLK						Analysis Date:	
Benzene		ND	µg/L	1.0						0,22,2000
Toluene		ND	μg/L	1.0						
Ethylbenzene		ND	μg/L	1.0						
Xylenes, Total		ND	μg/L	3.0						
Sample ID: 5ML RB			MBLK						Analysis Date:	6/23/2006
Benzene		ND	µg/L	1.0					·	
Toluene		ND	μg/L	1.0						
Ethylbenzene		· ND	μg/L	1.0						
Xylenes, Total		ND	µg/L	3.0						
Sample ID: 100NG B	TEX LCS		LCS						Analysis Date:	6/22/2006
Benzene		18.63	µg/L	1.0	93.2	85	115			
Toluene		17.48	µg/L	1.0 ·	87.4	85	118			
Ethylbenzene		17.83	µg/L	1.0	89.2	85	116			
Xylenes, Total		55.30	µg/L	3.0	92.2	85	119			
Sample ID: 100NG B	TEX LCS		LCS						Analysis Date:	6/23/2006
Benzene		19.05	µg/L	1.0	95.3	85	115			
Toluene		18.52	µg/L	1.0	89.5	85	118			
Ethylbenzene		18.95	µg/L	1.0	94.8	85	116			
Xylenes, Total		58.28	µg/L	3.0	94.8	85	119			

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Percevery outside accepted recovery limits 5/6

Page 1

	Sample Receipt	Checklist		
ent Name SJR		Date and Time	Received:	6/22/2006
Work Order Number 0606237	ΛΛ	Received by	GLS	
Checklist completed by	lepte le	0.22-06 ete	_	
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 re	ceived? 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		
Nater - VOA vials have zero headspace?	No VOA vials submitted \Box	Yes 🗹	No 🗌	
ater - pH acceptable upon receipt?	Yes 🗌	No 🗔	N/A	
Container/Temp Blank temperature?	15°	4° C ± 2 Accepta If given sufficient		
COMMENTS:				
Client contacted	Date contacted:	Pers	on contacted	
Contacted by:	Regarding			
Comments:				
	·			
Corrective Action				
	e			
▼				

evel 4 eve	Remarks:									BTEX + H BTEX + M BTEX + M TPH (Meth B310 (PW) B310 (PW) B310 (PW) B081 Pesh Mnions (F, W) B081 Pesh M10005 (F, W) B081 Pesh W B081 Pesh B081 Pesh W B100 (Y) W	91 + 381 88 r08 bo r 80 4 80 r 80 4 80 r 80 80 r 7 80 r 80 r 80 r 80 r 80 r 80 r 80 r 80 r	iozeð) biO\zeð	rO ani (lase	: 	www.hallenvironmental.com	A901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tai EOE 245 205 245 2107	
Y RECORD Other: Project Name: Project Name: Project Manager: Project Manager:	Relinduished By: (Signature) C-22-00 Relinquished By: (Signature) C-22-00 Relinquished By: (Signature) Received By: (Signature)					}	MAN 7-COF 2-VN2 V	D MAP 1-EFF B-VOR X	GAN INF B-VOD	Sample I.D. No. Number/Volume HgCl ₂ HNO ₃ LPV OL	- 311/ Sample Temperature:	(why Hurted 0	Project Manager:		L'extra d		QA/QCF Std 🗖



COVER LETTER

Friday, July 07, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 6/27/06

Dear Cindy Hurtado:

Order No.: 0606303

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 6/28/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

Date: 07-Jul-06

CLIENT:San Juan RefiningProject:GAC Analysis 6/27/06Lab Order:0606303

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO_W, SAMPLE 0606303-01A: Elevated surrogate due to matrix interference.

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0606303 GAC Analysis 6/27/06 0606303-01	7/06 Collection D Mat			Client Sample ID: Collection Date: Date Received: Matrix:	6/27/2 6/28/2	2006 9:15:00 AM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0		mg/L	1	7/3/2006 12:38:18 AM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	7/3/2006 12:38:18 AM
Surr: DNOP		120	58-140		%REC	1	7/3/2006 12:38:18 AM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	13	1.0		mg/L	20	7/5/2006 12:51:21 AM
Surr: BFB		144	80-123	S	%REC	20	7/5/2006 12:51:21 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		880	20		µg/L	20	7/5/2006 12:51:21 AM
Toluene		170	20		µg/L	20	7/5/2006 12:51:21 AM
Ethylbenzene		1700	20		µg/L	20	7/5/2006 12:51:21 AM
Xylenes, Total		5000	150		µg/L	50	7/6/2006 9:41:55 PM
Surr: 4-Brom	ofluorobenzene	110	72.2-125		%REC	50	7/6/2006 9:41:55 PM

Date: 07-Jul-06

Qualifiers:

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Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT: Lab Order: Project: Lab ID:	ler: 0606303			Colle	ction Date: e Received:	GAC-1EFF 6/27/2006 9:25:00 AM 6/28/2006 AQUEOUS		
Analyses		Result	PQL	Qual Unit	s	DF	Date Analyzed	
EPA METHOD 8	015B: DIESEL RANGE						Analyst: SCC	
Diesel Range Org	janics (DRO)	ND	1.0	mg/L		1	7/3/2006 1:11:07 AM	
Motor Oil Range	Organics (MRO)	ND	5.0	mg/L		1	7/3/2006 1:11:07 AM	
Surr: DNOP		125	58-140	%RE	с	1	7/3/2006 1:11:07 AM	
EPA METHOD 8	015B: GASOLINE RANG	E					Analyst: NSB	
Gasoline Range (Organics (GRO)	ND	0.050	mg/L		1	7/5/2006 1:49:10 AM	
Surr: BFB		97.6	80-123	%RE	с	1	7/5/2006 1:49:10 AM	
EPA METHOD 8	021B: VOLATILES						Analyst: NSB	
Benzene		ND	1.0	µg/L		1	7/6/2006 11:09:22 PM	
Toluene		ND	1.0	µg/L		1	7/6/2006 11:09:22 PM	
Ethylbenzene	4	ND	1.0	µg/L		1	7/6/2006 11:09:22 PM	
Xylenes, Total	·	ND	3.0	µg/L		1	7/6/2006 11:09:22 PM	
Surr: 4-Bromot	luorobenzene	97.7	72.2-125	%RE	с	1	7/6/2006 11:09:22 PM	

Date: 07-Jul-06

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Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

CLIENT:	San Juan Refining				lient Sample ID:			
Lab Order:	0606303				Collection Date:	6/27/2006 9:35:00 AM		
Project:	GAC Analysis 6/27/06				Date Received:	6/28/2	2006	
Lab ID:	0606303-03				Matrix:	AQU	EOUS	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	7/3/2006 2:16:44 AM	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	7/3/2006 2:16:44 AM	
Surr: DNOP		124	58-140		%REC	1	7/3/2006 2:16:44 AM	
EPA METHOD	8015B: GASOLINE RANG	ε					Analyst: NSB	
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	7/5/2006 2:18:23 AM	
Surr: BFB		93.0	80-123		%REC	1	7/5/2006 2:18:23 AM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	1.0		hð\r	1	7/6/2006 11:38:25 PM	
Toluene		ND	1.0		µg/L	1	7/6/2006 11:38:25 PM	
Ethylbenzene		ND	1.0		µg/L	1	7/6/2006 11:38:25 PM	
Xylenes, Total		ND	3.0		µg/L	1	7/6/2006 11:38:25 PM	
Surr: 4-Brom	ofluorobenzene	97.8	72.2-125		%REC	1	7/6/2006 11:38:25 PM	

Date: 07-Jul-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

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QA/QC SUMMARY REPORT

Client:San Juan Refi'roject:GAC Analysi	-						Worl	c Order: 0606303
Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD RF	PDLimit Qual
lethod: SW8015								
ample ID: MB-10713		MBLK			Batch ID	: 10713	Analysis Date:	7/2/2006 4:58:10 PM
iesel Range Organics (DRO)	ND	mg/L	1.0					
1otor Oil Range Organics (MRO)	ND	mg/L	5.0					
ample ID: LCS-10713		LCS			Batch ID		Analysis Date:	7/2/2006 5:31:29 PM
iesel Range Organics (DRO)	7.056	mg/L	1.0	141	74	157		
ample ID: LCSD-10713		LCSD			Batch ID		Analysis Date:	7/2/2006 6:37:38 PM
iesel Range Organics (DRO)	6.177	mg/L	1.0	124	74	157	13.3	23
lethod: SW8015								
ample ID: 5ML RB		MBLK			Batch ID	: R19780	Analysis Date:	7/3/2006 9:15:29 AM
Jasoline Range Organics (GRO)	ND	mg/L	0.050					
ample ID: 2.5UG GRO LCS		LCS			Batch ID	R19780	Analysis Date:	7/3/2006 11:12:04 AM
Basoline Range Organics (GRO)	0.4500	mg/L	0.050	90.0	73.3	119		
ample ID: 2.5UG GRO LCSD		LCSD			Batch ID	: R19780	Analysis Date:	7/5/2006 5:44:42 AM
Sasoline Range Organics (GRO)	0.4080	mg/L	0.050	81.6	73.3	119	9.79	15
Aethod: SW8021								
Sample ID: B		MBLK			Batch ID	: R19780	Analysis Date:	7/4/2006 7:11:53 PM
Benzene	ND	μg/L	1.0					
[•] oluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
(ylenes, Total	ND	µg/L	3.0					
Sample ID: B		MBLK			Batch ID): R19810	Analysis Date:	7/6/2006 7:08:46 PM
Benzene	ND	µg/L	1.0					
ſoluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
<ylenes, td="" total<=""><td>ND</td><td>µg/L</td><td>3.0</td><td></td><td></td><td></td><td></td><td></td></ylenes,>	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS-II		LCS			Batch ID): R19780	Analysis Date:	7/4/2006 5:44:51 PM
Benzene	21.10	µg/L	1.0	106	85	115		
Foluene	20.86	µg/L	1.0	104	85	118		
Ethylbenzene	21.25	µg/L	1.0	106	85	116		
Kylenes, Total	63.10	µg/L	3.0	105	85	119		
Sample ID: 100NG BTEX ICV		LCS			Batch ID		Analysis Date:	7/6/2006 4:18:18 PM
3enzene	20.54	µg/L	1.0	103	85	115		
foluene	19.67	µg/L	1.0	98.4	85	118		
Ethylbenzene	19.91	µg/L	1.0	99.6	85	116		
Xylenes, Total	60.07	µg/L LCSD	3.0	100	85 Batch II	119 D: R19810	Analysis Date:	7/6/2006 1.17.20
Sample ID: 100NG BTEX ICV-B	40.00						•	
Benzene	19.23	µg/L	1.0	96.2	85 85	115	6.57	27
Toluene	20.02 20.32	µg/L	1.0 1.0	100 102	85 85	118 116	1.74 2.00	19 10
Ethylbenzene Xylenes, Total	20.32 61.62	µg/L µg/L	1.0 3.0	102	85 85	119	2.00	13
Ayones, rola	01.02	Р9/ L	5.0	105	00	113	2.00	10

- Qualifiers:
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S

Spik $\frac{1}{5}$ / $\frac{1}{6}$ very outside accepted recovery limits

Page 1

•	Sample	Receipt Ch	ecklist		
ent Name SJR			Date and Time	Received:	6/28/2006
Work Order Number 0606303	Λ.		Received by	GLS	
Checklist completed by Signature	hleppe	Date	-28.0	6	
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 r	eceived?	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 🗔		
ater - VOA vials have zero headspace?	No VOA vials subr	nitted	Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?		Yes 🗌	No 🗌	N/A 🗹	
Container/Temp Blank temperature?		16°	4° C ± 2 Accepta		
COMMENTS:					
Client contacted	Date contacted:		Per	son contacted	
Contacted by:	Regarding				
Comments:					
	······································				
Corrective Action					

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuninerrule New Mexico B7109	Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	ANALYSIS REQUEST	· ·	32) 50 ⁴) 591	iseiO/266 59iO/266 2, pOq , 308) 2'	/ bCB / bCB / J / bCB // J / / J / / bCB / / / / / / / / / / / / / / / / / / /	+ 38T 108 bor 56 bor 27 bor 8 bor 28 bor 200 bor 200 b	BTEX + M BTEX + M BTEX + M BOB1 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B081 Pest B1PH (Meth B1PH (Meth		× ×						Remarks:
QA / QC Package: Std 🔲 Level 4 🔲 Other:	le:	Printert #-		Project Manager:	Cindi, Histodo	Sampler: Shelly Counden		Number/Volume HgCl ₂ HNO ₃ HCL () $LOOid 3O3$	3-VOQ X 1	3-Vo2 X 2	3-Voa X 3				14	Referred By: (Signature)
CHAIN-OF-CUSTODY RECORD	Client: SonJuan Refining		RINNPLEH NN 87413			#:1,32-4161 (505)	(202)	Date Time Matrix Sample I.D. No.	1927/06 9:150 H20 CACINE		H2O (Date: Time: Refinduistred By (Signature) (CT1) 01 (10:35) Date: Time: Reinquished By: (Signature)



COVER LETTER

Wednesday, July 12, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 7/6/06

Dear Cindy Hurtado:

Order No.: 0607055

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 7/7/2006 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,

- Sector

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607055 GAC Analysis 7/6/06 0607055-01			Collectio Date Re	nple ID: GA n Date: 7/6 eceived: 7/7 Matrix: AC	5/2006 1/2006	8:00:00 AM
Analyses		Result	PQL	Qual Units	DF	5	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Irganics (DRO)	ND	1.0	mg/L	1		7/10/2006 1:14:24 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1		7/10/2006 1:14:24 PM
Surr: DNOP		117	58-140	%REC	1		7/10/2006 1:14:24 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSE
Gasoline Range	e Organics (GRO)	11	2.5	mg/L	50		7/11/2006 4:22:50 PM
Surr: BFB		120	80-123	%REC	50		7/11/2006 4:22:50 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSE
Benzene		640	50	µg/L	50		7/11/2006 4:22:50 PM
Toluene		ND	50	µg/L	50		7/11/2006 4:22:50 PM
Ethylbenzene		1400	50	µg/L	50		7/11/2006 4:22:50 PM
Xylenes, Total		3900	150	µg/L	50		7/11/2006 4:22:50 PM
Surr: 4-Brom	ofluorobenzene	107	72.2-125	%REC	50		7/11/2006 4:22:50 PM

Date: 12-Jul-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

1/5

	••			
		Client Sample	ID: GAC-	1-EFF
		Collection D	ate: 7/6/20	006 8:10:00 AM
		Date Receiv	red: 7/7/20	006
*		Mat	rix: AQUI	EOUS
Result	PQL	Qual Units	DF	Date Analyzed
				Analyst: SCO
ND	1.0	mg/L	1	7/10/2006 1:47:26 PM
ND	5.0	mg/L	1	7/10/2006 1:47:26 PM
123	58-140	%REC	1	7/10/2006 1:47:26 PM
GE				Analyst: NSI
ND	0.050	mg/L	1	7/11/2006 5:21:01 PM
103	80-123	%REC	1	7/11/2006 5:21:01 PM
				Analyst: NSI
ND	1.0	µg/Ľ	1	7/11/2006 5:21:01 PM
ND	1.0	µg/L	1	7/11/2006 5:21:01 PM
ND	1.0	µg/L	1	7/11/2006 5:21:01 PM
ND	3.0	µg/L	1	7/11/2006 5:21:01 PM
		, 5		
	ND ND 123 GE ND 103 ND ND ND	ND 1.0 ND 5.0 123 58-140 GE ND 0.050 103 80-123 ND 1.0 ND 1.0 ND 1.0	ND 1.0 mg/L ND 5.0 mg/L 123 58-140 %REC GE ND 0.050 mg/L 103 80-123 %REC ND 1.0 µg/L ND 1.0 µg/L ND 1.0 µg/L ND 1.0 µg/L	ND 1.0 mg/L 1 ND 5.0 mg/L 1 123 58-140 %REC 1 GE ND 0.050 mg/L 1 103 80-123 %REC 1 ND 1.0 µg/L 1 ND 1.0 µg/L 1 ND 1.0 µg/L 1

Date: 12-Jul-06

 Qualifiers:
 *
 Value exceeds Maximum Contaminant Level
 B

 E
 Value above quantitation range
 H

 J
 Analyte detected below quantitation limits
 ND

 S
 Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

CLIENT: Lab Order: Project: Lab ID:	rder: 0607055 Collection I t: GAC Analysis 7/6/06 Date Rece					7/6/2006 8:20:00 AM		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	7/10/2006 2:20:29 PM	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	7/10/2006 2:20:29 PM	
Surr: DNOP		120	58-140		%REC	1	7/10/2006 2:20:29 PM	
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB	
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	7/11/2006 5:50:14 PM	
Surr: BFB		103	80-123		%REC	1	7/11/2006 5:50:14 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	1.0		µg/L	1	7/11/2006 5:50:14 PM	
Toluene		ND	1.0		µg/L	1	7/11/2006 5:50:14 PM	
Ethylbenzene		ND	1.0		µg/L	1	7/11/2006 5:50:14 PM	
Xylenes, Total	i	ND	3.0		µg/L	1	7/11/2006 5:50:14 PM	
Surr: 4-Brom	nofluorobenzene	100	72.2-125		%REC	1	7/11/2006 5:50:14 PM	

Date: 12-Jul-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

QA/QC SUMMARY REPORT

Client: San Juan Refi Protect: GAC Analysis						We	ork Order: 0607055
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimi	t %RPD	RPDLimit Qual
Method: SW8015							
Sample ID: MB-10772		MBLK			Batch ID: 107	72 Analysis Dat	e: 7/10/2006 11:36:04 AM
Diesel Range Organics (DRO)	ND	mg/L	1.0				
Motor Oil Range Organics (MRO)	ND	mg/L	5.0				
Sample ID: LCS-10772		LCS			Batch ID: 107	72 Analysis Dat	e: 7/10/2006 12:08:51 PM
Diesel Range Organics (DRO)	5.884	mg/L	1.0	118	74 157		
Sample ID: LCSD-10772		LCSD			Batch ID: 107	72 Analysis Dat	e: 7/10/2006 12:41:38 PM
Diesel Range Organics (DRO)	6.480	mg/L	1.0	130	74 157	9.65	23
						0.00	
Method: SW8015							
Sample ID: 5ML RB		MBLK			Batch ID: R198	68 Analysis Dat	e: 7/11/2006 8:11:30 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050				
Sample ID: 2.5UG GRO LCS		LCS			Batch ID: R198	68 Analysis Dat	e: 7/12/2006 2:06:53 AM
Gasoline Range Organics (GRO)	0.4700	mg/L	0.050	94.0	73.3 119		
Sample ID: 2.5UG GRO LCSD		LCSD			Batch ID: R198	68 Analysis Dat	te: 7/12/2006 2:35:53 AM
Gasoline Range Organics (GRO)	0.4760	mg/L	0.050	95.2	73.3 119	1.27	8.39
Method: SW8021							
Sample ID: 5ML RB		MBLK			Batch ID: R198	368 Analysis Dat	te: 7/11/2006 8:11:30 AM
Benzene	ND	μg/L	1.0				
Toluene	ND	μg/L	1.0				
enzene	ND	μg/L	1.0				
Xvienes, Total	ND	μg/L	3.0				
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R19	368 Analysis Dat	te: 7/11/2006 7:20:12 PM
Benzene	18.97	µg/L	1.0	94.8	85 115		
Toluene	17.83	μg/L	1.0	89.1	85 118		
Ethylbenzene	18.23	μg/L	1.0	91.1	85 116		
Xylenes, Total	56.77	µg/L	3.0	93.1	85 119		
Sample ID: 100NG BTEX LCSD		LCSD			Batch ID: R19	368 Analysis Dal	te: 7/11/2006 7:49:12 PM
Benzene	19.72	μg/L	1.0	98.6	85 115	3.88	27
Toluene	19.09	μg/L	1.0	95.4	85 118	6.84	19
Ethylbenzene	19.91	μg/L	1.0	99.6	85 116	8.83	10

ifiers:

Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

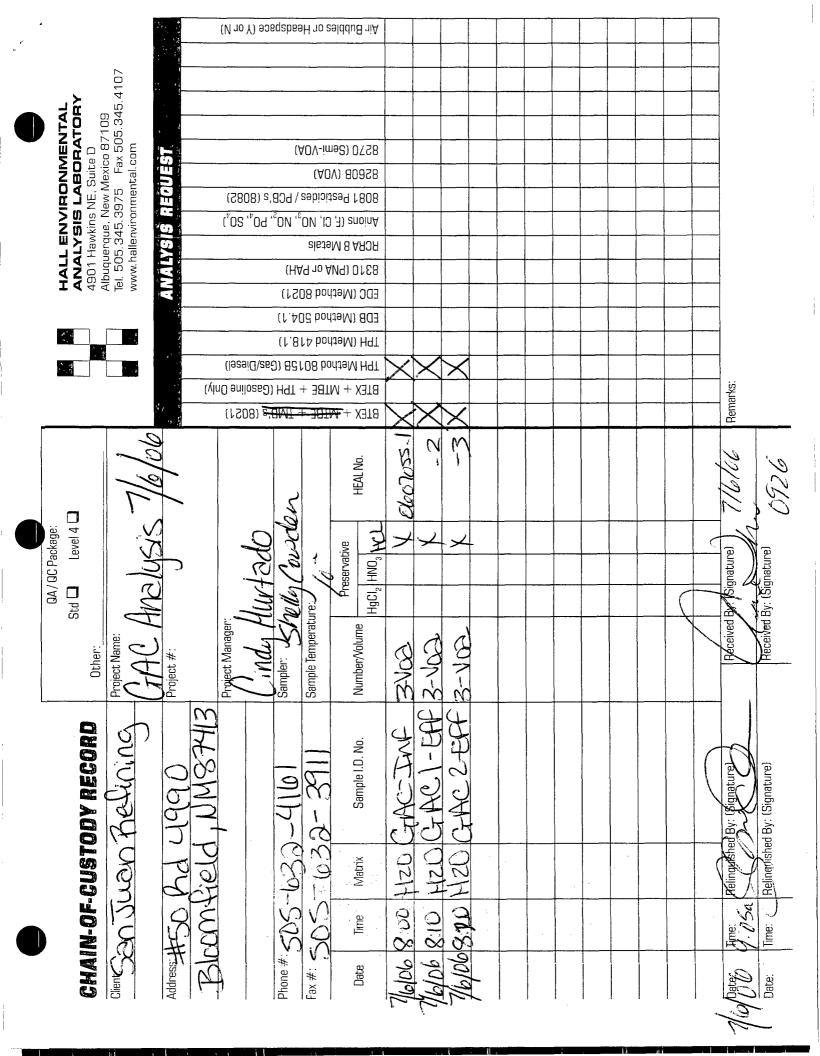
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

S

Spike Recovery outside accepted recovery limits 4 / 5

Page 1

\frown	Sample	Rece	eipt Che	ecklist			
Client Name SJR	\bigcirc			Date and Time	e Received:		7/7/2006
Nork Order Number 0607085	$\left(\right)$			Received by	AT		
	An			21	7/00		
Checklist completed by			Date	//	////	•	
Matrix	Carrier name	UPS					
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present		
Custody seals intact on shipping container/cool	er?	Yes	\checkmark	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	\checkmark	No 🗌			
Chain of custody agrees with sample labels?		Yes	\checkmark	No 🗔			
Samples in proper container/bottle?		Yes		No 🗔			
Sample containers intact?		Yes		No 🗌			
Sufficient sample volume for indicated test?		Yes	\checkmark	No 🗌			
All samples received within holding time?		Yes		No 🗌			
Water - VOA vials have zero headspace?	No VOA vials sub	mitted		Yes 🗹	No 🗆		
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹		
Container/Temp Blank temperature?		1	0°	4° C ± 2 Accept			
COMMENTS:							
Client contacted	Date contacted:			Per	son contacted		
Contacted by:	Regarding		· ·				
Comments:							
	······						
	· · · · · · · · · · · · · · · · · · ·					. <u></u>	·
	······						
				······································			
Corrective Action	e=						
<u> </u>							
					,		





COVER LETTER

Wednesday, July 26, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 7/13/06

Dear Cindy Hurtado:

Order No.: 0607160

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 7/14/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607160 GAC Analysis 7/13/06 0607160-01	ysis 7/13/06 Collection Date Receiv		Client Sample ID: Collection Date: Date Received: Matrix:	7/13/2 7/14/2	2006 12:30:00 PM 2006
Analyses		Result	PQL Qua	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range C	Organics (DRO)	1.3	1.0	mg/L	1	7/19/2006 10:35:50 PM
Motor Oil Range	e Organics (MRO)	ND	5.0	mg/L	1	7/19/2006 10:35:50 PM
Surr: DNOP		133	58-140	%REC	1	7/19/2006 10:35:50 PM
EPA METHOD	8015B: GASOLINE RANG	E				Analyst: NSB
Gasoline Range	e Organics (GRO)	16	2.5	mg/L	50	7/25/2006 1:35:01 PM
Surr: BFB		120	80-123	%REC	50	7/25/2006 1:35:01 PM
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Benzene		260	50	µg/L	50	7/25/2006 1:35:01 PM
Toluene		ND	50	µg/L	50	7/25/2006 1:35:01 PM
Ethylbenzene		740	50	µg/L	50	7/25/2006 1:35:01 PM
Xylenes, Total		2100	150	µg/L	50	7/25/2006 1:35:01 PM
Surr: 4-Brom	ofluorobenzene	95.6	72.2-125	%REC	50	7/25/2006 1:35:01 PM

Date: 26-Jul-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607160 GAC Analysis 7/13/06 0607160-02	0607160Collection DGAC Analysis 7/13/06Date Receive			ent Sample ID: Collection Date: Date Received: Matrix:	7/13/2 7/14/2	2006 12:40:00 PM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0	r	ng/L	1	7/20/2006 8:40:36 AM
Motor Oil Rang	e Organics (MRO)	ND	5.0	r	mg/L	1	7/20/2006 8:40:36 AM
Surr: DNOP		131	58-140	c.	%REC	1	7/20/2006 8:40:36 AM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Rang	e Organics (GRO)	ND	0.050	1	ng/L	1	7/25/2006 2:04:04 PM
Surr: BFB		115	80-123	c	%REC	1	7/25/2006 2:04:04 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	7/25/2006 2:04:04 PM
Toluene		ND	1.0	1	µg/L	1	7/25/2006 2:04:04 PM
Ethylbenzene		ND	1.0	1	µg/L	1	7/25/2006 2:04:04 PM
Xylenes, Total		ND	3.0	1	µg/L	1	7/25/2006 2:04:04 PM
Surr: 4-Brom	nofluorobenzene	99.4	72.2-125		%REC	1	7/25/2006 2:04:04 PM

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Date: 26-Jul-06

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607160 GAC Analysis 7/13/06 0607160-03				Date Received:	7/13/2006 12:50:00 PM		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	7/20/2006 9:11:34 AM	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	7/20/2006 9:11:34 AM	
Surr: DNOP		129	58-140		%REC	1	7/20/2006 9:11:34 AM	
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB	
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	7/25/2006 2:33:08 PM	
Surr: BFB		116	80-123		%REC	1	7/25/2006 2:33:08 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	1.0		µg/L	1	7/25/2006 2:33:08 PM	
Toluene		ND	1.0		μg/L	1	7/25/2006 2:33:08 PM	
Ethylbenzene		ND	1.0		μg/L	1	7/25/2006 2:33:08 PM	
Xylenes, Total		ND	3.0		µg/L	1	7/25/2006 2:33:08 PM	
Surr: 4-Brom	ofluorobenzene	100	72.2-125		%REC	1	7/25/2006 2:33:08 PM	

Date: 26-Jul-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

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QA/QC SUMMARY REPORT

Client: San Juan Re: Project: GAC Analys	0					Work	c Order: 0607160
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RF	DLimit Qual
Method: SW8015							
Sample ID: MB-10823		MBLK			Batch ID: 1082	3 Analysis Date:	7/19/2006 8:58:44 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0				
Motor Oil Range Organics (MRO)	ND	mg/L	5.0				
Sample ID: LCS-10823		LCS			Batch ID: 1082	3 Analysis Date:	7/19/2006 9:31:45 PM
Diesel Range Organics (DRO)	6.061	mg/L	1.0	121	74 157		
Sample ID: LCSD-10823		LCSD			Batch ID: 1082	3 Analysis Date:	7/19/2006 10:03:04 PM
Diesel Range Organics (DRO)	6.292	mg/L	1.0	126	74 157	3.73	23
Method: SW8015							
Sample ID: 5ML RB-II		MBLK			Batch ID: R2002	8 Analysis Date:	7/25/2006 11:36:36 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050				
Sample ID: 2.5UG GRO LCS		LCS			Batch ID: R2002	8 Analysis Date:	7/25/2006 9:18:46 PM
Gasoline Range Organics (GRO)	0.4820	mg/L	0.050	96.4	73.3 119		
Method: SW8021							
Sample ID: 5ML RB-II		MBLK			Batch ID: R2002	8 Analysis Date:	7/25/2006 11:36:36 AM
Benzene	ND	µg/L	1.0				
Toluene	ND	µg/L	1.0				
Ethylbenzene	ND	µg/L	1.0				
Xylenes, Total	ND	µg/L	3.0				
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R2002	8 Analysis Date:	7/25/2006 6:54:04 PM
Benzene	18.39	µg/L	1.0	92.0	85 115		
Toluene	18.61	μg/L	1.0	89.0	85 118		
Ethylbenzene	18.21	µg/L	1.0	91.0	85 116		
Xylenes, Total	55.85	μg/L	3.0	91.7	85 119		

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S

 $\frac{c_{\text{rite}}}{4/5}$ Recovery outside accepted recovery limits

Page 1

	Sample	Rece	eipt Ch	ecklist		
Client Name SJR				Date and Time	Received:	7/14/2006
Work Order Number 0607160	7 -			Received by	NJM	
Checklist completed by	hQ	-	Date	14/06		
Matrix:	Carrier name:	<u>Grey</u>	hound			
Shipping container/cooler in good condition?		Yes		No	Not Present	
Custody seals intact on shipping container/coole	er?	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	\checkmark	No 🗍		
Sample containers intact?		Yes	\checkmark	No 🗌		
Sufficient sample volume for indicated test?		Yes	\checkmark	No 🗌		
All samples received within holding time?		Yes		No 🗌		
Water - VOA vials have zero headspace?	No VOA vials subr	mitted		Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🔽	
Container/Temp Blank temperature?			1°	4° C ± 2 Accepta		
COMMENTS:						
Client contacted	Date contacted:			Pers	son contacted	
Contacted by:	Regarding:					
Comments:						
	· · · ·					
Corrective Action						
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	HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	uquerque, New Mexi 505.345.3975 Fi w. hallenvironmental.	ANALYSIS REQUEST		0 eniloss0) (lessiDiesel) , PO, SO, 1 (S808) 's (S8082)	3015B (() 403, NO ₃ 504.1) 5021) 5 5 5 5 7 5 7 7 7 7 7 7 7 7 7 7 7 7 7	zhod 5 chod thod MA on Metal Cl, 1 Cl, 1 Cl, 1	TPH Meth (Meth EDB (Meth EDC (Meth EDC (Ph 8310 (Ph 8310 (Ph 8310 (Ph 82) 1900 (Ph 1900 (Ph) 1900 (Ph	×							rks:
	QA/ QC Package: Std 🔲 Level 4 🔲 Other:	Project Name: GAAC, Avallussis 7113106	5		Hetalo 1992				3-VO2 N DIA 7/60-1X	3-Voz X 50-2X	3-VO3 X -3X					Beceived By: (Signatone) /////// Remarks: Received By: (Signatupe) ////////////////////////////////////
	CHAIN-OF-CUSTODY RECORD	Client Cian Juan Refining	Address: # 50 Rd 4990	Bloomfield, NM 87413		1911-C20	505- 1033-0711	Date Time Matrix Sample I.D. No.	7306/2:34H20 GHC-INF	1 1340 1 CLACI-EPF	V 10:50 V CAR2-EPP					W Bate: Time: Relindushed By: (Signature) Date: Time: Relinduished By: (Signature)



COVER LETTER

Wednesday, July 26, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 7/20/06

Dear Cindy Hurtado:

Order No.: 0607245

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 7/21/2006 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 Mahager Nancy McDuffie, Laboratory Manager

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607245 GAC Analysis 7/20/06 0607245-01				lient Sample ID: Collection Date: Date Received: Matrix:	7/20/2 7/21/2	2006 8:20:00 AM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	1.2	1.0		mg/L	1	7/24/2006 5:16:51 PM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	7/24/2006 5:16:51 PM
Surr: DNOP		131	58-140		%REC	1	7/24/2006 5:16:51 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	19	2.5		mg/L	50	7/26/2006 2:11:10 AM
Surr: BFB		123	80-123		%REC	50	7/26/2006 2:11:10 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		420	50		µg/L	50	7/26/2006 2:11:10 AM
Toluene		ND	50		µg/L	50	7/26/2006 2:11:10 AM
Ethylbenzene		1200	50		µg/L	50	7/26/2006 2:11:10 AM
Xylenes, Total		2900	150		µg/L	50	7/26/2006 2:11:10 AM
Surr: 4-Brom	ofluorobenzene	92.0	72.2-125		%REC	50	7/26/2006 2:11:10 AM

Date: 26-Jul-06

Qualifiers:

*

- Value exceeds Maximum Contaminant Level
- Е Value above quantitation range J

Analyte detected below quantitation limits

- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607245 GAC Analysis 7/20/06 0607245-02				lient Sample ID: Collection Date: Date Received: Matrix:	7/20/2 7/21/2	2006 8:30:00 AM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Organics (DRO)	ND	1.0		mg/L	1	7/24/2006 5:50:14 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	7/24/2006 5:50:14 PM
Surr: DNOP		126	58-140		%REC	1	7/24/2006 5:50:14 PM
EPA METHOD	8015B: GASOLINE RANGE	I					Analyst: NSE
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	7/26/2006 2:40:01 AM
Surr: BFB		112	80-123		%REC	1	7/26/2006 2:40:01 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSE
Benzene		ND	1.0		µg/L	1	7/26/2006 2:40:01 AM
Toluene		ND	1.0		μg/L	1	7/26/2006 2:40:01 AM
Ethylbenzene		ND	1.0		μg/L	1	7/26/2006 2:40:01 AM
Xylenes, Total		ND	3.0		μg/L	1	7/26/2006 2:40:01 AM
Surr: 4-Brom	ofluorobenzene	97.8	72.2-125		%REC	1	7/26/2006 2:40:01 AM

Date: 26-Jul-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

Е Value above quantitation range J

Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- в Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607245 GAC Analysis 7/20/06 0607245-03				ient Sample ID: Collection Date: Date Received: Matrix:	7/20/2 7/21/2	2006 8:40:00 AM 2006
Analyses	•	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0		mg/L	1	7/24/2006 6:23:32 PM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	7/24/2006 6:23:32 PM
Surr: DNOP		134	58-140		%REC	1	7/24/2006 6:23:32 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	7/26/2006 3:09:01 AM
Surr: BFB		108	80-123		%REC	1	7/26/2006 3:09:01 AM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		μg/L	1	7/26/2006 3:09:01 AM
Toluene		ND	1.0		μg/L	1	7/26/2006 3:09:01 AM
Ethylbenzene		ND	1.0		μg/L	1	7/26/2006 3:09:01 AM
Xylenes, Total		ND	3.0		µg/L	1	7/26/2006 3:09:01 AM
Surr: 4-Brom	ofluorobenzene	90.8	72.2-125		%REC	1	7/26/2006 3:09:01 AM

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Date: 26-Jul-06

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QA/QC SUMMARY REPORT

Client: San Juan Ref Project: GAC Analys	-						Work	Order: 0607245
Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD RP	DLimit Qual
Method: SW8015		<u> </u>						
Sample ID: MB-10860		MBLK			Batch ID): 10860	Analysis Date:	7/24/2006 3:35:57 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oil Range Organics (MRO)	ND	mg/L	5.0					
Sample ID: LCS-10860		LCS			Batch ID): 10860	Analysis Date:	7/24/2006 4:09:35 PM
Diesel Range Organics (DRO) Sample ID: LCSD-10860	6.831	mg/L LCSD	1.0	137	74 Batch IE	157): 10860	Analysis Date:	7/24/2006 4:43:13 PM
Diesel Range Organics (DRO)	6.671	mg/L	1.0	133	74	157		23
Method: SW8015								
Sample ID: 5ML RB-II		MBLK			Batch II	D: R20028	Analysis Date:	7/25/2006 11:36:36 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS		LCS			Batch II	D: R20028	Analysis Date:	7/25/2006 9:18:46 PM
Gasoline Range Organics (GRO)	0.4820	mg/L	0.050	96.4	73.3	119		
Method: SW8021								
Sample ID: 5ML RB-II		MBLK			Batch II	D: R20028	Analysis Date:	7/25/2006 11:36:36 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS		LCS			Batch II	D: R20028	Analysis Date:	7/25/2006 6:54:04 PM
Benzene	18.39	µg/L	1.0	92.0	85	115		
Toluene	18.61	µg/L	1.0	89.0	85	118		
Ethylbenzene	18.21	µg/L	1.0	91.0	85	116		
Xylenes, Total	55.85	µg/L	3.0	91.7	85	119		

Qualifiers:

E Value above quantitation range

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

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

S Snike Recovery outside accepted recovery limits $4 \ / \ 5$

	Sample	Rece	eipt Che	cklist			
Client Name SJR				Date and Time	Received:		7/21/2006
Work Order Number 0607245				Received by	GLS		
Checklist completed by	ppe:		7-2 Date	1-06			
Matrix	Carrier name	UPS					
Shipping container/cooler in good condition?		Yes			Not Present		
Custody seals intact on shipping container/cooler	r?	Yes		No 🗔	Not Present		Not Shipped
Custody seals intact on sample bottles?		Yes		No 🗌	N/A	\checkmark	
Chain of custody present?		Yes		No 🗔			
Chain of custody signed when relinquished and r	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 sub	mitted		Yes 🗹	No 🗌		
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A 🗹		
Container/Temp Blank temperature?		2	22°	4° C ± 2 Accepta If given sufficient			
COMMENTS:							
Client contacted	Date contacted:			Pers	on contacted		
Contacted by:	Regarding				·····		
Comments:							
Corrective Action							

					•	1
CHAIN-OF-CUSTODY RECORD	QA/ QC Package: Std 🔲 Level 4 🗍 Other:		HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	DNMENTAL ABORATOR Suite D	<u>،</u> ک	
Dient: San Juan Nellining	Project Name:		Albuquerque, New Mexico 871U9 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	Mexico 871U9 5 Fax 505.345 intal.com	5.4107	
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	Project Manager:	0 ənilo			·····	(N no)
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1911- 629-935 # House	Sampler She Jun Cauchen	(1 8)) 891 Hd1	۲۵۱) ۱۲۹) ۱۳۹			dspea
Fax #: 505-633-3911	Sample Temperature:	185 + 1900 - 10 100 - 10	od 8C A or P, stals U UO	(AC		iH 10 a
Date Fime Matrix Sample I.D. No.	Number/Volume HgCl ₂ HNO ₃ Hr Class	BTEX + 12 BTEX + Meth TPH Meth TPH (Meth	EDC (Meth 8310 (PN) RCRA 8 M Anions (F, 8081 Pesi	8520 (Sei		əlddu8 riA
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	d					
Abate Time: Relinguisted By: (Signature)	Received BV/(Fignature) 7-21-05 C R	Remarks:				



COVER LETTER

Tuesday, August 01, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 7/27/06

Dear Cindy Hurtado:

Order No.: 0607324

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 7/28/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607324 GAC Analysis 7/27/06 0607324-01			Date Received:		7/27/2006 8:20:00 AM		
Analyses		Result	PQL	Qual Units		DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Organics (DRO)	ND	1.0	mg/L		1	7/29/2006 12:45:28 AM	
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L		1	7/29/2006 12:45:28 AM	
Surr: DNOP		122	58-140	%REC		1	7/29/2006 12:45:28 AM	
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB	
Gasoline Rang	e Organics (GRO)	16	2.5	mg/L		50	7/31/2006 12:36:15 PM	
Surr: BFB		118	80-123	%REC		50	7/31/2006 12:36:15 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		140	50	µg/L		50	7/31/2006 12:36:15 PM	
Toluene		ND	50	µg/L		50	7/31/2006 12:36:15 PM	
Ethylbenzene		590	50	µg/L		50	7/31/2006 12:36:15 PM	
Xylenes, Total		1800	150	µg/L		50	7/31/2006 12:36:15 PM	
Surr: 4-Bron	nofluorobenzene	90.1	72.2-125	%REC		50	7/31/2006 12:36:15 PM	

Date: 01-Aug-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607324 GAC Analysis 7/27/06 0607324-02			C	ent Sample ID: ollection Date: Date Received: Matrix:	7/27/2 7/28/2	2006 8:30:00 AM 2006
Analyses	Result	PQL	Qual U	nits	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Organics (DRO)	ND	1.0	m	ig/L	1	7/29/2006 1:18:13 AM
Motor Oil Rang	ND	5.0	m	ig/L	1	7/29/2006 1:18:13 AM	
Surr: DNOP		113	58-140	%	REC	1	7/29/2006 1:18:13 AM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050	m	ig/L	1	7/31/2006 1:05:11 PM
Surr: BFB		117	80-123	%	REC	1	7/31/2006 1:05:11 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSE
Benzene		ND	1.0	μ	g/L	1	7/31/2006 1:05:11 PM
Toluene		ND	1.0	μ	g/L	1	7/31/2006 1:05:11 PM
Ethylbenzene		ND	1.0	μ	g/L	1	7/31/2006 1:05:11 PM
Xylenes, Totai		ND	3.0	μ	g/L	1	7/31/2006 1:05:11 PM
Surr: 4-Brom	ofluorobenzene	101	72.2-125	%	REC	1	7/31/2006 1:05:11 PM

Date: 01-Aug-06

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range J
 - Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Η Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0607324 GAC Analysis 7/27/06 0607324-03				ient Sample ID: Collection Date: Date Received: Matrix:	7/27/2 7/28/2	2006 8:40:00 AM 2006
Analyses	····	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	organics (DRO)	ND	1.0		mg/L	1	7/29/2006 1:51:00 AM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	7/29/2006 1:51:00 AM
Surr: DNOP		121	58-140		%REC	1	7/29/2006 1:51:00 AM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	7/31/2006 1:34:08 PM
Surr: BFB		106	80-123		%REC	1	7/31/2006 1:34:08 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		μg/L	1	7/31/2006 1:34:08 PM
Toluene		ND	1.0		µg/L	1	7/31/2006 1:34:08 PM
Ethylbenzene		ND	1.0		µg/L	1	7/31/2006 1:34:08 PM
Xylenes, Total		ND	3.0		µg/L	1	7/31/2006 1:34:08 PM
Surr: 4-Brom	ofluorobenzene	98.0	72.2-125		%REC	1	7/31/2006 1:34:08 PM

Date: 01-Aug-06

Qualifiers:

*

- Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range J
 - Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

Page 3 of 3

QA/QC SUMMARY REPORT

	— 11							
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: SW8015								
Sample ID: MB-10899		MBLK			Batch I	D: 10899	Analysis Date:	7/28/2006 10:02:09 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Notor Oil Range Organics (MRO)	ND	mg/L	5.0					
Sample ID: LCS-10899		LCS			Batch I	D: 10899	Analysis Date:	7/28/2006 10:34:54 PM
Diesel Range Organics (DRO)	6.142	mg/L	1.0	123	74	157		
Sample ID: LCSD-10899		LCSD			Batch I	D: 10899	Analysis Date:	7/28/2006 11:07:25 PM
Diesel Range Organics (DRO)	6.015	mg/L	1.0	120	74	157	2.09	23
Method: SW8015								
Sample ID: 5ML REAGENT BLA		MBLK			Batch I	D: R20102	Analysis Date:	7/31/2006 9:39:32 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS		LCS			Batch I	D: R20102	Analysis Date:	7/31/2006 6:26:40 PM
Gasoline Range Organics (GRO)	0.5140	mg/L	0.050	96.0	73.3	119		
Sample ID: 2.5UG GRO LCSD		LCSD			Batch I	D: R20102	Analysis Date:	7/31/2006 6:57:18 PM
Gasoline Range Organics (GRO)	0.5080	mg/L	0.050	94.8	73.3	119	1.17	8.39
Method: SW8021								
Sample ID: 5ML REAGENT BLA		MBLK			Batch I	D: R20102	Analysis Date:	7/31/2006 9:39:32 AN
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					,
Sample ID: 100NG BTEX LCS		LCS			Batch I	D: R20102	Analysis Date:	7/31/2006 8:24:15 PM
Benzene	19.10	µg/L	1.0	95.5	85	115		
Toluene	20.09	µg/L	1.0	100	85	118		
Ethylbenzene	20.01	µg/L	1.0	100	85	116		
Xylenes, Total	62.35	µg/L	3.0	103	85	119		
Sample ID: 100NG BTEX LCSD		LCSD			Batch	D: R20102	Analysis Date:	7/31/2006 8:53:12 PM
Benzene	20.10	µg/L	1.0	100	85	115	5.09	27
Toluene	19.97	µg/L	1.0	99.8	85	118	0.629	19
Ethylbenzene	19.96	µg/L	1.0	99.8	85	116	0.250	10
Xylenes, Total	61.47	µg/L	3.0	101	85	119	1.42	13

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

ND

S Snike Recovery outside accepted recovery limits 4/5

Page 1

	Sample	Rece	eipt Ch	ecklist			
Client Name SJR				Date and Time	Received:	7/	28/2006
Work Order Number 0607324	11			Received by	GLS		
Checklist completed by	hlippe	/	Date	7-28-06)		
/ / 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	\checkmark	No 🗔			
Chain of custody signed when relinquished and r	eceived?	Yes	\checkmark	No 🗌			
Chain of custody agrees with sample labels?		Yes		No 🗔			
Samples in proper container/bottle?		Yes	\checkmark	No 🗆			
Sample containers intact?		Yes	\checkmark	No 🗌			
Sufficient sample volume for indicated test?		Yes	\checkmark	No 🗌			
All samples received within holding time?		Yes		No 🗆			
Water - VOA vials have zero headspace?	No VOA viais sub	mitted		Yes 🗹	No 🗌]	
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹]	
Container/Temp Blank temperature?			4 °	4° C ± 2 Accepta			
COMMENTS:							
Client contacted	Date contacted:			Pers	son contacted		
Contacted by:	Regarding						
Comments:							
	<u></u>						
<u></u>	· · · · · · · · · · · · · · · · · · ·						
Corrective Action							

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	AL DRY	Fax 505.345.4107 al.com						··	, , , , , , , , , , , , , , , , , , ,						 	 	 		
U	HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Audyler que, new mexico oz 103 Tel. 505.345.3975 Fax 505.34 www.hallenvironmental.com		<u> </u>			(∀	<u>0V-in</u>	192) 0728							 	 		
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	kins N N N	45.3 Viror	ч Ц С	Anions (F, Cl, NO_3 , NO_2 , PO_4 , SO_4)															
	HALL ENVIRONME ANALYSIS LABOR. 4901 Hawkins NE, Suite D	Audquerque, new mexico o Tel. 505.345.3975 Fax 5C www.hallenvironmental.com	ANALYSIS	sletaM 8 AADA												 	 	 1	
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				EDC (Method 504.1)											 	 	 	 1	
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					(1858)				HTPH Method		X	\mathbf{X}			 	 	 		
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		1							BTEX + 🛱	\times	\times	$\overline{\mathbf{x}}$				 	 	 Remarks:	
	QA/ QC Package: Std 🔲 Level 4 🛄	Dolfed F Innle			er:			ature: 4 a	Preservative HEAL No. H9D1 ₂ HND3 HVD1 CD(AD777 CL	X		×						: (Signature)	-
	Other:	Project Name:	Project #:		Project Manager:		Sampler:	Sample Temperature:	Number/Volume	3-102	3-VCB	3-102						Received By Received By	-
	CHAIN-OF-CUSTODY RECORD	in helining	L. LOPO	51453 MN 1			1011-620	1118-620	Sample I.D. No.	GALINE	PRC/EPF	C-AC-L-EFF						Relinquished By: (Signature) Relinquished By: (Signature)	
	9 0	Men	0,5	Liel			5-C		Matrix	H20	-	\rightarrow				 		A selinqui	
		Client	SH	WQ			S S C		Time	27/68.20	8 3 3	8.40				 		Time:	_
		Client	Heresert	AC			Phone #:	Fax #:	Date	0/22/E		\rightarrow						A late: Date: Date:	



COVER LETTER

Friday, September 08, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 8/29/06

Dear Cindy Hurtado:

Order No.: 0608345

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 8/30/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project:	San Juan Refining 0608345 GAC Analysis 8/29/06			C	Collection Date:	8/29/2	2006 8:30:00 AM
Lab ID:	0608345-01		č		Date Received: Matrix:		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	Organics (DRO)	ND	1.0		mg/L	1	9/7/2006 7:39:31 PM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	9/7/2006 7:39:31 PM
Surr: DNOP		139	58-140		%REC	1	9/7/2006 7:39:31 PM
EPA METHOD	8015B: GASOLINE RANG	Ē					Analyst: NSB
Gasoline Range	e Organics (GRO)	24	1.0		mg/L	20	9/6/2006 4:58:24 PM
Surr: BFB		142	84.5-129	S	%REC	20	9/6/2006 4:58:24 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		61	20		µg/L	20	9/6/2006 4:58:24 PM
Toluene		ND	20		µg/L	20	9/6/2006 4:58:24 PM
Elhylbenzene		970	20		µg/L	20	9/6/2006 4:58:24 PM
Xylenes, Total		4100	60		µg/L	20	9/6/2006 4:58:24 PM
Surr: 4-Brom	ofluorobenzene	86.5	72.2-125		%REC	20	9/6/2006 4:58:24 PM

Qualifiers:

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- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Date: 08-Sep-06

ND Not Detected at the Reporting Limit

Page 1 of 3

	ommental Achalysis						,
CLIENT:	San Juan Refining			С	lient Sample ID:	GAC	1 Eff.
Lab Order:	0608345				Collection Date:	8/29/2	2006 8:40:00 AM
Project:	GAC Analysis 8/29/06				Date Received:		
Lab ID:	0608345-02		Matrix: AQUEOUS		· · · ·		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SC(
Diesel Range O	Irganics (DRO)	ND	1.0		mg/L	1	9/7/2006 8:14:51 PM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	9/7/2006 8:14:51 PM
Surr: DNOP		133	58-140	•	%REC	1	9/7/2006 8:14:51 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSI
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	9/6/2006 5:56:21 PM
Surr: BFB		112	84.5-129		%REC	1	9/6/2006 5:56:21 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSI
Benzene		ND	1.0		µg/L	1	9/6/2006 5:56:21 PM
Toluene		ND	1.0		μg/L	1	9/6/2006 5:56:21 PM
Ethylbenzene		ND	1.0		µg/L	1	9/6/2006 5:56:21 PM
Xylenes, Total		ND	.3.0		µg/L	1	9/6/2006 5:56:21 PM
Surr: 4-Brom	ofluorobenzene	93.2	72.2-125		%REC	1	9/6/2006 5:56:21 PM

Qualifiers:

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- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 08-Sep-06

ND Not Detected at the Reporting Limit

Page 2 of 3

2/5

CLIENT:	San Juan Refining			C	lient Sample ID:	GAC	2 Eff.
Lab Order:	0608345				Collection Date:	8/29/2	2006 8:50:00 AM
Project:	GAC Analysis 8/29/06	•			Date Received:	8/30/2	2006
Lab ID:	0608345-03			×	Matrix:	AQU	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C)rganics (DRO)	ND	1.0		mg/L	1	9/7/2006 8:50:13 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	9/7/2006 8:50:13 PM
Surr: DNOP		131	58-140		%REC	1	9/7/2006 8:50:13 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSE
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	9/6/2006 6:25:20 PM
Surr: BFB		116	84.5-129		%REC	1	9/6/2006 6:25:20 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSI
Benzene		ND	1.0		μg/L	1	9/6/2006 6:25:20 PM
Toluene		ND	1.0		µg/∟	1	9/6/2006 5:25:20 PM
Ethylbenzene		ND	1.0		µg/L	1	9/6/2006 6:25:20 PM
Xylenes, Total		ND	3.0		µg/L	1	9/6/2006 6:25:20 PM
Surr: 4-Brom	ofluorobenzene	95.5	72.2-125		%REC	1	9/6/2006 6:25:20 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

Date: 08-Sep-06

ND Not Detected at the Reporting Limit

Page 3 of 3

QA/QC SUMMARY REPORT

Client:

San Juan Refining GAC Analysis 8/29/06

Project: GAC Analysi	-						Wa	ork Order: 0608345
Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD I	RPDLimit Qual
Method: SW8015 Sample ID:, MB-11186		MBLK			Batch ID	: 11186	Analysis Dati	e: 9/7/20065:53:18 PM
Diesel Range Organics (DRO)			1.0		Datch iD	. 11100	Analysis Dati	
Molor Oil Range Organics (MRO)	ND ND	mg/L mg/L	5.0					
Sample ID: LCS-11186		LCS	5.5		Batch ID	: 11186	Analysis Dati	e: 9/7/20066:28:42 PM
Diesel Range Organics (DRO)	6.756	mg/L	1.0	135	74	157		
Sample ID: LCSD-11186		LCSD			Batch ID		Analysis Date	e: 9/7/20067:04:04 PM
Diesel Range Organics (DRO)	7.587	mg/L	1.0	152	74	157	11.6	23
Method: SW8015								
Sample ID: 5ml reagent blank 2		MBLK			Batch ID	: R20581	Analysis Dat	e: 9/6/2006 11:07:46 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050				-	
Sample ID: 2.5ug gro lcs 24		LCS			Batch ID	: R20581	Analysis Dat	e: 9/6/20069:48:09 PM
Gasoline Range Organics (GRO)	0.4740	mg/L	0.050	94.8	73.3	119		
Sample ID: 2.5ug gro losd 25		LCSD			Batch ID	: R20581	Analysis Dat	e: 9/6/2006 10:17:00 PM
Gasoline Range Organics (GRO)	0.5040	mg/L	0.050	101	73.3	119	6.13	8.39
Method: SW8021								
Sample ID: 5ML REAGENT BLA		MBLK			Batch IC	: R20581	Analysis Dat	e: 9/6/2006 11:07:46 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/∟	3.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID); R20581	Analysis Dat	e: 9/6/2006 10:45:52 PM
Benzene	21.00	μg/L	1.0	105	85	115		
Toluene	21.78	µg/∟	1.0	109	85	118		
Ethylbenzene	23.42	µg/L	1.0	117	85	116		S
Xylenes, Total	67.49	µg/L	3.0	111	85	119		
Sample ID: 100NG BTEX LCSD		LCSD			Batch IC); R20581	Analysis Dat	e: 9/6/2006 11:14:40 PM
Benzene	20.84	µg/L	1.0	104	85	115	0.746	27
Toluene	20.71	µg/L	1.0	104	85	118	5.06	19
Ethylbenzene	21.79	µg/L	1.0	109	85	116	7.20	10
Xylenes, Total	64.96	µg/L	3.0	107	85	119	3.83	13

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit S Soile Recovery outside accepted rec

Spike Recovery outside accepted recovery limits 4/5

Page 1

1

	Sample	Rece	ipt Ch	ecklist			
Client Name SJR				Date and Time	Received:		8/30/2006
Work Order Number 0608345	0			Received by	GLS		
4	1		Ç	2-21)-12-			
Checklist completed by	sippi-		Date	<u> </u>			
/ /	R						
Matrix	Carrier name	<u>UPS</u>					
Shipping container/cooler in good condition?		Yes	V	No 🗔	Not Present		
Custody seals intact on shipping container/coole	r?	Yes	\mathbf{V}	No 🗋	Not Present	Not Shippe	d 🔲
Cuslody seals intact on sample bottles?		Yes		No 🗌	N/A	\checkmark	
Chain of custody present?		Yes	\checkmark	No 🗌			
Chain of custody signed when relinquished and	received?	Yes	$\mathbf{\nabla}$	No 🗆			
Chain of custody agrees with sample labels?		Yes	\checkmark	No 🗔			
Samples in proper container/bottle?		Yes	$\mathbf{\Sigma}$	No 🗖			
Sample containers intact?		Yes		No 🗔			
Sufficient sample volume for indicated test?		Yes	\checkmark	No 🗍			
All samples received within holding time?		Yes		No 🗔			
Water - VOA vials have zero headspace?	No VOA vials subr	mitted		Yes 🗹	No 🗆]	
Water - pH acceptable upon receipt?		Yes		No 🗔	N/A 🗹]	
Container/Temp Blank temperature?			7°	4° C ± 2 Accepta	ible		
			•	If given sufficient			
COMMENTS:							
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Client contacted	Date contacted:			Pers	son contacted		و و و و و و و و و و و و و و و و و و و
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Comments:							
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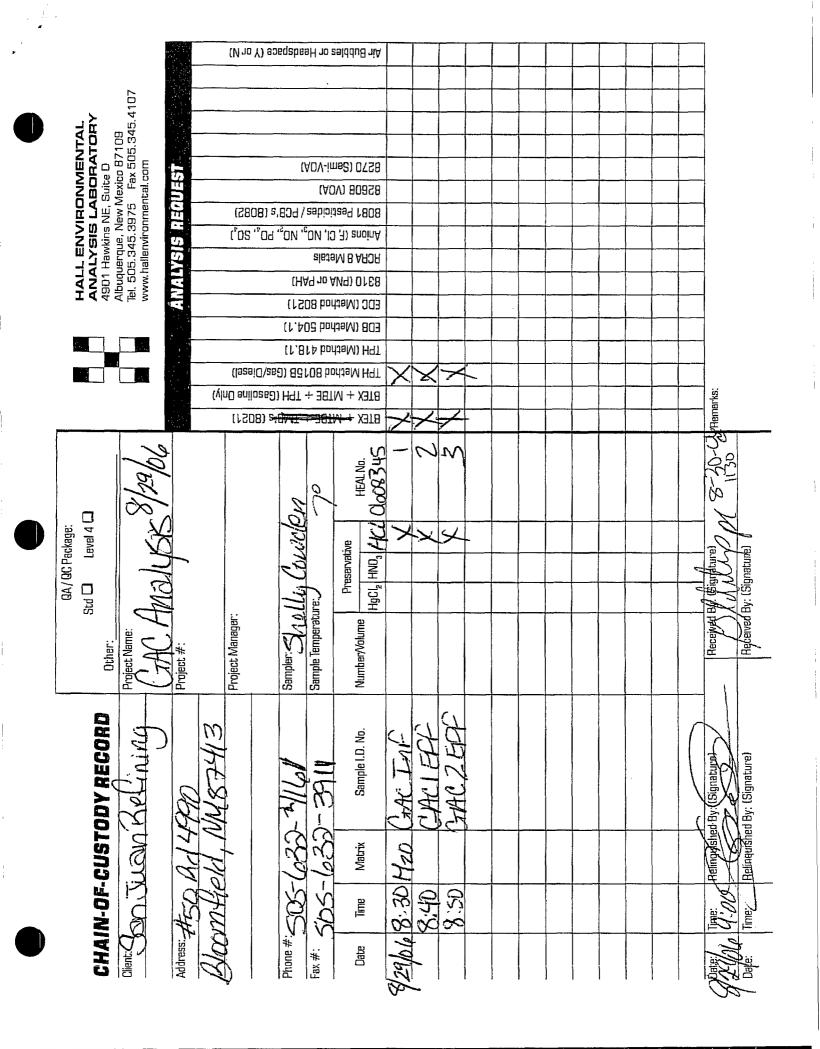
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COVER LETTER

Wednesday, September 27, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 9/13/06

Dear Cindy Hurtado:

Order No.: 0609153

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 9/14/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refirring 0609153 GAC Analysis 9/13/06 0609153-01		,	С	ent Sample ID: collection Date: Date Received: Matrix:	9/13/2 9/14/2	2006 8:10:00 AM 2006
Analyses		Result	PQL	Qual U	Jnits	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: JMP
Diesel Range C	Organics (DRO)	ND	1.0	п	ng/L	1	9/20/2006 8:21:03 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0	п	ng/L	1	9/20/2006 8:21:03 PM
Surr: DNOP		113	58-140	9	&REC	1	9/20/2006 8:21:03 PM
EPA METHOD	8015B: GASOLINE RANGE	-					Analyst: NSB
Gasoline Range	e Organics (GRO)	26	1.0	n	ng/L	20	9/21/2006 4:40:43 PM
Surr: BFB		117	84.5-129	9	- KREC	20	9/21/2006 4:40:43 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene	-	ND	20	μ	ıg/L	20	9/21/2006 4:40:43 PM
Toluene		ND	20		ig/L	20	9/21/2006 4:40:43 PM
Elhylbenzene		830	20	-	ig/L	20	9/21/2006 4:40:43 PM
Xylenes, Total		4100	60		ig/L	20	9/21/2006 4:40:43 PM
Surr: 4-Brom	ofluorobenzene	87.7	72.2-125		AREC	20	9/21/2006 4:40:43 PM

Date: 27-Sep-06

Quali	fiers:
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Value exceeds Maximum Contaminant Level

E Value above quantitation rangeJ Analyte detected below quantitation

J Analyte detected below quantitation limitsS Spike Recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT:	San Juan Refining			C	lient Sample ID:		
Lab Order:	0609153				Collection Date:	9/13/2	2006 8:20:00 AM
Project:	GAC Analysis 9/13/06				Date Received:	9/14/2	2006
Lab ID:	0609153-02				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: JMP
Diesel Range O	rganics (DRO)	ND	1.0		mg/L	1	9/20/2006 8:55:51 PM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	9/20/2006 8:55:51 PM
Surr: DNOP		118	58-140		%REC	1	9/20/2006 8:55:51 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	9/21/2006 5:09:36 PM
Surr: BFB		94.6	84.5-129		%REC	t	9/21/2006 5:09:36 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	9/21/2006 5:09:36 PM
Toluene		ND	1.0		µg/L	1	9/21/2006 5:09:36 PM
Elhylbenzene		ND	1.0		րց/Լ	1	9/21/2006 5:09:36 PM
Xylenes, Total		ND	3.0		µg/L	1	9/21/2006 5:09:36 PM
Surr: 4-Brom	ofluorobenzene	91.7	72.2-125		%REC	1	9/21/2006 5:09:36 PM

Date: 27-Sep-06

Qualifiers:

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Value exceeds Maximum Contaminant Level Е

- Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 2 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609153 GAC Analysis 9/13/06 0609153-03				lient Sample ID: Collection Date: Date Received: Matrix:	9/13/2 9/14/2	2006 8:30:00 AM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: JMP
Diesel Range C)rganics (DRO)	ND	1.0		mg/L	1	9/20/2006 9:30:58 PM
Motor Oil Range Organics (MRO)		ND	5.0		mg/L	1	9/20/2006 9:30:58 PM
Surr: DNOP		116	58-140		%REC	1	9/20/2006 9:30:58 PM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	9/21/2006 5:38:35 PM
Surr: BFB		90.2	84.5-129		%REC	1	9/21/2006 5:38:35 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	9/21/2006 5:38:35 PM
Toluene		ND	1.0		µg/L	1	9/21/2006 5:38:35 PM
Elhylbenzene		ND	1.0		μg/L	1	9/21/2006 5:38:35 PM
Xylenes, Total		ND	3.0		µg/L	1	9/21/2006 5:38:35 PM
Surr: 4-Brom	ofluorobenzene	89.8	72.2-125		%REC	1	9/21/2006 5:38:35 PM

Date: 27-Sep-06

Qualifiers:

Value exceeds Maximum Contaminant Level Е

Value above quantitation range J

Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

QA/QC SUMMARY REPORT

Client: San Juan Ref Project: GAC Analys	-					Work C	order: 1609153
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPDI	.imit Qua
Method: SW8015							
Sample ID: MB-11311		MBLK			Batch ID: 11311	Analysis Date:	9/20/20066:35:38 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0				
Motor Oil Range Organics (MRO)	ND	mg/L	5.0				
Sample ID: LCS-11311		LCS			Batch ID: 11311	Analysis Date:	9/20/20067:10:46 PM
Diesel Range Organics (DRO)	5.221	mg/L	1.0	104	74 157		
Sample ID: LCSD-11311		LCSD			 Batch ID: 11311 	Analysis Date:	9/20/20067:45:54 PM
Diesel Range Organics (DRO)	5.241	mg/L	1.0	105	74 157	0.386 23	
Method: SW8015							
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R20767	Analysis Date:	9/21/20069:21:21 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050			-	
Sample ID: 2.5UG GRO LCS		LCS			Batch ID; R20767	Analysis Date:	9/22/20065:38:01 AM
Gasoline Range Organics (GRO)	0.5080	mg/L	0.050	102	73.3 119	-	
Method: SW8021							
Sample ID: b 5		MBLK			Batch ID: R20767	Analysis Date:	9/21/2006 10:48:20 AM
Benzene	ND	µg/L	1.0				
Toluene	ND	hð\r	1.0				
Ethylbenzene	ND	µg/L	1.0				
Xylenes, Total	ND	µg/L	3.0				
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R20767	Analysis Date:	9/21/20065:07:28 PM
Benzene	19.01	µg/L	1.0	95.0	85 115		
Toluene	19.38	µg/L	1.0	96.9	85 118		
Ethylbenzene	20.21	µց/∟	1.0	101	85 116		
Xylenes, Total	60.43	րց/Ը	3.0	101	85 119		

Qualifiers:

E Value above quantitation mage

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits 4 / 5

Page 1

	Sample Re	eceipt Chec	klist		
Client Name SJR			Date and Time	Received:	9/14/2006
Work Order Number 0609153	11		Received by	GLS	
Checklist completed by Signature	Mappe	Date	1/14/c	26	
Matrix / /	Carrier name <u>U</u>	PS			
Shipping container/cooler in good condition?	Y	es 🗹		Not Present	
Custody seals intact on shipping container/coole	r? Y	es 🗹	No 🗔	Not Present	Not Shipped
Custody seals intact on sample bottles?	. Y	es 🗆	No 🗀	N/A	\checkmark
Chain of custody present?	Y	es 🔽	No 🗋		
Chain of custody signed when relinquished and	received? Y	es 🔽			
Chain of custody agrees with sample labels?	Y	es 🗹	No 🗔		
Samples in proper container/bottla?	Y	es 🗹	No 🗆		
Sample containers intact?	Y	es 🗹	No 🗆		
Sufficient sample volume for indicated test?	Y	es 🗹	No 🗖		
All samples received within holding time?	Y	es 🗹	No 🗆		
VVater - VOA vials have zero headspace?	No VOA vials submitte	ed 🔲	Yes 🗹	No 🗆	
Water - pH acceptable upon receipt?	Y	es 🗋	No 🗆	N/A 🗹	
Container/Temp Blank temperature?			° C ± 2 Accepta		
COMMENTE:		11	given sufficient	ume lo cool.	
COMMENTS:					
					۲۰
Client conlacted	Date contacled:		Pers	on contacted	
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Contacted by:	Regarding	······································		·····	
Comments:					**** *********************************
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Corrective Action				• • •	
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					• • • • • • • • • • • • • • • • • • •

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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexice B7109 Teil. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	۲۵۵ (Method 504.1) ۲۵۵ (Method 504.1) ۲۵۵ (PAA or PAH) ۲۵۵ (PAA or PAH) ۲۵۵ (PAA or PCB's (8082) ۲۵۵ (VOA) ۲۵۵ (VOA) ۲۵۵ (Yor)	DE Image: Set in the set	
	TEX + AFTRE + TMB's (8021) TEX + MTBE + TPH (Gasoline Only) Hethod 8015B (Gas/Diesel) PH (Method 418.1)		Hemarks:
BA/ GC Package: Std Cl Level 4 Cl Dther: Project Name: Project #:	Perature: J (DUCLLIN Perature: J (JULLIN Nume Preservative HEAL No.	3-V62 X Huu Huu Deogl53	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client: San Juan Chellen in a	Met Met	9/12/06 8:10 H10 GAC TAF V 8:20 V GAC 2 EPF	Date: Time: Relineusisfied By: (Signature) 13/06 9.10 Relinquisfied By: (Signature) Date: Time: Relinquished By: (Signature)



COVER LETTER

Monday, October 02, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 9/20/06

Dear Cindy Hurtado:

Order No.: 0609254

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 9/21/2006 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

AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609254 GAC Analysis 9/20/06 0609254-01			C	Client Sample ID: Collection Date: Date Received: Matrix:	9/20/2 9/21/2	2006 8:20:00 AM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Organics (DRO)	ND	1.0		mg/L	1	9/27/2006 2:42:49 AM
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	9/27/2006 2:42:49 AM
Surr: DNOP		115	58-140		%REC	1	9/27/2006 2:42:49 AM
EPA METHOD	8015B: GASOLINE RANG	Ξ					Analyst: BDH
Gasoline Range	e Organics (GRO)	5.6	1.0		mg/L	20	9/29/2006 1:23:22 PM
Surr: BFB		109	84.5-129		%REC	20	9/29/2006 1:23:22 PM
EPA METHOD	8021B: VOLATILES						Analyst: BDH
Benzene		220	20		µg/L	20	9/29/2006 1:23:22 PM
Toluene		ND	20		µg/L	20	9/29/2006 1:23:22 PM
Elhylbenzene		1000	20		µg/L	20	9/29/2006 1:23:22 PM
Xylenes, Tolal		550	60		µg/L	20	9/29/2006 1:23:22 PM
Surr: 4-Brom	olluorobenzene	105	72.2-125		%REC	20	9/29/2006 1:23:22 PM

Qualifiers:

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

Date: 02-Oct-06

ND Not Detected at the Reporting Limit

Page 1 of 3

CLIENT:	San Juan Refining			Client Sample	ID: GAC	1 EFF			
Lab Order:	0609254			Collection D	ate: 9/20/2	9/20/2006 8:30:00 AM			
Project:	GAC Analysis 9/20/06			Date Recei	ved: 9/21/2	9/21/2006			
Lab ID:	0609254-02			Ma	trix: AQU	EOUS			
Analyses		Result	PQL	Qual Units	DF	Date Analyzed			
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC			
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L	1	9/27/2006 3:17:22 AM			
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	9/27/2006 3:17:22 AM			
Surr: DNOP		108	58-140	%REC	1	9/27/2006 3:17:22 AM			
EPA METHOD	8015B: GASOLINE RANG	E				Analyst: BDF			
Gasoline Range	e Organics (GRO)	ND	0.050	mg/L	1	9/29/2006 1:54:02 PM			
Surr: BFB		105	84.5-129	%REC	1	9/29/2006 1:54:02 PM			
EPA METHOD	8021B: VOLATILES					Analyst: BDF			
Benzene		ND	1.0	µg/L	1	9/29/2006 1:54:02 PM			
Toluene		ND	1.0	μġλ	1	9/29/2006 1:54:02 PM			
Ethylbenzene		ND	1.0	μg/L	1	9/29/2006 1:54:02 PM			
Xylenes, Total		ND	3.0	μg/L	1	9/29/2006 1:54:02 PM			
Surr: 4-Brom	ofluorobenzene	92.1	72.2-125	%REC	1	9/29/2006 1:54:02 PM			

Qualifiers:

- E Value above quantitation range

J Analyte detected below quantitation limits S Spike Recovery outside accepted recovery limits

- Value exceeds Maximum Contaminant Level
 B Analyte detected in the associated Method Blank
 - H Holding times for preparation or analysis exceeded

Date: 02-Oct-06

ND Not Detected at the Reporting Limit

Page 2 of 3

وجوار موطورون البالي إرار المماد متناعين

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0609254 GAC Analysis 9/20/06 0609254-03			С	ent Sample ID: collection Date: Date Received: Matrix:	9/20/2 9/21/2	2006 8:40:00 AM 2006
Analyses		Result	PQL	Qual U	Jnits	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range O	rganics (DRO)	ND	1.0	រា	ng/L	1	9/27/2006 3:51:58 AM
Motor Oil Range	e Organics (MRO)	ND	5.0	n	ng/L	1	9/27/2006 3:51:58 AM
Surr: DNOP		116	58-140	0	%REC	1	9/27/2006 3:51:58 AM
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: BDH
Gasoline Range	e Organics (GRO)	ND	0.050	r	ng/L	1	9/29/2006 2:55:07 PM
Surr: BFB		107	84.5-129	0	%REC	1	9/29/2006 2:55:07 PM
EPA METHOD	8021B: VOLATILES						Analyst: BDH
Benzene		ND	1.0	1	ıg/L	1	9/29/2006 2:55:07 PM
Toluene		ND	1.0		ig/L	1	9/29/2006 2:55:07 PM
Ethylbenzene		ND	1.0		ug/L	1	9/29/2006 2:55:07 PM
Xylenes, Total		ND	3.0		Jg/L	1	9/29/2006 2:55:07 PM
Surr: 4-Brom	alluorobenzene	94.1	72.2-125		%REC	1	9/29/2006 2:55:07 PM

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation rangeJ Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

Date: 02-Oct-06

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Page 3 of 3

QA/QC SUMMARY REPORT

Client: San Juan Ret Project: GAC Analys	-					Work	Drder: 0609254
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimi	t %RPD RPD	Limit Qual
Method: SW8015 Sample ID: MB-11347		MBLK	-		Batch ID: 113	47 Analysis Dale:	9/27/2006 12:59:13 AM
Diesel Range Organics (DRO) Motor Oil Range Organics (MRO) Sample ID: LCS-11347	ND ND	mg/L mg/L LCS	1.0 5.0		Batch ID: 113	47 Analysis Date:	9/27/2006 1:33:47 AM
Diesel Range Organics (DRO) Sample ID: LCSD-11347	5.215	mg/L LCSD	1.0	104	74 157 Balch ID: 113	47 Analysis Date:	9/27/2006 2:08:20 AM
Diesel Range Organics (DRO)	5.269	mg/L	1.0	105	74 157	1.02 23	
Method: SW8015 Sample ID: 0609254-02A MSD Gasoline Range Organics (GRO)	0.4900	MSD mg/L	0.050	98.0	Batch ID: R208 73.3 119	D.813 8.3	
Sample ID: 5ml rb1 Gasoline Range Organics (GRO) Sample ID: 2.5UG GRO LCS	ND	MBLK mg/L LCS	0.050		Batch ID: R208 Batch ID: R208	·	9/29/2006 8:43:22 AM 9/29/2006 4:26:41 PM
Gasoline Range Organics (GRO) Sample ID: 0609254-02A MS	0.5580	mg/L MS	0.050	112	73.3 119 Batch ID: R208	71 Analysis Date:	9/29/2006 5:01:15 PM
Gasoline Range Organics (GRO)	0.4940	mg/L	0.050	98.8	73.3 119		
Method: SW8021 Sample ID: 0609254-02A MSD		MSD			Balch ID: R208	71 Analysis Date:	9/29/2006 5:31:36 PM
Benzene Toluene Ethylbenzene Xylenes, Total Sample ID: b 12	5.990 38.17 7.884 43.36	μg/L μg/L μg/L μg/L <i>μ</i> g/L	1.0 1.0 1.0 3.0	99.8 99.3 93.4 96.4	85 115 85 118 85 116 85 116 85 119 Batch ID: R208	1.52 27 1.56 19 1.54 10 0.355 13 71 Analysis Date:	i 1
Benzene Toluene Ethylbenzene Xylenes, Total	ND ND ND ND	μg/L μg/L μg/L μg/L μg/L	1.0 1.0 1.0 3.0				5/23/2008 2.24.00 1 10
Sample ID: 100NG LCS		LCS			Batch ID: R208	71 Analysis Date:	9/29/2006 6:02:25 PM
Benzene Toluene Ethylbenzene Xylenes, Total	21.49 21.18 20.86 43.86	µg/L µg/L µg/L µg/L	1.0 1.0 1.0 3.0	107 104 104 110	85 115 85 118 85 116 85 119	174 Apply	
Sample ID: 0609254-02A MS Benzene Toluene Ethylbenzene Xylenes, Total	6.082 38.77 8.006 43.51	MS µg/L µg/L µg/L µg/L	1.0 1.0 1.0 3.0	101 101 94.9 96.7	Batch ID: R208 85 115 85 118 85 116 85 119	71 Analysis Dale:	9/29/2006 5:01:15 PM

Qualifiers:

- Ē Value above quantitation range
 - Analyte detected below quantitation limits
- J R RPD outside accepted recovery limits

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits 4/5

Page I

	Sample Re	eceipt (Checklist		
Client Name SJR			Date and Time	Received:	9/21/2006
Work Order Number 0609254	0 ο		Received by	BLM	
Checklist completed by	hlppo	Da	-21-04	_	
Matrix / /	Carrier name U	PS			
Shipping container/cooler in good condition?	Y	es 🗹		Not Present	
Custody seals intact on shipping container/cooler?	Y	es 🗹	No 🗔	Not Present	Not Shipped
Custody seals intact on sample boilles?	Y	es 🗆		N/A	
Chain of custody present?	Y	es 🗹	No 🗔		
Chain of custody signed when relinquished and rec	ceived? Y	es 🗹	No 🗔		
Chain of custody agrees with sample labels?	Y	es 🗹	No 🗆		
Samples in proper container/bottle?	Y	es 🗹	No 🗔		
Sample containers intact?	Y	es 🗹			
Sufficient sample volume for indicated test?	Y	es 🗹	No 🗔		
All samples received within holding time?	Y	es 🔽			
Water - VOA vials have zero headspace?	No VOA vials submitte	ed 🗋	Yes 🗹	No 🗆	
Water - pH acceptable upon receipt?	Y	es 🗌	No 🗔	N/A 🔽	
Container/Temp Blank temperature?		6°	4° C ± 2 Accepta		
COMMENTS:					
	,			u a	
anna andre mana pera na se a se a se a ser a ser anna anna anna anna anna anna anna an					
Client contacted D	nto contratada		Derr	ion entirelad	
	ate contacted:		Pers	son contacted	· · · · · · · · · · · · · · · · · · ·
Contacted by: R	egarding				
Comments:					
					· ···· · · · · · · · · · · · · · · · ·
			17 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -		
Corrective Action				•••••••••••••••••••••••••••••••••••••••	

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HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite 0		SIS REQUEST		(8082)	(.808/	eou, ,ic esbioi (AC ADV-in	Arniona (F, (Aniona (F, 1 8081 Pest 82508 (V) 8250 (Sen 8270 (Sen									
	Albuq Tel. 51	ANALYSIS	[ý]n	0 aniloze5	1PH (I 58 (Gr 4.1) 21) 21)	+ 381 r08 bo r4 bor 02 bor 08 bor	B310 (Met) EDC (Wet) EDB (Wet) LbH (Wet) BLEX + W BLEX +			X						Remarks:
QA/ QC Package: Std 🔲 Level 4 🗍 Other:	Project Name: (TAC, ANZ/15× 9/20/06	Project #:		Project Manager:	Sampler: Chp // u / nu r/ em	0 / (.a	Number/Volume HegCl ₁₂ HNU ₃ HCC 106 0A 2 SY	X 1 X 2-VO2	3-VA2 X X 2 X	$X \leq X \leq X$	• • •					Received By: (Signature) - 7//21/06 Received By: (Signature) - 7//21/06 Received By: (Signature)
CHAIN-OF-CUSTODY RECORD	Dient: San Juan Relining	1	BIRDMPLELEL NW 87413		Phone # 505) (622-41101		Date Matrix Sample I.D. No.	9/20/06/8:20/HZD GAC INC	gizula 8:20 HZD CAACI EACT	WHZD CARCZEPF						Date: 1 Trop. 00 Reimputsteed By: (Signature) 17.000 F.00 Reimputsheed By: (Signature) Date: 1 Time: Reimputsheed By: (Signature)

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COVER LETTER

Friday, October 06, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 9/26/06

Dear Cindy Hurtado:

Order No.: 0609335

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 9/27/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order:	San Juan Refining 0609335				lient Sample ID: Collection Date:				
Project:	GAC Analysis 9/26/06				Date Received:	9/27/2006			
Lab ID:	0609335-01				Matrix:	AQU!	EOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Organics (DRO)	ND	1.0		mg/L	1	9/27/2006 9:19:33 PM		
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	9/27/2006 9:19:33 PM		
Surr: DNOP		115	58-140		%REC	1	9/27/2006 9:19:33 PM		
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB		
Gasoline Range	e Organics (GRO)	3.6	1.0		mg/L	20	10/5/2006 5:08:04 PM		
Surr: BFB		117	84.5-129		%REC	20	10/5/2006 5:08:04 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		160	20		µg/L	20	10/5/2006 5:08:04 PM		
Toluene		ND	20		µg/L	20	10/5/2006 5:08:04 PM		
Ethylbenzene		730	20		µg/L	20	10/5/2006 5:08:04 PM		
Xylenes, Total		210	60		hð\r	20	10/5/2006 5:08:04 PM		
Surr: 4-Brom	ofiuorobenzene	111	72.2-125		%REC	20	10/5/2006 5:08:04 PM		

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Date: 06-Oct-06

Qualifiers: *

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Value exceeds Maximum Contaminant Level
 E Value above quantitation range

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J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

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Page 1 of 3

Hall Envir	onmental Analysis	s Labora	ntory, In	IC.	Date:	06-00	ct-06		
CLIENT: Lab Order:	San Juan Refining 0609335				-		GAC 1 EFF 9/26/2006 8:30:00 AM		
Project:	GAC Analysis 9/26/06			Da	te Received:	9/27/2	2006		
Lab ID:	0609335-02				Matrix:	AQU	EOUS		
Analyses		Result	PQL	Qual Uni	ts	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Irganics (DRO)	ND	1.0	mg/i	-	1	9/27/2006 9:54:20 PM		
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/l	-	1	9/27/2006 9:54:20 PM		
Surr: DNOP		116	58-140	%RE	EC .	1	9/27/2006 9:54:20 PM		
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSE		
Gasoline Range	e Organics (GRO)	ND	0.050	mg/l	-	1	10/5/2006 5:37:05 PM		
Surr: BFB		96.8	84.5-129	%R	EC .	1	10/5/2006 5:37:05 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	1.0	µg/L		1	10/5/2006 5:37:05 PM		
Toluene		ND	1.0	րց/է		1	10/5/2006 5:37:05 PM		
Elhylbenzene		ND	1.0	ha/r		1	10/5/2006 5:37:05 PM		
Xylenes, Total		ND	3.0	µg/L		1	10/5/2006 5:37:05 PM		
Surr: 4-Brom	ofluorobenzene	98.6	72.2-125	%RI	EC	1	10/5/2006 5:37:05 PM		

····• · --- · · · Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantilation range

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

Spike recovery outside accepted recovery limits S

. B Analyte detected in the associated Method Blank

- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

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Page 2 of 3

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CLIENT:			С	lient Sample ID:	GAC	2 EFF			
Lab Order:	ab Order: 0609335				Collection Date:	9/26/2006 8:45:00 AM			
Project:	GAC Analysis 9/26/06				Date Received:	9/27/2006			
Lab ID:	0609335-03				Matrix:	AQUI	EOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	Drganics (DRO)	ND	3.0		mg/L	1	9/28/2006 8:30:46 PM		
Motor Oil Rang	e Organics (MRO)	ND	15		mg/L	1	9/28/2006 8:30:46 PM		
Surr: DNOP		105	58-140		%REC	1	9/28/2006 8:30:46 PM		
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB		
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	10/5/2006 6:06:02 PM		
Surr: BFB		95.5	84.5-129		%REC	1	10/5/2006 6:06:02 PM		
EPA METHOD	8021B: VOLATILES						Analyst: NSB		
Benzene		ND	1.0		µg/L	1	10/5/2006 6:06:02 PM		
Toluene		ND	1.0		µg/L	1	10/5/2006 6:06:02 PM		
Ethylbenzerie		ND	1.0		µg/L	1	10/5/2006 6:06:02 PM		
Xylenes, Total		ND	3.0		μg/L	1	10/5/2006 6:06:02 PM		
Surr: 4-Bron	ofluorobenzene	97.8	72.2-125		%REC	1	10/5/2006 6:06:02 PM		

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

Date: 06-Oct-06

Qualifiers:

Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

MCL Maximum Contaminant Level

в

Н

RL Reporting Limit

S Spike recovery outside accepted recovery limits

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QA/QC SUMMARY REPORT

Client: San Juan Ref Project: GAC Analysi	-					Work Order: 0609335
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPDLimit Qual
Method: SW8015						
Sample ID: MB-11380		MBLK			Batch ID: 11380	Analysis Date: 9/27/20066:25:07 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0			
Motor Oil Range Organics (MRO)	ND	mg/L	5.0			
Sample ID: LCS-11380		LCS			Batch ID: 11380	Analysis Date: 9/27/20067:00:14 PM
Diesel Range Organics (DRO)	5.148	mg/L	1.0	103	74 157	
Sample ID: LCSD-11380		LCSD			Batch ID: 11380	Analysis Date: 9/27/20067:35:06 PM
Diesel Range Organics (DRO)	4.735	mg/L	1.0	94.7	74 157	8.36 23
Method: SW8015					na manifektering ang garanggang ang gang gang tang tang tang tan	
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R20958	Analysis Date: 10/5/2006 10:03:16 AN
Gasoline Range Organics (GRO)	ND	mall	0.050			
Sample ID: 2.5UG GRO LCS		LCS	0.000		Batch ID: R20958	Analysis Date: 10/6/2006 12:25:44 AM
•	0.5000		0.050	400		Analysis Date. 10/0/2000 (2.23.74 Au
Gasoline Range Organics (GRO) Sample ID: 2.5UG GRO LCSD	0.5020	mg/L LCSD	0.050	100	73.3 119	
•					Batch ID: R20958	
Gasoline Range Organics (GRO)	0.5340	mg/L	0.050	107	73.3 119	6.18 8.39
Method: SW8021						
Sample ID: 5ML REAGENT BLA		MBLK			Batch ID: R20958	Analysis Date: 10/5/2006 10:03:16 AM
Benzene	ND	µg/L	1.0			
Toluene	ND	µg/L	1.0			
Elhylbenzene	ND	µg/L	1.0			
Xylenes, Tolal	ND	µg/L	3.0			
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R20958	Analysis Date: 10/5/2006 1:42:53 PM
Benzene	20.96	µց/Լ	1.0	105	85 115	
Toluene	20.53	µg/L	1.0	103	85 118	
Elhylbenzene	20.82	µg/L	1.0	104	85 116	
Xylenes, Total	63.12	µg/∟	3.0	105	85 119	
Sample ID: 100NG BTEX LCSD		LCSD			Batch ID: R20958	Analysis Date: 10/5/2006 9:31:35 PM
Benzene	21.14	µg/L	1.0	106	85 115	0.855 27
Toluene	20.72	µg/L	1.0	104	85 118	0.892 19
Ethylbenzene	20.79	µg/L	1.0	104	85 116	0.173 10
Xylenes, Total	63.10	µg/L	3.0	105	85 119	0.0317 13

Ouali	iliers:	
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- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting LimitS Spike recovery outside accepted recov
 - Spike recovery outside accepted recovery limits $4 \ / \ 5$

Page 1

	Sample Receipt Cho	ecklist		
Client Name SJR		Date and Time	Received:	9/27/2006
Work Order Number 0609335	Э л	Received by	BLM	
Checklist completed by	ligge 9-	-27-06	2	
Matrix	Carrier name UPS			
Shipping container/cooler in good condition?	Yes 🔽		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	V
Chain of custody present?	Yes 🗹	No 🗌		
Chain of custody signed when relinquished and rec	eived? Yes 🗹			
Chain of custody agrees with sample labels?	Yes 🗹	No 🗖		
Samples in proper container/bottle?	Yes 🗹	No \Box		
Sample containers intact?	Yes 🗹	No 🗆		
Sufficient sample volume for indicated test?	Yes 🗹			
All samples received within holding time?	Yes 🗹			
Water - VOA vials have zero headspace?	No VOA vials submitted	Yes 🗹	Νο 🗔	
Water - pH acceptable upon receipt?	Yes 🗍	No 🗌	N/A 🗹	
Container/Temp Blank temperature?	2°	4° C ± 2 Accepta If given sufficient		
COMMENTS:				
			•	
Client contacted D	ale contacted:	Pers	on contacted	
Contacted by: R	egarding		,	
Comments:				
			· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • • • •
				· · · · · · · · · · · · · · · · · · ·
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Corrective Action				
				ne na sta sta mini s 201 - 16 (s mining a aggesta pagges and del 90 (91
1999 - Maria I. (1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997				· · · · · · · · · · · · · · · · · · ·

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•	Hall HT + 38TM + X3T8 Image: Standard St				1791 1791 1791 183 180 180 180 180 180 180 180			×						Hs:				
•	QA/ QC Package: Std D Level 4 D Dther: Project Name:	CAR Analysis 9/24 ple		Project Manager:	18) a 2	Sampler: Shelly Coucher A	Sample Temperature: 0 2 °	Preservative + + HEAL No. ×	HgCl2 HND3 +1C1 000335	2-103- X 1 X	3-VNA. X X X	X Z X CULZ						Received By: (Signeture) ANAM 2011 CT 106 Remarks: Received By: (Signeture) 10:55
•	CHAIN-OF-CUSTODY RECORD		Aldress: #50 Rd LOGO	BIDOM HIELD, NW 87415		Phone #: 515-123 - 4116	Fax#: <<<>> - <			OIZIGINOSIS HOD GACING			THAN WAY CH.G. A					9,21,14, 11me: Relinquistied By: (Signature) 0,21,14, 0,-0,0 Score (C) Dete: Time: Relinquished By: (Signature)

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COVER LETTER

Thursday, October 12, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 10/5/06

Dear Cindy Hurtado:

Order No.: 0610067

Hall Environmental Analysis Laboratory, Inc. received 2 sample(s) on 10/6/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order:	San Juan Refining 0610067			C	Client Sample ID: Collection Date:	10/5/2006 7:30:00 AM		
Project:	GAC Analysis 10/5/06				Date Received:			
Lab ID:	0610067-01				Matrix:			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: JMP	
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	10/12/2006 9:23:10 AM	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	10/12/2006 9:23:10 AM	
Surr: DNOP		113	58-140		%REC	1	10/12/2006 9:23:10 AM	
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB	
Gasoline Rang	e Organics (GRO)	4.6	1.0		mg/L	20	10/10/2006 9:32:40 PM	
Surr: BFB		90.8	84.5-129		%REC	20	10/10/2006 9:32:40 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		200	20		µg/L	20	10/10/2006 9:32:40 PM	
Toluene		ND	20		µg/L	20	10/10/2006 9:32:40 PM	
Ethylbenzene		940	20		µg/L	20	10/10/2006 9:32:40 PM	
Xylenes, Total		350	60		µg/L	20	10/10/2006 9:32:40 PM	
Surr: 4-Brom	ofluorobenzene	91.2	72.2-125		%REC	20	10/10/2006 9:32:40 PM	

Date: 12-Oct-06

Qualifiers:

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Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

Spike recovery outside accepted recovery limits

ND Not Detected at the Reporting Limit

B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded

H Holding times for preparation MCL Maximum Contaminant Level

RL Reporting Limit

1/4

Page 1 of 2

CLIENT:	San Juan Refining			C	lient Sample ID:	GAC	1 EFF	
Lab Order:	0610067				Collection Date:	10/5/2	2006 7:40:00 AM	
Project:	GAC Analysis 10/5/06				Date Received:	10/6/2006 AQUEOUS		
Lab ID:	0610067-02				Matrix:			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: JMP	
Diesel Range C	rganics (DRO)	ND	1.0		mg/L	1	10/12/2006 9:57:58 AM	
Motor Oil Range Organics (MRO)		ND	5.0		mg/L	1	10/12/2006 9:57:58 AM	
Surr: DNOP		110	58-140		%REC	1	10/12/2006 9:57:58 AM	
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: NSB	
Gasoline Rangi	e Organics (GRO)	ND	0.050		mg/L	1	10/10/2006 10:03:00 PM	
Surr: BFB		94.4	84.5-129		%REC	1	10/10/2006 10:03:00 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	1.0		µg/L	1	10/10/2006 10:03:00 PM	
Toluene		ND	1.0		µg/L	1	10/10/2006 10:03:00 PM	
Ethylbenzene		ND	1.0		µg/L	1	10/10/2006 10:03:00 PM	
Xylenes, Total		ND	3.0		µg/L	1	10/10/2006 10:03:00 PM	
Surr: 4-Brom	olluorobenzene	89.1	72.2-125		%REC	1	10/10/2006 10:03:00 Pl	



Date: 12-Oct-06

Qualifiers:

ε Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

- Spike recovery outside accepted recovery limits 2/4 S
- B Analyte detected in the associated Method Blank

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- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 2 of 2

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QA/QC SUMMARY REPORT

Client: San Juan Re Project: GAC Analys	-						Work	Order: 0610067
Analyte	Result	Units	PQL	%Rec	LowLimit HighLi	mit	%RPD RPI	DLimit Qual
Method: SW8015								
Sample ID: MB-11452		MBLK			Batch ID: 1	1452	Analysis Date:	10/12/20067:39:16 AM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Motor Oil Range Organics (MRO)	ND	mg/L	5.0		.			
Sample ID: LCS-11452		LCS				11452	Analysis Date:	10/12/2006 8:13:47 AM
Diesel Range Organics (DRO)	4.820	mg/L	1.0	96.4	74 157			
Sample ID: LCSD-11452		LCSD			Batch ID: 1	1452	Analysis Date:	10/12/2006 8:48:19 AM
Diesel Range Organics (DRO)	4.104	mg/L	1.0	82.1	74 157		16.0 2	3
Method: SW8015								
Sample ID: 5ML RB		MBLK			Batch ID: R2	20993	Analysis Date:	10/10/2006 8:41:54 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050				· · · · · · · · · · · · · · · · · · ·	
Sample ID: 2.5UG GRO ICV		LCS	0.000		Batch ID: R2	20993	Analysis Date:	10/10/2006 4:28:40 PM
·	0.4000		0.050	92.0	73.3 119		rinaryaia Data.	
Gasoline Range Organics (GRO)	0.4600	mg/∟ LCSD	0.050	92.0		20993	Analusia Datat	10/10/2006 4:59:10 PM
Sample ID: 2.5UG GRO ICV-B						20993	Analysis Date:	
Gasoline Range Organics (GRO)	0.4300	mg/L	0.050	86.0	73.3 119		6.74 8.	39
Method: SW8021								
Sample ID: 5ML RB		MBLK			Batch ID: R	20993	Analysis Date:	10/10/2006 8:41:54 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	µg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS		LCS			Batch ID: R	20993	Analysis Date:	10/10/2006 8:00:54 PM
Benzene	19.98	µg/L	1.0	99.9	85 115			
Toluene	19.59	μg/L	1.0	97.9	85 118			
Ethylbenzene	19.69	µg/L	1.0	9 8.5	85 116			
Xylenes, Tolal	40.52	μg/L	3.0	101	85 119			

Qualifiers:

E Value above quantitation range

Analyte detected below quantitation limits J

R RPD outside accepted recovery limits Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

Sails recovery outside accepted recovery limits 3/4S

Page 1

1.1

1.1

	Sample Receipt Ch	ecklist		
Client Name SJR		Date and Time	Received:	10/6/2006
Work Order Number 0610067		Received by	GLS	
Checklist completed by	Date	0-6-0	6	
Malrix Ca	arrier name <u>UPS</u>			
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 🗹			
Samples in proper container/bottle?	Yes 🗹			
Sample containers intact?	Yes 🗹			
Sufficient sample volume for indicated test?	Yes 🗹	No 🗌		
All samples received within holding lime?	Yes 🗹	No 🗆		
Water - VOA vials have zero headspace? No VC	OA vials submitted	Yes 🗹	No 🗔	
Water - pH acceptable upon receipt?	Yes 🗋	No 🗔	N/A 🗹	
Container/Temp Blank temperature?	4°	4° C ± 2 Accepta If given sufficient		
COMMENTS:				
Client contacted Date co	nlacled:	Pers	on contacted	
Contacled by: Regard	ng			
Comments:			·· ··· · ····	··· ·
	· · · · · · · · · · · · · · · · · · ·			
·····				1990) 10 Fabric States and an and a first state
Corrective Action				· · · · · · · · · · · · · · · · · · ·

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HALL ENVIRONMENTAL HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico B7109 Tel. 505.345.345.4107 www.hallenvironmental.com	Air Bubbles or Headson (۲۵08) الا الا الحدامة (158)			Hernarks:
CHAIN-OF-CUSTODY RECORD GA/GC Package: Std lot level 4 lot Client: Can Uran ReCord Other: Other: Client: Can Uran ReCord Other: Address: #FEN Record NM RPUL3 Address: #FEN Record NM RPUL3	D-UID Broject Manager: D-UID Sampler She LLU COLOGON D-3911 Sample Temperature: U Sample I.D. No. Number Volume Preservative HEAL No.			Time: Relivinguished By: (Signature)



COVER LETTER

Wednesday, December 13, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis - 12/04/06

Dear Cindy Hurtado:

Order No.: 0612040

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 12/5/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0612040 GAC Analysis - 12/04/0 0612040-01	06		С	lient Sample ID: Collection Date: Date Received: Matrix:	12/4/2 12/5/2	2006 2:25:00 PM 2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8	015B: DIESEL RANGE						Analyst: SCC
Diesel Range Or	ganics (DRO)	ND	1.0		mg/L	1	12/12/2006 8:11:41 AM
Motor Oil Range	Organics (MRO)	ND	5.0		mg/L	1	12/12/2006 8:11:41 AM
Surr: DNOP		128	58-140		%REC	1	12/12/2006 8:11:41 AM
EPA METHOD 8	015B: GASOLINE RANG	E					Analyst: NSB
Gasoline Range	Organics (GRO)	12	1.0		mg/L	20	12/6/2006 3:11:17 PM
Surr: BFB		115	79.2-121		%REC	20	12/6/2006 3:11:17 PM
EPA METHOD 8	3021B: VOLATILES						Analyst: NSB
Benzene		320	20		µg/L	20	12/6/2006 3:11:17 PM
Toluene		ND	20		µg/L	20	12/6/2006 3:11:17 PM
Ethylbenzene		1300	20		µg/L	20	12/6/2006 3:11:17 PM
Xylenes, Total		1700	60		µg/L	20	12/6/2006 3:11:17 PM
Surr: 4-Bromo	ofluorobenzene	85.7	70.2-105		%REC	20	12/6/2006 3:11:17 PM

Date: 13-Dec-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level Value above quantitation range

Е J

Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit S

Spike recovery outside accepted recovery limits

- В Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н

MCL Maximum Contaminant Level

RL Reporting Limit

1/5

Page 1 of 3

CLIENT:San Juan RefiningLab Order:0612040				C	lient Sample ID:	GAC	1 Eff	
		Collection Date:					12/4/2006 2:15:00 PM	
Project:	GAC Analysis - 12/04	/06			Date Received:	12/5/2006 AQUEOUS		
Lab ID:	0612040-02							
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE					-	Analyst: SC	
Diesel Range O	Drganics (DRO)	ND	1.0		mg/L	1	12/12/2006 8:46:20 AN	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	12/12/2006 8:46:20 AN	
Surr: DNOP		147	58-140	S	%REC	1	12/12/2006 8:46:20 AN	
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSI	
Gasoline Rang	e Organics (GRO)	ND	0.050		mg/L	1	12/6/2006 3:41:25 PM	
Surr: BFB		110	79.2-121		%REC	1	12/6/2006 3:41:25 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSI	
Benzene		ND	1.0		µg/L	1	12/6/2006 3:41:25 PM	
Toluene		ND	1.0		μg/L	1	12/6/2006 3:41:25 PM	
Ethylbenzene		ND	1.0		µg/L	1	12/6/2006 3:41:25 PM	
Xylenes, Total		ND	3.0		µg/L	1	12/6/2006 3:41:25 PM	
Surr: 4-Bron	nofluorobenzene	85.2	70.2-105		%REC	1	12/6/2006 3:41:25 PM	

Date: 13-Dec-06

Qual	lifiers:
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* Value exceeds Maximum Contaminant Level

E Value above quantitation range

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 2 of 3

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CLIENT:	San Juan Refining			Client Sam	ole ID:	GAC	2 Eff	
Lab Order:	0612040			Collection	Date:	: 12/4/2006 2:35:00 PM : 12/5/2006		
Project:	GAC Analysis - 12/04	/06		Date Rec	eived:			
Lab ID:	0612040-03 Matri				latrix:	AQUEOUS		
Analyses		Result	PQL	Qual Units	· · · · · · · · · · · · · · · · · · ·	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L		1	12/11/2006 5:44:14 PM	
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L		1	12/11/2006 5:44:14 PM	
Surr: DNOP		134	58-140	%REC		1	12/11/2006 5:44:14 PM	
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: NSB	
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L		1	12/6/2006 4:11:28 PM	
Surr: BFB		111	79.2-121	%REC		1	12/6/2006 4:11:28 PM	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Benzene		ND	1.0	µg/L		1	12/6/2006 4:11:28 PM	
Toluene		ND	1.0	µg/L		1	12/6/2006 4:11:28 PM	
Ethylbenzene		ND	1.0	µg/L		1	12/6/2006 4:11:28 PM	
Xylenes, Total		ND	3.0	µg/L		1	12/6/2006 4:11:28 PM	
Surr: 4-Brom	nofluorobenzene	85.2	70.2-105	%REC		1	12/6/2006 4:11:28 PM	

Date: 13-Dec-06

Qualifiers:

*

Value exceeds Maximum Contaminant Level

E Value above quantitation range

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 3 of 3



Client:San Juan RefiProject:GAC Analysi	÷)6					Wo	rk Order: 0612040
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD F	RPDLimit Qual
Method: SW8015								
Sample ID: MB-11919		MBLK			Batch II	D: 11919	Analysis Date	:: 12/12/2006 6:28:32 AM
Diesel Range Organics (DRO)	ND	mg/Ľ	1.0					
Motor Oil Range Organics (MRO)	ND	mg/L	5.0					
Sample ID: LCS-11919		LCS			Batch I	D: 11919	Analysis Date	e: 12/12/2006 7:02:56 AM
Diesel Range Organics (DRO)	6.769	mg/L	1.0	135	74	157		
Sample ID: LCSD-11919		LCSD			Batch I	D: 11919	Analysis Date	e: 12/12/2006 7:37:19 AM
Diesel Range Organics (DRO)	7.314	mg/L	1.0	146	74	157	7.74	23
Method: SW8015								
Sample ID: 0612040-03A MSD		MSD			Batch li	D: R21694	Analysis Date	e: 12/6/2006 11:25:33 PN
Gasoline Range Organics (GRO)	0.4318	mg/L	0.050	86.4	80	115	0.139	8.39
Sample ID: 5ML RB		MBLK			Batch I		Analysis Date	
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS		LCS			Batch I	D: R21694	Analysis Date	e: 12/6/2006 11:55:32 PM
Gasoline Range Organics (GRO)	0.4506	mg/L	0.050	90.1	80	115	2	
Sample ID: 0612040-03A MS	011000	MS	0.000	0011	Batch I		Analysis Date	e: 12/6/2006 10:55:31 PN
Gasoline Range Organics (GRO)	0.4324	mg/L	0.050	86.5	80	115	,	
Method: SW8021						······································		
Sample ID: 0612040-02A MSD		MSD			Batch !	D: R21694	Analysis Date	e: 12/6/2006 8:55:17 PM
Benzene	18.70	µg/L	1.0	93.5	85.9	113	0.182	27
Toluene	18.54	μg/L	1.0	93.5 92.7	86.4	113	0.0108	19
Ethylbenzene	18.13	µg/L	1.0	89.4	83.5	118	0.165	10
Xylenes, Total	55.34	μg/L	3.0	92.2	83.4	122	0.0289	13
Sample ID: 5ML RB	00.01	MBLK	0.0	04.2	Batch I		Analysis Date	
Benzene	ND	µg/L	1.0				r and yold Dut	
Toluene	ND	μg/L	1.0 1.0					
Ethylbenzene	ND	μg/L μg/L	1.0					
Xylenes, Total	ND		3.0					
Sample ID: 100NG BTEX LCS	ND	µg/L LCS	3.0		Batch I	D: R21694	Analysis Date	e: 12/6/2006 9:25:17 PI
Benzene	19.07	μg/L	1.0	95.4	85.9	113	, 10,900 000	
Toluene	18.76	μg/L	1.0	93.4 93.8	85.9 86.4	113		
Ethylbenzene	18.38	μg/L	1.0	93.8 91.9	83.5	118		
Xylenes, Total	55.86	μg/L	3.0	93.1	83.4	122		
Sample ID: 0612040-02A MS		MS	0.0	55.1	Batch I		Analysis Date	e: 12/6/2006 8:25:12 PI
Benzene	18.73	µg/L	1.0	93.6	85.9	113		
Toluene	18.54	μg/L	1.0	93.0 92.7	86.4	113		
Ethylbenzene	18.16	μg/L	1.0	92.7 89.6	83.5	118		
Xylenes, Total	55.36	µg/L	3.0	92.3	83.5 83.4	122		

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Snike recovery outside accepted recovery limits $4 \neq 5$

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	Sample R	eceipt	t Checklist		
Client Name SJR			Date and Time	Received:	12/5/2006
Work Order Number 0612040	\sum		Received by	AT	
Checklist completed by	hu	12	15/06 Date		
Matrix	Carrier name	JPS			
Shipping container/cooler in good condition?	Y	′es 🔽	No 🗌	Not Present	
Custody seals intact on shipping container/cooler?	YYYY	′es 🔽	No 🗌	Not Present	Not Shipped
Custody seals intact on sample bottles?	Ŷ	′es 🗌	No 🔽	N/A	
Chain of custody present?	Ŷ	′es 🗹	No 🗌		
Chain of custody signed when relinquished and re	ceived? Y	res 🗹	No 🗆		
Chain of custody agrees with sample labels?	Y	res 🔽	No 🗌		
Samples in proper container/bottle?	Ŷ	res 🔽	No 🗌		
Sample containers intact?	Ŷ	res 🔽	No 🗌		
Sufficient sample volume for indicated test?	٢	res 🔽	No 🗆		
All samples received within holding time?	٢	res 🗹	No 🗆		
Water - VOA vials have zero headspace?	No VOA vials submitt	ted 🗌] Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?	Ŋ	res 🗌	No 🗌	N/A	
Container/Temp Blank temperature?		6°	4° C ± 2 Accepta		
COMMENTS:					
Client contacted	Date contacted:		Pers	son contacted	
Contacted by:	Regarding				
Comments:				,	
			· · · · · · · · · · · · · · · · · · ·		
Corrective Action					

ADDITION OF THE ADDITION OF TH	Cl, NO ₃ , NO ₂ , PO ₄ , SO ₄) sticides / PCB's (8082) (ADA)	 A + X3T8 ItabM Hqt TPH (Meth EDB (Meth B310 (Ph B310 (Ph B310 (Ph B310 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B32 (Ph B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 B4 <li< th=""><th></th><th></th><th></th><th>Remarks:</th></li<>				Remarks:
Dther: Project Name: Project #: Project #:	Project Manager: Sampler: Sample Temperature:	Number/Volume HgCl ₂ HNO ₃ H/CL CV 4 20 4 0	4-10A X -1	M X		Received By: (Signature) 12/5/s to 00 Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client: A. Juan Relation	310000 Fredd NM 310000 Fredd NM 87413 -4110(505-1632 -3911		12/04/06 205 HZU CAR I EFF	1 235 1 GAC 2 EFF		Date: Time: Relinquished By (Signature)



COVER LETTER

Wednesday, December 20, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 12/13/06

Dear Cindy Hurtado:

Order No.: 0612197

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 12/15/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0612197 GAC Analysis 12/13/06 0612197-01			Date Received:	12/13/2006 8:30:00 AM		
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed	
EPA METHOD 8	015B: DIESEL RANGE					Analyst: SCC	
Diesel Range Or	ganics (DRO)	ND	1.0	mg/L	1	12/19/2006 9:34:39 AM	
Motor Oil Range	Organics (MRO)	ND	5.0	mg/L	1	12/19/2006 9:34:39 AM	
Surr: DNOP		105	58-140	%REC	1	12/19/2006 9:34:39 AM	
EPA METHOD 8	015B: GASOLINE RANGE	2				Analyst: NSB	
Gasoline Range	Organics (GRO)	9.8	1.0	mg/L	20	12/15/2006 3:54:39 PM	
Surr: BFB		109	79.2-121	%REC	20	12/15/2006 3:54:39 PM	
EPA METHOD 8	021B: VOLATILES					Analyst: NSB	
Benzene		. 29	20	µg/L	20	12/15/2006 3:54:39 PM	
Toluene	•	ND	20	µg/L	20	12/15/2006 3:54:39 PM	
Ethylbenzene		590	20	µg/L	20	12/15/2006 3:54:39 PM	
Xylenes, Total		1600	60	µg/L	20	12/15/2006 3:54:39 PM	
Surr: 4-Bromo	fluorobenzene	82.4	70.2-105	%REC	20	12/15/2006 3:54:39 PM	

Date: 20-Dec-06

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 1 of 3

CLIENT:	San Juan Refining			Client Sample I	D: GAC	1 Eff		
Lab Order:	0612197			Collection Day	te: 12/13	/2006 8:35:00 AM		
Project:	GAC Analysis 12/13/06	6		Date Receive	d: 12/15	/2006		
Lab ID:	0612197-02			Matri	ix: AQU	AQUEOUS		
Analyses		Result	PQL	Qual Units	DF	Date Analyzed		
EPA METHOD	3015B: DIESEL RANGE					Analyst: SCC		
Diesel Range O	rganics (DRO)	ND	1.0	mg/L	1	12/18/2006 9:30:32 PM		
Motor Oil Range	Organics (MRO)	ND	5.0	mg/L	1	12/18/2006 9:30:32 PM		
Surr: DNOP		119	58-140	%REC	1	12/18/2006 9:30:32 PM		
EPA METHOD	8015B: GASOLINE RANG	E .				Analyst: NSE		
Gasoline Range	Organics (GRO)	ND	0.050	mg/L	1	12/15/2006 4:54:43 PN		
Surr: BFB		104	79.2-121	%REC	1	12/15/2006 4:54:43 PN		
EPA METHOD	8021B: VOLATILES					Analyst: NSE		
Benzene		ND	1.0	µg/L	1	12/15/2006 4:54:43 PM		
Toluene		ND	1.0	µg/L	1	12/15/2006 4:54:43 PM		
Ethylbenzene		ND	1.0	µg/L	1	12/15/2006 4:54:43 PM		
Xylenes, Total		ND	3.0	µg/L	1	12/15/2006 4:54:43 PM		
Surr: 4-Brome	ofluorobenzene	80.2	70.2-105	%REC	1	12/15/2006 4:54:43 PM		

Date: 20-Dec-06

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 2 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0612197 GAC Analysis 12/13/06 0612197-03		Client Sample D Collection Dat Date Receive Matri				/2006 8:40:00 AM /2006
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C	Organics (DRO)	ND	1.0		mg/L	1	12/18/2006 10:04:18 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	12/18/2006 10:04:18 PM
Surr: DNOP		95.8	58-140		%REC	1	12/18/2006 10:04:18 PM
EPA METHOD	8015B: GASOLINE RANGE	E					Analyst: NSB
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	12/15/2006 5:24:49 PM
Surr: BFB		103	79.2-121		%REC	1	12/15/2006 5:24:49 PM
EPA METHOD	8021B: VOLATILES						Analyst: NSB
Benzene		ND	1.0		µg/L	1	12/15/2006 5:24:49 PM
Toluene		ND	1.0		µg/L	1	12/15/2006 5:24:49 PM
Ethylbenzene		ND	1.0		µg/L	1	12/15/2006 5:24:49 PM
Xylenes, Total		ND	3.0		µg/L	1	12/15/2006 5:24:49 PM
Surr: 4-Brom	ofluorobenzene	80.7	70.2-105		%REC	1	12/15/2006 5:24:49 PM

Date: 20-Dec-06

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

- S _ Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 3 of 3

Client: San Juan Ref Project: GAC Analys:	-						Work	Order: 0612197
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	DLimit Qual
Method: SW8015 Sample ID: MB-11997		MBLK			Batch II	D: 11997	Analysis Date:	12/18/2006 6:40:40 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0		Datorn	5. 11557	Analysis Date.	12/10/2003 0.40.40110
Motor Oil Range Organics (MRO)	ND	mg/L	5.0					
Sample ID: LCS-11997		LCS	0.0		Batch I	D: 11997	Analysis Date:	12/18/2006 7:48:48 PM
Diesel Range Organics (DRO)	4.568	mg/L	1.0	91.4	74	157	· · · · · · · · · · · · · · · · · · ·	
Sample ID: LCSD-11997	4.000	LCSD	1.0	51,4	Batch li		Analysis Date:	12/18/2006 8:22:54 PM
Diesel Range Organics (DRO)	5.529	mg/L	1.0	111	74	157	•	23
	0.020					107	13.0	
Method: SW8015								
Sample ID: 0612197-03A MSD		MSD			Batch I		Analysis Date:	12/15/2006 6:24:52 PM
Gasoline Range Organics (GRO)	0.4612	mg/L	0.050	92.2	80	115		.39
Sample ID: 5ML REAGENT BLA		MBLK			Batch I	D: R21844	Analysis Date:	12/15/2006 9:10:31 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050					
Sample ID: 2.5UG GRO LCS		LCS			Batch I	D: R21844	Analysis Date:	12/15/2006 10:25:20 PM
Gasoline Range Organics (GRO)	0.4626	mg/L	0.050	92.5	80	115		
Sample ID: 0612197-03A MS		MS			Batch I	D: R21844	Analysis Date:	12/15/2006 5:54:49 PM
Gasoline Range Organics (GRO)	0.4728	mg/L	0.050	94.6	80	115		
Method: SW8021								
Sample ID: 5ML REAGENT BLA		MBLK			Batch I	D: R21844	Analysis Date:	12/15/2006 9:10:31 AM
Benzene	ND	µg/L	1.0					
Toluene	ND	μg/L	1.0					
Ethylbenzene	ND	μg/L	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS		LCS			Batch I	D: R21844	Analysis Date:	12/15/2006 8:55:11 PM
Benzene	19.67	µg/L	1.0	98.4	85.9	113		
Toluene	19.54	µg/L	1.0	97.7	86.4	113		
Ethylbenzene	19.17	µg/L	1.0	95.8	83.5	118		
Xylenes, Total	57.83	µg/L	3.0	96.4	83.4	122		

Qualifiers:

E Value above quantitation range

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

Not Detected at the Reporting Limit

ND

S Spike recovery outside accepted recovery limits 4 / 5

	Sample	Rece	eipt Ch	ecklist			
Client Name SJR				Date and Time	Received:		12/15/2006
Work Order Number 0612197	\cap			Received by	AT		
Checklist completed by	In_		<u>12 </u> Date	5/16			
Matrix	Carrier name	Grey	hound				
Shipping container/cooler in good condition?		Yes	\checkmark	No 🗌	Not Present		
Custody seals intact on shipping container/coole	er?	Yes		No 🗌	Not Present	D Not Shipp	ed 🗌
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	\checkmark	No 🗌			
Samples in proper container/bottle?		Yes	\checkmark	No 🗔			
Sample containers intact?		Yes	\checkmark	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 sub	mitted		Yes 🔽	No 🗌		
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹		
Container/Temp Blank temperature?			6°	4° C ± 2 Accepta If given sufficient			
COMMENTS:							
Client contacted	Date contacted:			Pers	son contacted		
Contacted by:	Regarding						
Comments:					·		
				······			
Corrective Action							

4

HALL ENVIRONMENTAL HALL ENVIRONMENTAL ABOT Hawkins NE, Suite D Albuguergue, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com			
HALL ENVIRO ANALYSIS LA 4901 Hawkins NE, (Albuquerque, New N Tel. 505.345.3975 www.hallenvironmen	EDB (Method 504.1) EDB (Method 504.1)		Remarks:
Dther: Project Name: DMC Analysis 12/13/00	Project Manager: Sampler And Anager: Sample Temperature: Sample Temperature: Number/Volume HgCl, HN0, D1, 2, 1, 2,	the ist in the ist ist	Received By: (Signature) 12/1579 R Come to Monu 2 Repeived By: (Signature)
IN-OF-CUSTODY	Address: #50 Koad 4990 Blone #: 505-632-4161 Fax #: 505-632-4161 Date Time Matrix Sample I.D. No.	Histor 834 H2U GAC INT INF 335A H2U GAC INT INF 8404 GAC ACTO ACAC ACTO	Date: Time: Relinquished/By: (Signature) 21/30/24/0pm Date: Time: Relinquished By (Signature)



COVER LETTER

Wednesday, December 27, 2006

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC Analysis 12/20/06

Dear Cindy Hurtado:

Order No.: 0612243

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 12/21/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0612243 GAC Analysis 12/20/06 0612243-01			Date Received: Matrix:		12/20/2006 9:15:00 AM		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC	
Diesel Range C	Drganics (DRO)	ND	1.0		mg/L	1	12/26/2006 7:51:29 PM	
Motor Oil Rang	e Organics (MRO)	ND	5.0		mg/L	1	12/26/2006 7:51:29 PM	
Surr: DNOP		113	58-140		%REC	1	12/26/2006 7:51:29 PM	
EPA METHOD	8015B: GASOLINE RANGE	Ξ					Analyst: BDH	
Gasoline Rang	e Organics (GRO)	10	0.50		mg/L	10	12/26/2006 2:21:05 PM	
Surr: BFB		125	79.2-121	S	%REC	10	12/26/2006 2:21:05 PM	
EPA METHOD	8021B: VOLATILES						Analyst: BDH	
Benzene		26	10		µg/L	10	12/26/2006 2:21:05 PM	
Toluene		ND	10		µg/L	10	12/26/2006 2:21:05 PM	
Ethylbenzene		660	10		µg/L	10	12/26/2006 2:21:05 PM	
Xylenes, Total		1500	30		µg/L	10	12/26/2006 2:21:05 PM	
Surr: 4-Bron	nofluorobenzene	93.3	70.2-105		%REC	10	12/26/2006 2:21:05 PM	

Date: 27-Dec-06

Qualifiers:

- * Value exceeds Maximum Contaminant Level Value above quantitation range
- Е

Analyte detected below quantitation limits J

- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 1/5
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

Page 1 of 3

CLIENT:	San Juan Refining			С	lient Sample ID:	GAC	1EFF		
Lab Order:	0612243				Collection Date:	12/20/2006 9:23:00 AM			
Project:	GAC Analysis 12/20/06	5			Date Received:	12/21	/2006		
Lab ID:	0612243-02				Matrix:	AQUI	AQUEOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC		
Diesel Range C	organics (DRO)	ND	1.0		mg/L	1	12/26/2006 8:25:17 PM		
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	12/26/2006 8:25:17 PM		
Surr: DNOP		92.5	58-140		%REC	1	12/26/2006 8:25:17 PM		
EPA METHOD	8015B: GASOLINE RANG	E					Analyst: BDH		
Gasoline Range	e Organics (GRO)	ND	0.050		mg/L	1	12/26/2006 2:51:03 PM		
Surr: BFB		118	79.2-121		%REC	1	12/26/2006 2:51:03 PM		
EPA METHOD	8021B: VOLATILES						Analyst: BDH		
Benzene		ND	1.0		µg/L	1	12/26/2006 2:51:03 PM		
Toluene		ND	1.0		µg/L	1	12/26/2006 2:51:03 PM		
Ethylbenzene		ND	1.0		µg/L	1	12/26/2006 2:51:03 PN		
Xylenes, Total		ND	3.0		µg/L	1	12/26/2006 2:51:03 PN		
Surr: 4-Brom	ofluorobenzene	89.4	70.2-105		%REC	1	12/26/2006 2:51:03 PM		

Date: 27-Dec-06

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

2/5

Page 2 of 3

CLIENT: Lab Order: Project: Lab ID:	San Juan Refining 0612243 GAC Analysis 12/20/06 0612243-03			Date Receive	te: 12/20/	/2006 9:32:00 AM /2006
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE					Analyst: SCC
Diesel Range C	Drganics (DRO)	ND	1.0	mg/L	1	12/26/2006 8:59:07 PM
Motor Oil Rang	e Organics (MRO)	ND	5.0	mg/L	1	12/26/2006 8:59:07 PM
Surr: DNOP		112	58-140	%REC	1	12/26/2006 8:59:07 PM
EPA METHOD	8015B: GASOLINE RANG	E				Analyst: BDH
Gasoline Rang	e Organics (GRO)	ND	0.050	mg/L	1	12/26/2006 3:21:00 PM
Surr: BFB		118	79.2-121	%REC	1	12/26/2006 3:21:00 PM
EPA METHOD	8021B: VOLATILES					Analyst: BDH
Benzene		ND	1.0	µg/L	1	12/26/2006 3:21:00 PM
Toluene		ND	1.0	µg/L	1	12/26/2006 3:21:00 PM
Ethylbenzene		ND	1.0	µg/L	1	12/26/2006 3:21:00 PM
Xylenes, Total		ND	3.0	µg/L	1	12/26/2006 3:21:00 PM
Surr: 4-Brom	ofluorobenzene	88.5	70.2-105	%REC	1	12/26/2006 3:21:00 PM

Date: 27-Dec-06

Qualifiers:

*

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range

J Analyte detected below quantitation limits

- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

3/5

Page 3 of 3

Client: San Juan Ref	ining							
Project: GAC Analys	is 12/20/06						Wor	k Order: 0612243
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RI	^D Limit Qual
Method: SW8015								
Sample ID: MB-12026		MBLK			Batch I	D: 12026	Analysis Date:	12/26/2006 6:09:47 PM
Diesel Range Organics (DRO)	ND	mg/L	1.0					
Notor Oil Range Organics (MRO)	ND	mg/L	5.0					
ample ID: LCS-12026		LCS			Batch I	D: 12026	Analysis Date:	12/26/2006 6:43:52 PN
Diesel Range Organics (DRO)	5.628	mg/L	1.0	113	74	157		
Sample ID: LCSD-12026		LCSD			Batch I	D: 12026	Analysis Date:	12/27/2006 9:11:54 AM
Diesel Range Organics (DRO)	5.007	mg/L	1.0	100	74	157	11.7	23
Method: SW8015		<u> </u>			<u></u>			
Sample ID: 0612243-03A MSD		MSD			Batch	D: R21941	Analysis Date:	12/26/2006 6:51:30 PN
Gasoline Range Organics (GRO)	0.4660	mg/L	0.050	93.2	80	115	0.897	8.39
Sample ID: 5ml rb 2		MBLK			Batch		Analysis Date:	
Gasoline Range Organics (GRO)	ND	mg/L	0.050				, ,	
Sample ID: 2.5UG GRO LCS	ND	LCS	0.050		Batch	D: R21941	Analysis Date:	12/26/2006 1:48:26 PM
•	0 4590		0.050	04.6			rindiyola bata.	12/20/2000 1.10/2011
Gasoline Range Organics (GRO) Gample ID: 0612243-03A MS	0.4582	mg/L MS	0.050	91.6	80 Batch	115 ID: R21941	Analysis Date:	12/26/2006 6:21:27 PM
							Analysis Date.	12/20/2000 0.21.27 FM
Gasoline Range Organics (GRO)	0.4702	mg/L	0.050	94.0	80	115		
Method: SW8021								
Sample ID: 0612243-03A MSD		MSD			Batch	ID: R21941	Analysis Date:	12/26/2006 6:51:30 PM
Benzene	5.236	µg/L	1.0	105	85.9	113	1.18	27
Foluene	36.94	µg/L	1.0	97.2	86.4	113	0.249	19
Ethylbenzene	6.884	µg/L	1.0	98.3	83.5	118	1.21	10
Xylenes, Total	40.69	µg/L	3.0	99.2	83.4	122	1.06	13
Sample ID: 5ML RB		MBLK			Batch	ID: R21941	Analysis Date:	12/26/2006 10:13:56 AI
Benzene	ND	µg/L	1.0					
Toluene	ND	µg/L	1.0					
Ethylbenzene	ND	ից/լ	1.0					
Xylenes, Total	ND	µg/L	3.0					
Sample ID: 100NG BTEX LCS		LCS			Batch	ID: R21941	Analysis Date	12/26/2006 1:18:26 PI
Benzene	18.69	µg/L	1.0	93.4	85.9	113		
Toluene	18.54	µg/L	1.0	92.7	86.4	113		
Ethylbenzene	18.05	µg/L	1.0	90.2	83.5	118		
Xylenes, Total	54.61	µg/L	3.0	91.0	83.4	122		
Sample ID: 0612243-03A MS		MS			Batch		Analysis Date	12/26/2006 6:21:27 P
Benzene	5.298	µg/L	1.0	106	85. 9	113		
Toluene	37.03	μg/L	1.0	97.5	86.4	113		
Ethylbenzene	6.968	µg/L	1.0	99.5	83.5	118		
Xylenes, Total	41.12	μg/L	3.0	100	83.4	122		

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Snike recovery outside accepted recovery limits $4 \neq 5$

	Sample	Rece	eipt Ch	ecklist			
Client Name SJR				Date and Time	Received:		12/21/2006
Work Order Number 0612243	\bigcirc			Received by	AT		
Checklist completed by Signature	h	-	Date	12/21	104		
Matrix	Carrier name	<u>UPS</u>	<u>.</u>				
Shipping container/cooler in good condition?		Yes		No 🗌	Not Present		
Custody seals intact on shipping container/coole	r?	Yes	\checkmark	No 🗔	Not Present		Not Shipped
Custody seals intact on sample bottles?		Yes		No 🗹	N/A		
Chain of custody present?		Yes	\checkmark	No 🗌			
Chain of custody signed when relinquished and	received?	Yes		No 🗌			
Chain of custody agrees with sample labels?		Yes	\checkmark	No 🗌			
Samples in proper container/bottle?		Yes	\checkmark	No 🗌			
Sample containers intact?		Yes		No 🗌			
Sufficient sample volume for indicated test?		Yes		No 🗌			
All samples received within holding time?		Yes	\checkmark	No 🗌			
Water - VOA vials have zero headspace?	No VOA vials sub	mitted		Yes 🗹	No]	
Water - pH acceptable upon receipt?		Yes		No 🗌	N/A 🗹]	
Container/Temp Blank temperature?			2°	4° C ± 2 Accepta If given sufficien			
Client contacted	Date contacted:			Pers	son contacted		
Contacted by:	Regarding						
Comments: <u>per it</u>	colle An	-4	i Mal	kr G	ACI	ME	F 15 0915
							AT Black
							12/21/06
Corrective Action	,						· · · · · · · · · · · · · · · · · · ·
Corrective Action							
		Į	5/5				

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Albuquerque, New Mexico 87,109 Tel: 505,345,3975 Fax 505,345,4107 www.hallenvironmental.com	ANALYSIS REQUEST		(lesei) , SO ₄) (282)	0/sef 28) 2'{ 8) 2'{ 8) 2'{	15B ((18.1) 24.1) 21.10 21.1	178E + 104 80 104 80 104 80 104 80 104 90 104 br>100 100 100 100 100 100 100 100 1) M		XXX	X					Remarks:
QA/ QC Package. Std 🔲 Level 4 🔲 Other:	Project Name: (-AC ANA145is -17/20/00			Project Manager:	A	Samplier Hurhalio/Robert Kallow	Sample Tentperature: /	Number/Volume HgC1 ₂ HND ₃ HEAL No.	- VOA HC1	- VOA Hel - 2	- VOA -					Received By: (Signature) ///2///
CHAIN-OF-CUSTODY RECORD	Client: SAN JUAN REFINING	Address: #50 Road 4990	Bloomfield, NM	87413		Phone #: 505-632 + 4/6/	Fax#: 505-632-3911	Date Time Matrix Sample I.D. No.	Ralow Gar Had GAG INF	1 423	9371 CAC 2EFF					Date: Time: Relinquished Byl (Signature) 12 20 VV 945A Www (MAATAAC Date: Time: Relinquished By: (Signature)

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COVER LETTER

Thursday, January 04, 2007

Cindy Hurtado San Juan Refining #50 CR 4990 Bloomfield, NM 87413

TEL: (505) 632-4161 FAX (505) 632-3911

RE: GAC - 12/27/06

Dear Cindy Hurtado:

Order No.: 0612288

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 12/28/2006 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

NM Lab # NM9425 AZ license # AZ0682 ORELAP Lab # NM100001



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

CLIENT:	San Juan Refining			CI	ient Sample ID:	GAC	1 Eff			
Lab Order:	0612288			. (Collection Date:	12/27/2006 9:30:00 AM 12/28/2006				
Project:	GAC - 12/27/06				Date Received:					
Lab ID:	0612288-01				Matrix:	AQUI	EOUS			
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed			
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC			
Diesel Range O	rganics (DRO)	• ND	1.0		mg/L	1	1/3/2007 11:14:39 AM			
Motor Oil Range	e Organics (MRO)	ND	5.0		mg/L	1	1/3/2007 11:14:39 AM			
Surr: DNOP		85.9	58-140		%REC	1	1/3/2007 11:14:39 AM			
EPA METHOD	8015B: GASOLINE RAN	GE					Analyst: LMM			
Gasoline Range	organics (GRO)	ND	0.050		mg/L	1	12/28/2006 6:24:56 PM			
Surr: BFB		102	79.2-121		%REC	1	12/28/2006 6:24:56 PM			
EPA METHOD	8021B: VOLATILES						Analyst: LMM			
Benzene		ND	1.0		μg/L	1	12/28/2006 6:24:56 PM			
Toluene		ND	1.0		µg/L	1	12/28/2006 6:24:56 PM			
Ethylbenzene		ND	1.0		µg/L	1	12/28/2006 6:24:56 PM			
Xylenes, Total		ND	3.0		µg/∟	1	12/28/2006 6:24:56 PM			
Surr: 4-Brom	oliuorobenzene	81.2	70.2-105		%REC	1	12/28/2006 6:24:56 PM			

Date: 04-Jan-07

- * Value exceeds Maximum Contaminant Level
- Ε Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit 5
 - Spike recovery outside accepted recovery limits
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level RL
 - **Reporting Limit**



Client:

San Juan Refining GAC - 12/27/06

Project: GAC - 12/27						Work Order: 0612288
Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPDLimit Qual
Method: SW8015						
Sample ID: MB-12052		MBLK			Batch ID: 12052	Analysis Date: 1/3/20079:32:38 AM
Diesel Range Organics (DRO)	ND	mg/L	1.0			
Motor Oil Range Organics (MRO)	ND	mg/L	5.0			
Sample ID: LCS-12052		LCS			Batch ID: 12052	2 Analysis Date: 1/3/20079:55:51 AM
Diesel Range Organics (DRO)	4.986	mg/L	1.0	99.7	74 157	
Sample ID: LCSD-12052		LCSD			Batch ID: 12052	2 Analysis Date: 1/3/2007 10:40:34 AM
Diesel Range Organics (DRO)	5.550	mg/L	1.0	111	74 157	10.7 23
Method: SW8015						
Sample ID: 5ML RB		MBLK			Batch ID: R21975	5 Analysis Date: 12/28/20069:42:29 AM
Gasoline Range Organics (GRO)	ND	mg/L	0.050			
Sample ID: 2.5UG GRO LCS		LCS			Batch ID: R21975	Analysis Date: 12/28/2006 12:00:56 PM
Gasoline Range Organics (GRO)	0,4874	mg/L	0.050	97.5	80 115	-
Sample ID: 2.5UG GRO LCSD	0,.0, ,	LCSD	01000	0110	Batch ID: R21975	5 Analysis Date: 12/28/20064:22:08 PM
Gasoline Range Organics (GRO)	0.4836	mg/L	0.050	96.7	80 115	0.783 8.39
~ <u>~</u> ~						
Method: SW8021		UDI K			Datab ID: 02107	5 Analysis Date: 12/28/20069:42:29 AM
Sample ID: 5ML RB		MBLK			Batch ID: R2197	5 Analysis Date: 12/28/20069:42:29 AM
Benzene	ND	µg/∟	1.0			
Toluene	ND	hð\r	1.0			
Ethylbenzene	ND	µg/L	1.0			
Xylenes, Total Sample ID: 100NG BTEX LCS	ND	μg/L LCS	3.0		Batch ID: R2197	5 Analysis Date: 12/28/2006 11:30:42 AM
Benzene	18.08	µg/L	1.0	90.4	85.9 113	
Toluene .	18.48	hð\r	1.0	92.4	86.4 113	
Ethylbenzene Malazza Tabl	18.09	hðyr H	1.0	90.4	83.5 118 83.4 122	
Xylenes, Total	55.05	μg/L	3.0	91.8		5 Analysis Date: 12/28/20063:51:55 PM
Sample ID: 100NG BTEX LCSD		LCSD				, ,
Benzene	17.77	µg/∟	1.0	88.8	85.9 113	1.72 27
Toluene	17.59	µg/L	1.0	87.9	B6.4 113	4.94 19
Ethylbenzene	17.33	µg/L	1.0	86.7	83.5 118	4.28 10
Xylenes, Total	52.35	µg/∟	3.0	87.3	83.4 122	5.02 13

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

5 Spike recovery outside accepted recovery limits

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	Sample I	Recei	ipt Cheo	cklist				
Client Name SJR				Date and Time	Received:		12/2	8/2006
Work Order Number 0612288	_			Received by	GLS			
Checklist completed by	uppe		Date	28-06				
Matrix	Carrier name	<u>UPS</u>						
Shipping container/cooler in good condition?		Yes			Not Present			
Custody seals intact on shipping container/cooler	?	Yes			Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗖	N/A			
Chain of custody present?		Yes	\checkmark	No 🗆				
Chain of custody signed when relinquished and re	eceived?	Yes						
Chain of custody agrees with sample labels?		Yes	\checkmark	No 🗔				
Samples in proper container/bottle?		Yes		No 🗆				
Sample containers intact?		Yes	\checkmark	No 🗆				
Sufficient sample volume for indicated test?		Yes						
All samples received within holding time?		Yes		No 🗔				
Water - VOA vials have zero headspace?	No VOA vials subm	itted		Yes 🗹	No 🗆			
Water - pH acceptable upon receipt?		Yes		No 🗆	N/A 🗹			
Container/Temp Blank temperature?				4°C±2Accepta If given sufficien				
COMMENTS:								
			====	 				
Client contacted	Date contacted:			Pen	son contacted			
Contacled by:	Regarding							
Comments:							<u></u>	
·								
Corrective Action		.			<u></u>	<u></u>		
		3	/3	· .				

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	HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D		YSIS REQUEST				804/	OA) cicides (AO	M 8 Af3 iroin 1299 1 80 1299 1 80 1980 1 (Set 1987 0 (Set	1A 18 18								
			ANALYSIS	۱ږ) ۱	ne Or	lose2)	1991 - 1998 (C 1997 - 1997 381 08 bor 12 bor 13 bor 18 bor	310 (ЫЛ DC (Мер DB (Мер DH (Мер DH (Мер LEX + М	13 13 11 11 11 8								Remarks:	
•	QA/ QC Package: Std 🔲 Level 4 🗍 Other:	Project Name: OAC - 12/27/bb	Project #:		Project Manager:	Cindy Hutedo	same Krakow	Sample Temperature:	- Live	Hgui ₂ Mivu ₃	3-Vult IIL							Received By: (Signature) 12-2.9-0.6
	CHAIN-OF-CUSTODY RECORD	Client: AN Then Rolman	R/1990	Plonnfald NM 87413			Phone # 505-632 - 416 1	33-39/1	Matrix Sample I.D. No.	V	1420) (jAC / E++		•				<	Relinquished By: (Signature)
)	CHAIN-OI	Client: ANJ W	Address: #522 R/ U/990	Plonin			Phone #:505	Fax #: CDS-633-39/1	Date	Ver 1 1	ANCH O MERCIE							Date: 1 Time: 2024 0127 Date: 1 Time: