GW - 1

REPORTS

YEAR(S):

2006

NORTH BOUNDARY BARRIER COLLECTION SYSTEM
PHASE II
ANNUAL REPORT – MAY 2005 to May 2006
SAN JUAN REFINING COMPANY GIANT - BLOOMFIELD

SAN JUAN REFINING COMPANY
GIANT - BLOOMFIELD REFINERY
SUBMITTED: JUNE 2006

GIANT
REFINING COMPANY

June 28, 2006

Hope Monzeglio
New Mexico Environmental Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Bldg 1
Santa Fe, NM 87505

Wayne Price
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Dr
Santa Fe, NM 87505

Re: Annual Report of the North Boundary Barrier Collection System
Phase II
May 2005 to May 2006

Dear Hope and Wayne,

Giant Refining Company, Bloomfield Refinery submits the Annual Report for the North Boundary Barrier Collection System as requested by NMED. This report summarizes data gathered from the Observation and Collection wells from May 2005 to May 2006.

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

Sincerely,

James R. Schmaltz
Environmental Manager
San Juan Refining Company
Bloomfield Refinery

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

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BLOOMFIELD
NEW MEXICO
87413

NORTH BOUNDARY BARRIER COLLECTION SYSTEM
PHASE II
ANNUAL REPORT

May 2005 through May 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:	June 28, 2006	

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Section 1.0 Executive Summary

Executive Summary

The North Boundary Barrier Wall Collection System was completed in early 2005. The primary purpose of the wall and collection system was to prevent the flow of hydrocarbon-impacted groundwater to the San Juan River. The wall and the collection wells were designed to accumulate fluids in the depressions or troughs of the Naciemento Formation.

Collection wells, located on the plant-side of the barrier, were installed with six-inch diameter PVC well casing and slotted screen. The spacing of the wells (~300 feet between Collection Wells) captures groundwater/SPH behind the barrier preventing build up of fluids. Observation wells, with two inch diameter PVC well casing, were installed adjacent to and 5 to 10 feet downgradient of the wall to allow monitoring of fluid levels.

Monitoring of fluids levels on both sides of the barrier wall consisted of measuring the Depth to Water and Depth to Product in accordance with the schedule provided by NMED through the first three months. In order to monitor the effectiveness of the barrier, Giant continues to measure all Observation and Collection Wells twice per month.

Using a vacuum truck, groundwater and separate phase hydrocarbon has been removed from the Collection Wells on a 3X per week basis since May 2005. Fluid extraction from the Observation Wells occurred on a monthly basis until September 2005. At that time, the schedule was modified to implement fluids extraction from all Collection Wells, Observation Wells, MW #45, MW #46, and MW #47 on a 3X per week basis. All fluids removed from the collection system are disposed of through the refinery wastewater system.

At the request of NMED, initial groundwater samples from all Observation and Collection Wells that do not contain separate phase hydrocarbon were taken in May 2005. A second round of sampling was completed in August 2005. Semi-Annual sampling occurred in April 2006. The collected data will establish a baseline to identify what contaminant concentrations are present. An unforeseen detection of mercury was reported in CW 0+60 August 2005 results. The well was re-sampled in October 2005 and again in April 2006. Both results were <0.0002 mg/l.

In February 2006, seven sump wells (SW1-0206 to SW7-0206) were installed in accordance with the North Barrier Wall Work Plan which was submitted to OCD February 7, 2006. These wells were constructed to aid in assessing the groundwater hydraulics north of the barrier and to allow for removal of perched groundwater on the Naciemento Formation.

After well development, baseline analysis was performed on four of the seven wells. All seven sump wells have been included in the bi-weekly fluid measurement schedule established for the North Boundary Collection System.

Inspections of the draws north of the barrier wall indicate that the barrier wall is preventing migration of contaminated groundwater toward the San Juan River. Since installation of the barrier wall, all previous areas where seepage of fuel hydrocarbon impacted water was present have been reduced or eliminated. Monitoring results show groundwater levels have not risen significantly in the Collection Wells following fluids removal.

Fluid level measurements from August 2005 and April 2006 were used to produce water table potentiometric surface maps as well as product thickness maps. The maps indicate that the barrier wall and the fluid collection system are effective at impeding the flow of hydrocarbon impacted groundwater to the San Juan River.

Section 2.0 Introduction

INTRODUCTION

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: #50 Rd 4990 Bloomfield, New Mexico 87413	(physical address)
Facility Status	Corrective Action/Compliance	
US EPA ID	NMD089416416	
SIC Code	2911	
Purpose of Groundwater Monitoring:	To Evaluate the North Boundary Barrier and Collection System	
Type of Groundwater Monitoring:	Baseline, Semi-Annual and Annual	

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 well-defined 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 NORTH BOUNDARY BARRIER, COLLECTION SYSTEM, AND MONITORING PLAN

2002

A concrete liner was installed on the Hammond Ditch. At that time, Giant constructed the Hammond Ditch French Drain Recovery System to address contamination under the ditch.

2003

Converted several monitoring wells into recovery wells to further enhance the continuing ground water remediation efforts. Installed MW #45, #46 & #47 to replace unreliable seeps. Installed East Outfall #1 Recovery System to return impacted water back to the refinery.

2004

Initiated 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. Construction will begin in 2005.

2005

Barrier wall construction was completed in March. Collection and Observation Wells were installed in April.
Collection Wells consist of six-inch diameter PVC well casing and slotted screen. The depth of each well was dependent on the depth to the top of the Naciemento Formation of each well location. Observation Wells consist of two-inch diameter PVC well casing and slotted screen. The well depths are similar to the Collection Wells.
Baseline sampling occurred in May and Annual sampling was conducted in August.
As a matter of preventive maintenance, containments in the outfalls/draws north of the barrier wall were upgraded in November and December of 2005.

2006

In February, seven sump wells were installed along the bluff north of the barrier wall. These wells were drilled in accordance with the North Barrier Wall Work Plan which was submitted to OCD February 7, 2006. After well development, baseline analysis was conducted on four of the seven wells.
Phase II semi-annual sampling occurred in April.

Section 3.0 Scope of Activities

Scope of Activities

Installation of the North Boundary Barrier (barrier), the collection well system located behind the barrier, and the down gradient observation wells were completed by late April 2005 per OCD specifications. Beginning May 9, 2005, fluids were measured in the collection and observation wells and in specified monitoring wells twice a week for seven weeks. From June, 28, 2005 through August 11, 2005, fluids were measured on a weekly basis. A bi-weekly fluid measurement scheme was established on August 23, 2005 and continues. The Groundwater Elevation and Depth to Water tables from May 2005 to October 2005 were submitted to the regulatory agencies January 5, 2006 in the System Start-Up Six Month Report of the North Boundary Barrier Collection System Phase II.

All Monitoring Wells, Recovery Wells, Observation Wells, Collections Wells, and Sump Wells were resurveyed in February 2006. All Measuring Point Elevations were updated with the 2006 survey for this report. The October 2005 to May 2006 Groundwater Elevation and Depth to Water tables are located in Section 5.0. Measurement of water and product levels was taken 48 hours after any extraction of separate phase hydrocarbon and water from the wells.

RW #1, RW #9, RW #22, and RW #28 are active recovery wells and were not measured. MW #24 was designed for air sparging and does not accommodate monitoring.

Initial groundwater sample collection occurred during the week of May 9, 2005. Samples were analyzed for benzene, toluene, ethylbenzene, and xylene (BTEX) using EPA Method 8021B, RCRA Metals using EPA Methods 6010C and 7470, and general chemistry using EPA Method 300. Field measurements of total dissolved solids (TDS), conductivity, temperature, dissolved oxygen, and pH were taken as well.

The second round of sampling took place during the week of August 15, 2005 following the same parameters as the initial event. CW 0+60 was re-sampled in October 2005 due to an unexpected detection of Mercury. A summary of the 2005 analytical results was submitted to the regulatory agencies January 5, 2006 in the System Start-Up Six Month Report of the North Boundary Barrier Collection System Phase II.

During the week of February 13, 2006 seven sump wells were installed along the bluff north of the barrier wall. These wells were drilled in accordance with the North Barrier Wall Work Plan which was submitted to OCD February 7, 2006. Initial fluid measurement occurred the week of February 22, 2006 and continued on a weekly basis throughout March 2006. Beginning in April 2006, the sump wells have been included in the bi-weekly fluid measurement scheme established for the North Boundary Barrier Collection System. Groundwater Elevation and Depth to Water tables can be found in Section 5.0.

A Photo Ionization Detector (PID) was utilized during drilling. Soil samples were placed in a sealed plastic bag and readings were taken on the head space in the sample bags. PID readings are presented on the boring logs located in Section 11.0. Installation diagrams are also in Section 11.0. Location of the sump wells is included in the facility map in Section 9.0.

After well development, baseline analysis was performed on SW3-0206, SW4-0206, SW5-0206, and SW7-0206. SW1-0206 and SW2-0206 are dry and SW6-0206 contains separate phase hydrocarbon and therefore were not sampled. Baseline analysis summaries can be found in Section 6.0 with analytical reports in Section 13.0.

Semi-Annual sample collection occurred during the week of April 3, 2006. Samples were analyzed for benzene, toluene, ethylbenzene, xylene (BTEX), and MTBE using EPA Method 8021B. Field measurements of total dissolved solids, pH, temperature, and conductivity were also taken. BTEX and field measurements for all three sampling events are summarized in Section 6.0 with the 2006 analytical reports in Section 13.0

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, well volumes were calculated.

At least three well volumes were purged from each well prior to sampling. Electrical conductance, total dissolved solids (TDS), pH, and temperature 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.

All purged water was collected in a fifty-five gallon drum and disposed of through the refinery wastewater system.

Section 4.0 Regulatory Criteria / Groundwater Cleanup Standards

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		tt		
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				0.08
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 (mrem/yr) **		4	Zero	

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	1 (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			

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	tox			0.02
2,4-dinitro-o-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			
benz(a)anthracene		0.0001 (p)	Zero	
benzo(a)pyrene	0.0007	0.0002	Zero	
benzo(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 HA (ppm)
fluoranthene	tox			
fluorene	tox			
indeno(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

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	
dichloropropenes	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 (diethylene 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				

PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
Nitrosamines				
N-nitrosodiethylamine	tox			
N-nitrosodimethylamine (NDMA)	tox			
N-nitrosodibutylamine	tox			
N-nitrosodiphenylamine	tox			
N-nitrosopyrrolidine	tox			
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
HMX				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

PARAMETER	NEW MEXICO (ppm)	EPA MCL (ppm)	EPA MCLG (ppm)	EPA HA (ppm)
dibromoacetonitrile				0.02
dichloroacetic acid				0.003
dichloroacetonitrile				0.006
dichlorobenzidine	tox			
di(2-ethylhexyl)adipate		0.4	0.4	
diisopropyl methylphosphonate				0.6
epichlorohydrin (1-chlor-2,3-epoxypropane)		tt	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
Other Pesticides				
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
carbaryl				0.7
carbofuran		0.04	0.04	

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 (ppm)	EPA HA (ppm)
alpha-BHC	tox			
beta-BHC	tox			
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
picloram		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-trichlorophenoxyacetic 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

Abbreviations

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

DDE 1,1'-(2,2-dichloroetheneylidene) -bis/4-chlorobenzene
HA Health Advisory
HMX octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine
MCL Maximum Contaminant Level
MCLG Maximum Contaminant Level Goal
mg/L milligrams per liter
mrem/yr millirem per year
mrem 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
tt 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).

Section 5.0 Groundwater Elevation Measurements

Groundwater Elevation Information

All Monitoring Wells, Recovery Wells, Observation Wells, Collections Wells. And Sump Wells were resurveyed in February 2006. All Measuring Point Elevations were updated with the 2006 survey for this report.

The following equations were used to calculate "Corrected Groundwater Elevation":

(1) Separate Phase Hydrocarbon not detected=
MPE– DTW

(2) Separate Phase Hydrocarbon detected=
MPE – DTW+ (DTW – DTP X 0.8)

Separate Phase Hydrocarbon Thickness = DTW - DTP

MPE = Measuring Point Elevation
DTW = Depth to Water
DTP = Dept to Product

Groundwater Elevation

Date	Well ID	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
4/13/2006	MW-01	5519.21	21.56	NPP	17.23	5501.98	NPP
8/15/2005		5519.21	21.56	NPP	17.98	5501.23	NPP
4/12/2006	MW-03	5539.27	36.75	NPP	36.19	5503.08	NPP
8/10/2005		5539.27	36.75	NPP	36.44	5502.83	NPP
4/19/2006	MW-04	5527.78	30.48	26.78	26.79	5501.00	0.01
8/11/2005		5527.78	30.48	27.17	27.4	5500.56	0.23
4/13/2006	MW-05	5548.56	37.2	NPP	NWP		NPP
8/16/2005		5548.56	37.2	NPP	NWP		NPP
4/13/2006	MW-06	5554.61	48	NPP	NWP		NPP
8/16/2005		5554.61	48	NPP	NWP		NPP
4/12/2006	MW-07	5527.66	62.61	NPP	27.8	5499.86	NPP
8/11/2005		5527.66	62.61	NPP	27.8	5499.86	NPP
4/12/2006	MW-08	5534.58	35.93	NPP	31.66	5502.92	NPP
8/10/2005		5534.58	35.93	NPP	32.82	5501.76	NPP
4/17/2006	MW-11	5510.31	22.94	NPP	11.11	5499.20	NPP
8/15/2005		5510.31	22.94	NPP	11.76	5498.55	NPP
4/5/2006	MW-12	5501.61	14.98	NPP	9.68	5491.93	NPP
8/8/2005		5501.61	14.98	NPP	12.35	5489.26	NPP
4/12/2006	MW-13	5542.04	52.89	NPP	40.09	5501.95	NPP
8/10/2005		5542.04	52.89	NPP	40.4	5501.64	NPP
4/19/2006	MW-20	5519.9	27.13	20.69	20.76	5499.20	0.07
8/11/2005		5519.9	27.13	20.88	21.12	5498.97	0.24
4/13/2006	MW-21	5521.99	30.38	21.79	21.84	5500.19	0.05
8/11/2005		5521.99	30.38	21.96	21.97	5500.03	0.01
4/20/2006	MW-25	5533.99	41.2	32.42	32.67	5501.52	0.25
8/11/2005		5533.99	41.2	32.67	33.09	5501.24	0.42
4/11/2006	MW-26	5517.88	25.11	NPP	17.06	5500.82	NPP
8/10/2005		5517.88	25.11	NPP	17.9	5499.98	NPP
4/10/2006	MW-27	5518.67	24.42	NPP	18.38	5500.29	NPP
8/10/2005		5518.67	24.42	NPP	19.67	5499.00	NPP

NPP = No Product Present NWP = No Water Present

Groundwater Elevation

Date	Well ID	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
4/13/2006	MW-29	5524.97	28.62	NPP	23.01	5501.96	NPP
8/11/2005		5524.97	28.62	23.06	23.07	5501.91	0.01
4/17/2006	MW-30	5536.83	40.13	NPP	33.69	5503.14	NPP
8/11/2005		5536.83	40.13	NPP	33.9	5502.93	NPP
4/10/2006	MW-31	5536.24	39.16	NPP	33.79	5502.45	NPP
8/16/2005		5536.24	39.16	NPP	34.07	5502.17	NPP
4/6/2006	MW-32	5525.64	27.51	NPP	24.65	5500.99	NPP
8/10/2005		5525.64	27.51	NPP	35.34	5490.30	NPP
4/10/2006	MW-33	5521.79	25.51	NPP	22.02	5499.77	NPP
8/9/2005		5521.79	25.51	NPP	22.64	5499.15	NPP
4/5/2006	MW-34	5511.63	20.96	NPP	13.77	5497.86	NPP
8/9/2005		5511.63	20.96	NPP	14.37	5497.26	NPP
4/5/2006	MW-35	5518.95	26.45	NPP	21.24	5497.71	NPP
8/9/2005		5518.95	26.45	NPP	23.9	5495.05	NPP
4/5/2006	MW-36	5516.95	23.26	NPP	20.62	5496.33	NPP
8/9/2005		5516.95	23.26	NPP	21.57	5495.38	NPP
4/5/2006	MW-37	5519.62	27.58	NPP	23.23	5496.39	NPP
8/9/2005		5519.62	27.58	NPP	24.2	5495.42	NPP
4/6/2006	MW-38	5519.19	26.82	NPP	23.49	5495.70	NPP
8/9/2005		5519.19	26.82	NPP	25.13	5494.06	NPP
4/11/2006	MW-39	5520.83	38.34	NPP	25.21	5495.62	NPP
8/15/2005		5520.83	38.34	NPP	27.43	5493.40	NPP
4/20/2006	MW-40	5527.31	30.07	27.32	27.66	5499.92	0.34
8/15/2005		5527.31	30.07	27.62	27.72	5499.67	0.10
4/20/2006	MW-41	5526.41	31.62	25.97	26.18	5500.40	0.21
8/15/2005		5526.41	31.62	26.7	27.15	5499.62	0.45
4/13/2005	MW-44	5535.44	50.91	NPP	33.76	5501.68	NPP
8/11/2005		5535.44	50.91	34.59	34.6	5500.85	0.01
4/3/2006	MW-45	5506.36	16.92	11.3	11.34	5495.05	0.04
8/11/2005		5506.36	16.92	11.07	11.9	5495.12	0.83

NPP = No Product Present NWP = No Water Present

Groundwater Elevation

Date	Well ID	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
4/3/2006	MW-46	5504.65	10.39	NPP	NWP		NPP
8/15/2005		5504.65	10.39	NPP	10.19	5494.46	NPP
4/3/2006	MW-47	5506.77	14.28	12.05	12.84	5494.56	0.79
8/11/2005		5506.77	14.28	12.4	12.51	5494.35	0.11
4/20/2006	P-03	5510.77	22.73	NPP	10.65	5500.12	NPP
8/16/2005		5510.77	22.73	NPP	10.27	5500.50	NPP
4/20/2006	RW-01	5529.34	40.8	30.12	30.14	5499.22	0.02
8/16/2005		5529.34	40.8	30.14	30.15	5499.20	0.01
4/20/2006	RW-02	5526.94	35.86	26.02	26.03	5500.92	0.01
8/16/2005		5526.94	35.86	26.38	26.39	5500.56	0.01
4/17/2006	RW-03	5520.35	34.57	NPP	21.14	5499.21	NPP
8/15/2005		5520.35	34.57	21.73	21.74	5498.62	0.01
4/19/2006	RW-09	5523.21	34.04	24.41	24.55	5498.77	0.14
8/16/2005		5523.21	34.04	25.28	25.45	5497.90	0.17
4/17/2006	RW-14	5537.5	41.94	NPP	34.86	5502.64	NPP
8/15/2005		5537.5	41.94	NPP	35.04	5502.46	NPP
4/18/2006	RW-15	5536.83	43.43	34.56	34.57	5502.27	0.01
8/15/2005		5536.83	43.43	34.72	34.73	5502.11	0.01
4/20/2006	RW-16	5535.45	41.48	NPP	33.61	5501.84	NPP
8/16/2005		5535.45	41.48	33.82	33.84	5501.63	0.02
4/18/2006	RW-17	5533.84	41.89	32.7	32.72	5501.14	0.02
8/16/2005		5533.84	41.89	32.98	33.06	5500.84	0.08
4/18/2006	RW-18	5529.38	37.58	28.97	30.38	5500.13	1.41
8/16/2005		5529.38	37.58	NPP	29.24	5500.14	NPP
4/18/2006	RW-19	5530.51	36.64	29.73	29.84	5500.76	0.11
8/15/2005		5530.51	36.64	30.02	30.09	5500.48	0.07

NPP = No Product Present NWP = No Water Present

Groundwater Elevation

Date	Well ID	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
4/18/2006	RW-22	5524.44	35.6	25	25.01	5499.44	0.01
8/16/2005		5524.44	35.6	NPP	25.71	5498.73	NPP
4/18/2006	RW-23	5521.38	35.53	23.15	23.16	5498.23	0.01
8/16/2005		5521.38	35.53	23.33	23.44	5498.03	0.11
4/18/2006	RW-28	5527.93	36.99	28.11	28.46	5499.75	0.35
8/16/2005		5527.93	36.99	28.65	29.06	5499.20	0.41
4/18/2006	RW-42	5527.48	32.02	26.69	27.19	5500.69	0.50
8/16/2005		5527.48	32.02	26.9	27.44	5500.47	0.54
4/18/2006	RW-43	5515.74	24.03	20.3	20.54	5495.39	0.24
8/16/2005		5515.74	24.03	20.55	20.8	5495.14	0.25

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring October 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	10/4/2005	5506.62	12.26	11.50	11.54	5495.11	0.04
	10/18/2005	5506.62	12.26	11.27	11.3	5495.34	0.03
OW 1+50	10/4/2005	5508.03	14.36	13.30	13.35	5494.72	0.05
	10/18/2005	5508.03	14.36	12.60	12.61	5495.43	0.01
OW 3+85	10/4/2005	5507.31	15.06	12.53	13.24	5494.64	0.71
	10/18/2005	5507.31	15.06	12.16	12.18	5495.15	0.02
OW 5+50	10/4/2005	5507.59	13.67	13.32	NWP	5496.93	0.35
	10/18/2005	5507.59	13.67	13.17	NWP	5497.05	0.50
OW 6+70	10/4/2005	5504.78	14.67	NPP	NWP		NPP
	10/18/2005	5504.78	14.67	NPP	NWP		NPP
OW 8+10	10/4/2005	5506.53	15.99	NPP	NWP		NPP
	10/18/2005	5506.53	15.99	NPP	NWP		NPP
OW 11+ 15	10/4/2005	5506.70	16.59	NPP	11.41	5495.29	NPP
	10/18/2005	5506.70	16.59	NPP	11.32	5495.38	NPP
OW 14+ 10	10/4/2005	5508.14	12.96	12.80	12.82	5495.34	0.02
	10/18/2005	5508.14	12.96	12.73	12.76	5495.40	0.03
OW 16+ 60	10/4/2005	5508.43	15.21	12.52	12.97	5495.82	0.45
	10/18/2005	5508.43	15.21	12.53	12.69	5495.87	0.16

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring October 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 19+ 50	10/4/2005	5508.03	13.00	NPP	12.79	5495.24	NPP
	10/18/2005	5508.03	13.00	NPP	12.67	5495.36	NPP
OW 22+ 00	10/4/2005	5506.91	14.16	NPP	11.22	5495.69	NPP
	10/18/2005	5506.91	14.16	NPP	11.31	5495.60	NPP
OW 23+ 10	10/4/2005	5514.12	18.34	NPP	16.26	5497.86	NPP
	10/18/2005	5514.12	18.34	NPP	16.06	5498.06	NPP
OW 23+ 90	10/4/2005	5515.18	18.01	NPP	17.1	5498.08	NPP
	10/18/2005	5515.18	18.01	NPP	16.98	5498.20	NPP
OW 25+ 70	10/4/2005	5509.00	13.98	NPP	10.71	5498.29	NPP
	10/18/2005	5509.00	13.98	NPP	10.73	5498.27	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring October 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	10/4/2005	5506.68	14.09	NPM	7.87	5498.81	NPM
	10/18/2005	5506.68	14.09	NPM	7.93	5498.75	NPM
CW 1+50	10/4/2005	5505.13	13.74	NPM	6.17	5498.96	NPM
	10/18/2005	5505.13	13.74	NPM	6.21	5498.92	NPM
CW 3+85	10/4/2005	5503.87	13.11	NPM	5.43	5498.44	NPM
	10/18/2005	5503.87	13.11	NPM	5.45	5498.42	NPM
CW 5+50	10/4/2005	5503.76	12.27	NPM	6.17	5497.59	NPM
	10/18/2005	5503.76	12.27	NPM	6.70	5497.06	NPM
CW 6+70	10/4/2005	5503.84	11.45	NPM	6.70	5497.14	NPM
	10/18/2005	5503.84	11.45	NPM	6.70	5497.14	NPM
CW 8+10	10/4/2005	5504.02	11.63	NPM	7.24	5496.78	NPM
	10/18/2005	5504.02	11.63	NPM	7.19	5496.83	NPM
CW 8+45	10/4/2005	5503.80	12.6	7.20	7.34	5496.57	0.14
	10/18/2005	5503.80	12.6	7.00	7.29	5496.74	0.29
CW 11+ 15	10/4/2005	5503.95	12.27	NPM	5.85	5498.10	NPM
	10/18/2005	5503.95	12.27	NPM	5.82	5498.13	NPM
CW 14+ 10	10/4/2005	5504.39	13.05	NPM	6.47	5497.92	NPM
	10/18/2005	5504.39	13.05	NPM	6.44	5497.95	NPM

NPM = No Product Measured NWM = No Water Measured

Collection Well Fluids Monitoring October 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 16+ 60	10/4/2005	5504.32	12.86	NPM	6.4	5497.92	NPM
	10/18/2005	5504.32	12.86	NPM	6.27	5498.05	NPM
CW 19+ 50	10/4/2005	5504.52	9.99	NPM	6.37	5498.15	NPM
	10/18/2005	55004.52	9.99	NPM	6.32	54998.20	NPM
CW 22+ 00	10/4/2005	5508.04	12.34	NPM	9.22	5498.82	NPM
	10/18/2005	5508.04	12.34	NPM	9.18	5498.86	NPM
CW 23+ 10	10/4/2005	5510.04	14.65	NPM	10.82	5499.22	NPM
	10/18/2005	5510.04	14.65	NPM	10.83	5499.21	NPM
CW 23+ 90	10/4/2005	5507.32	11.72	NPM	8.32	5499.00	NPM
	10/18/2005	5507.32	11.72	NPM	8.34	5498.98	NPM
CW 25+ 95	10/4/2005	5505.90	12.25	NPM	7.23	5498.67	NPM
	10/18/2005	5505.90	12.25	NPM	7.25	5498.65	NPM

NPM = No Product Measured NWM = No Water Measured

Monitoring Well Fluids Monitoring October 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	10/4/2005	5510.31	22.94	NPM	11.78	5498.53	NPM
	10/18/2005	5510.31	22.94	NPM	11.81	5498.50	NPM
MW #12	10/4/2005	5501.61	14.98	NPM	12.13	5489.48	NPM
	10/18/2005	5501.61	14.98	NPM	12.25	5489.36	NPM
MW #20	10/4/2005	5519.90	27.13	20.80	21.00	5499.06	0.20
	10/18/2005	5519.90	27.13	20.78	21.04	5499.07	0.26
MW #21	10/4/2005	5521.99	30.38	21.98	21.99	5500.01	0.01
	10/18/2005	5521.99	30.38	21.97	21.98	5500.02	0.01
MW #39	10/4/2005	5520.83	38.34	NPM	26.12	5494.71	NPM
	10/18/2005	5520.83	38.34	NPM	26.06	5494.77	NPM
MW #45	10/4/2005	5506.36	16.92	11.31	11.78	5494.96	0.47
	10/18/2005	5506.36	16.92	11.26	11.73	5495.01	0.47
MW #46	10/4/2005	5504.65	10.39	NPM	10.31	5494.34	NPM
	10/18/2005	5504.65	10.39	NPM	10.21	5494.44	NPM
MW #47	10/4/2005	5506.77	14.28	11.94	12.84	5494.65	0.90
	10/18/2005	5506.77	14.28	11.87	12.53	5494.77	0.66

NPM = No Product Measured NWM = No Water Measured

Observation Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	11/1/2005	5506.62	12.26	NPP	9.84	5496.78	NPP
	11/15/2005	5506.62	12.26	NPP	10.17	5496.45	NPP
	11/29/2005	5506.62	12.26	NPP	10.71	5495.91	NPP
OW 1+50	11/1/2005	5508.03	14.36	NPP	11.54	5496.49	NPP
	11/15/2005	5508.03	14.36	NPP	11.93	5496.10	NPP
	11/29/2005	5508.03	14.36	NPP	12.16	5495.87	NPP
OW 3+85	11/1/2005	5507.31	15.06	11.35	11.36	5495.96	0.01
	11/15/2005	5507.31	15.06	11.60	11.61	5495.71	0.01
	11/29/2005	5507.31	15.06	11.77	11.79	5495.54	0.02
OW 5+50	11/1/2005	5507.59	13.67	12.62	13.46	5494.80	0.84
	11/15/2005	5507.59	13.67	12.82	12.93	5494.75	0.11
	11/29/2005	5507.59	13.67	13.47	13.48	5494.12	0.01
OW 6+70	11/1/2005	5504.78	14.67	NPP	NWP		NPP
	11/15/2005	5504.78	14.67	NPP	NWP		NPP
	11/29/2005	5504.78	14.67	NPP	NWP		NPP
OW 8+10	11/1/2005	5506.53	15.99	NPP	NWP		NPP
	11/15/2005	5506.53	15.99	NPP	NWP		NPP
	11/29/2005	5506.53	15.99	NPP	NWP		NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 11+ 15	11/1/2005	5506.70	16.59	NPP	11.01	5495.69	NPP
	11/15/2005	5506.70	16.59	NPP	11.2	5495.50	NPP
	11/29/2005	5506.70	16.59	11.32	11.33	5495.38	0.01
OW 14+ 10	11/1/2005	5508.14	12.96	NPP	12.88	5495.26	NPP
	11/15/2005	5508.14	12.96	NPP	12.91	5495.23	NPP
	11/29/2005	5508.14	12.96	NPP	NWP		NPP
OW 16+ 60	11/1/2005	5508.43	15.21	12.40	12.67	5495.98	0.27
	11/15/2005	5508.43	15.21	13.42	13.63	5494.97	0.21
	11/29/2005	5508.43	15.21	12.51	12.52	5495.92	0.01
OW 19+ 50	11/1/2005	5508.03	13.00	NPP	12.39	5495.64	NPP
	11/15/2005	5508.03	13.00	NPP	12.47	5495.56	NPP
	11/29/2005	5508.03	13.00	NPP	NWP		NPP
OW 22+ 00	11/1/2005	5506.91	14.16	NPP	10.45	5496.46	NPP
	11/15/2005	5506.91	14.16	10.62	10.63	5496.29	0.01
	11/29/2005	5506.91	14.16	11.31	11.33	5495.60	0.02
OW 23+ 10	11/1/2005	5514.12	18.34	16.08	16.09	5498.04	0.01
	11/15/2005	5514.12	18.34	NPP	16.17	5497.95	NPP
	11/29/2005	5514.12	18.34	NPP	16.73	5497.39	NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 23+ 90	11/1/2005	5515.18	18.01	NPP	16.97	5498.21	NPP
	11/15/2005	5515.18	18.01	NPP	17.06	5498.12	NPP
	11/29/2005	5515.18	18.01	NPP	17.1	5498.08	NPP
OW 25+ 70	11/1/2005	5509.00	13.98	NPP	10.64	5498.36	NPP
	11/15/2005	5509.00	13.98	NPP	11.70	5497.30	NPP
	11/29/2005	5509.00	13.98	NPP	10.71	5498.29	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	11/1/2005	5507.01	14.09	NPP	7.65	5499.36	NPP
	11/15/2005	5507.01	14.09	NPP	7.73	5499.28	NPP
	11/29/2005	5507.01	14.09	NPP	6.19	5500.82	NPP
CW 1+50	11/1/2005	5505.13	13.74	NPP	6.11	5499.02	NPP
	11/15/2005	5505.13	13.74	NPP	6.08	5499.05	NPP
	11/29/2005	5505.13	13.74	6.04	6.06	5499.09	0.02
CW 3+85	11/1/2005	5503.87	13.11	11.35	11.36	5492.52	0.01
	11/15/2005	5503.87	13.11	NPP	5.19	5498.68	NPP
	11/29/2005	5503.87	13.11	5.07	5.09	5498.80	0.02
CW 5+50	11/1/2005	5503.76	12.27	NPP	6.14	5497.62	NPP
	11/15/2005	5503.76	12.27	NPP	6.05	5497.71	NPP
	11/29/2005	5503.76	12.27	6.03	6.05	5497.73	0.02
CW 6+70	11/1/2005	5503.84	11.45	NPP	6.65	5497.19	NPP
	11/15/2005	5503.84	11.45	NPP	6.60	5497.24	NPP
	11/29/2005	5503.84	11.45	7.53	7.58	5496.30	0.05
CW 8+10	11/1/2005	5504.02	11.63	NPP	7.22	5496.80	NPP
	11/15/2005	5504.02	11.63	NPP	7.14	5496.88	NPP
	11/29/2005	5504.02	11.63	7.16	7.18	5496.86	0.02

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 8+45	11/1/2005	5503.80	12.6	7.19	7.30	5496.59	0.11
	11/15/2005	5503.80	12.6	7.15	7.62	5496.56	0.47
	11/29/2005	5503.80	12.6	7.14	7.37	5496.61	0.23
CW 11+ 15	11/1/2005	5503.95	12.27	NPP	5.69	5498.26	NPP
	11/15/2005	5503.95	12.27	NPP	5.65	5498.30	NPP
	11/29/2005	5503.95	12.27	NPP	6.55	5497.40	NPP
CW 14+ 10	11/1/2005	5504.39	13.05	NPP	6.41	5497.98	NPP
	11/15/2005	5504.39	13.05	NPP	12.91	5491.48	NPP
	11/29/2005	5504.39	13.05	6.49	6.50	5497.90	0.01
CW 16+ 60	11/1/2005	5504.32	12.86	NPP	6.27	5498.05	NPP
	11/15/2005	5504.32	12.86	NPP	6.37	5497.95	NPP
	11/29/2005	5504.32	12.86	NPP	6.37	5497.95	NPP
CW 19+ 50	11/1/2005	5504.52	9.99	NPP	6.27	5498.25	NPP
	11/15/2005	5504.52	9.99	NPP	6.37	5498.15	NPP
	11/29/2005	5504.52	9.99	NPP	NWP		NPP
CW 22+ 00	11/1/2005	5508.04	12.34	NPP	9.11	5498.93	NPP
	11/15/2005	5508.04	12.34	NPP	9.12	5498.92	NPP
	11/29/2005	5508.04	12.34	11.31	11.33	5496.73	0.02

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 23+ 10	11/1/2005	5510.04	14.65	16.08	16.09	5493.96	0.01
	11/15/2005	5510.04	14.65	NPP	10.73	5499.31	NPP
	11/29/2005	5510.04	14.65	NPP	10.26	5499.78	NPP
CW 23+ 90	11/1/2005	5507.32	11.72	NPP	8.25	5499.07	NPP
	11/15/2005	5507.32	11.72	NPP	8.27	5499.05	NPP
	11/29/2005	5507.32	11.72	NPP	8.24	5499.08	NPP
CW 25+ 95	11/1/2005	5505.90	12.25	NPP	7.23	5498.67	NPP
	11/15/2005	5505.90	12.25	NPP	7.26	5498.64	NPP
	11/29/2005	5505.90	12.25	NPP	7.24	5498.66	NPP

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	11/1/2005	5510.31	22.94	NPP	11.43	5498.88	NPP
	11/15/2005	5510.31	22.94	NPP	11.25	5499.06	NPP
	11/29/2005	5510.31	22.94	NPP	10.61	5499.70	NPP
MW #12	11/1/2005	5501.61	14.98	NPP	11.35	5490.26	NPP
	11/15/2005	5501.61	14.98	NPP	12.36	5489.25	NPP
	11/29/2005	5501.61	14.98	NPP	10.61	5491.00	NPP
MW #20	11/1/2005	5519.90	27.13	20.73	20.88	5499.14	0.15
	11/15/2005	5519.90	27.13	20.71	20.86	5499.16	0.15
	11/29/2005	5519.90	27.13	20.64	20.73	5499.24	0.09
MW #21	11/1/2005	5521.99	30.38	21.47	21.48	5500.52	0.01
	11/15/2005	5521.99	30.38	21.53	21.54	5500.46	0.01
	11/29/2005	5521.99	30.38	21.47	21.48	5500.52	0.01
MW #39	11/1/2005	5520.83	38.34	NPP	25.52	5495.31	NPP
	11/15/2005	5520.83	38.34	NPP	25.90	5494.93	NPP
	11/29/2005	5520.83	38.34	NPP	24.73	5496.10	NPP
MW #45	11/1/2005	5506.36	16.92	10.22	10.58	5496.07	0.36
	11/15/2005	5506.36	16.92	10.55	10.97	5495.73	0.42
	11/29/2005	5506.36	16.92	11.72	11.98	5494.59	0.26

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring November 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #46	11/1/2005	5504.65	10.39	NPP	NWP		NPP
	11/15/2005	5504.65	10.39	NPP	NWP		NPP
	11/29/2005	5504.65	10.39	NPP	NWP		NPP
MW #47	11/1/2005	5506.77	14.28	10.71	10.95	5496.01	0.24
	11/15/2005	5506.77	14.28	11.03	11.15	5495.72	0.12
	11/29/2005	5506.77	14.28	12.41	12.86	5494.27	0.45

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring December 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	12/13/2005	5506.62	12.26	NPP	10.66	5495.96	NPP
	12/27/2005	5506.62	12.26	NPP	10.69	5495.93	NPP
OW 1+50	12/13/2005	5508.03	14.36	NPP	12.24	5495.79	NPP
	12/27/2005	5508.03	14.36	NPP	12.28	5495.75	NPP
OW 3+85	12/13/2005	5507.31	15.06	10.94	10.95	5496.37	0.01
	12/27/2005	5507.31	15.06	11.67	11.68	5495.64	0.01
OW 5+50	12/13/2005	5507.59	13.67	13.49	13.50	5494.10	0.01
	12/27/2005	5507.59	13.67	13.51	13.53	5494.08	0.02
OW 6+70	12/13/2005	5504.78	14.67	NPP	NWP		NPP
	12/27/2005	5504.78	14.67	NPP	NWP		NPP
OW 8+10	12/13/2005	5506.53	15.99	NPP	NWP		NPP
	12/27/2005	5506.53	15.99	NPP	NWP		NPP
OW 11+ 15	12/13/2005	5506.70	16.59	11.39	11.41	5495.31	0.02
	12/27/2005	5506.70	16.59	11.37	11.40	5495.32	0.03
OW 14+ 10	12/13/2005	5508.14	12.96	NPP	NWP		NPP
	12/27/2005	5508.14	12.96	NPP	NWP		NPP
OW 16+ 60	12/13/2005	5508.43	15.21	12.57	12.58	5495.86	0.01
	12/27/2005	5508.43	15.21	12.53	12.54	5495.90	0.01

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring December 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 19+ 50	12/13/2005	5508.03	13.00	NPP	12.88	5495.15	NPP
	12/27/2005	5508.03	13.00	NPP	12.86	5495.17	NPP
OW 22+ 00	12/13/2005	5506.91	14.16	11.18	11.20	5495.73	0.02
	12/27/2005	5506.91	14.16	11.21	11.24	5495.69	0.03
OW 23+ 10	12/13/2005	5514.12	18.34	NPP	16.12	5498.00	NPP
	12/27/2005	5514.12	18.34	16.21	16.22	5497.91	0.01
OW 23+ 90	12/13/2005	5515.18	18.01	NPP	17.13	5498.05	NPP
	12/27/2005	5515.18	18.01	NPP	17.13	5498.05	NPP
OW 25+ 70	12/13/2005	5509.00	13.98	NPP	10.75	5498.25	NPP
	12/27/2005	5509.00	13.98	NPP	10.73	5498.27	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring December 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	12/13/2005	5506.68	14.09	NPP	6.34	5500.34	NPP
	12/27/2005	5506.68	14.09	NPP	6.47	5500.21	NPP
CW 1+50	12/13/2005	5505.13	13.74	NPP	6.10	5499.03	NPP
	12/27/2005	5505.13	13.74	6.12	6.14	5499.01	0.02
CW 3+85	12/13/2005	5503.87	13.11	5.05	5.07	5498.82	0.02
	12/27/2005	5503.87	13.11	5.14	5.16	5498.73	0.02
CW 5+50	12/13/2005	5503.76	12.27	NPP	6.04	5497.72	NPP
	12/27/2005	5503.76	12.27	6.06	6.07	5497.70	0.01
CW 6+70	12/13/2005	5503.84	11.45	6.58	6.59	5497.26	0.01
	12/27/2005	5503.84	11.45	6.61	6.63	5497.23	0.02
CW 8+10	12/13/2005	5504.02	11.63	7.16	7.17	5496.86	0.01
	12/27/2005	5504.02	11.63	7.23	7.24	5496.79	0.01
CW 8+45	12/13/2005	5503.80	12.6	7.14	7.23	5496.64	0.09
	12/27/2005	5503.80	12.6	7.16	7.24	5496.62	0.08
CW 11+ 15	12/13/2005	5503.95	12.27	5.42	5.43	5498.53	0.01
	12/27/2005	5503.95	12.27	5.47	5.48	5498.48	0.01
CW 14+ 10	12/13/2005	5504.39	13.05	6.38	6.40	5498.01	0.02
	12/27/2005	5504.39	13.05	6.40	6.41	5497.99	0.01

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring December 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 16+ 60	12/13/2005	5504.32	12.86	NPP	6.34	5497.98	NPP
	12/27/2005	5504.32	12.86	NPP	6.37	5497.95	NPP
CW 19+ 50	12/13/2005	5504.52	9.99	6.35	6.37	5498.17	0.02
	12/27/2005	55004.52	9.99	NPP	6.37	54998.15	NPP
CW 22+ 00	12/13/2005	5508.04	12.34	9.08	9.09	5498.96	0.01
	12/27/2005	5508.04	12.34	9.10	9.11	5498.94	0.01
CW 23+ 10	12/13/2005	5510.04	14.65	NPP	10.7	5499.34	NPP
	12/27/2005	5510.04	14.65	NPP	10.68	5499.36	NPP
CW 23+ 90	12/13/2005	5507.32	11.72	NPP	8.25	5499.07	NPP
	12/27/2005	5507.32	11.72	NPP	8.24	5499.08	NPP
CW 25+ 95	12/13/2005	5505.90	12.25	NPP	7.23	5498.67	NPP
	12/27/2005	5505.90	12.25	NPP	7.23	5498.67	NPP

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring December 2005

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	12/13/2005	5510.31	22.94	NPP	10.01	5500.30	NPP
	12/27/2005	5510.31	22.94	NPP	10.54	5499.77	NPP
MW #12	12/13/2005	5501.61	14.98	NPP	9.02	5492.59	NPP
	12/27/2005	5501.61	14.98	NPP	9.78	5491.83	NPP
MW #20	12/13/2005	5519.90	27.13	20.71	20.86	5499.16	0.15
	12/27/2005	5519.90	27.13	20.71	20.86	5499.16	0.15
MW #21	12/13/2005	5521.99	30.38	21.59	21.6	5500.40	0.01
	12/27/2005	5521.99	30.38	21.54	21.55	5500.45	0.01
MW #39	12/13/2005	5520.83	38.34	NPP	24.31	5496.52	NPP
	12/27/2005	5520.83	38.34	NPP	24.97	5495.86	NPP
MW #45	12/13/2005	5506.36	16.92	11.33	11.58	5494.98	0.25
	12/27/2005	5506.36	16.92	11.47	11.64	5494.86	0.17
MW #46	12/13/2005	5504.65	10.39	NPP	NWP		NPP
	12/27/2005	5504.65	10.39	NPP	NWP		NPP
MW #47	12/13/2005	5506.77	14.28	10.76	10.81	5496.00	0.05
	12/27/2005	5506.77	14.28	11.14	11.26	5495.61	0.12

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring January 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	1/10/2006	5506.62	12.26	NPP	10.19	5496.43	NPP
	1/24/2006	5506.62	12.26	NPP	11.13	5495.49	NPP
OW 1+50	1/10/2006	5508.03	14.36	NPP	11.97	5496.06	NPP
	1/24/2006	5508.03	14.36	NPP	11.97	5496.06	NPP
OW 3+85	1/10/2006	5507.31	15.06	11.64	11.65	5495.67	0.01
	1/24/2006	5507.31	15.06	13.10	13.14	5494.20	0.04
OW 5+50	1/10/2006	5507.59	13.67	13.48	13.51	5494.10	0.03
	1/24/2006	5507.59	13.67	NPP	13.30	5494.29	NPP
OW 6+70	1/10/2006	5504.78	14.67	NPP	NWP		NPP
	1/24/2006	5504.78	14.67	NPP	NWP		NPP
OW 8+10	1/10/2006	5506.53	15.99	NPP	NWP		NPP
	1/24/2006	5506.53	15.99	NPP	NWP		NPP
OW 11+ 15	1/10/2006	5506.70	16.59	11.34	11.35	5495.36	0.01
	1/24/2006	5506.70	16.59	NPP	11.66	5495.04	NPP
OW 14+ 10	1/10/2006	5508.14	12.96	NPP	NWP		NPP
	1/24/2006	5508.14	12.96	NPP	NWP		NPP
OW 16+ 60	1/10/2006	5508.43	15.21	12.63	12.64	5495.80	0.01
	1/24/2006	5508.43	15.21	12.57	12.95	5495.78	0.38

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring January 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 19+ 50	1/10/2006	5508.03	13.00	NPP	12.56	5495.47	NPP
	1/24/2006	5508.03	13.00	NPP	12.26	5495.77	NPP
OW 22+ 00	1/10/2006	5506.91	14.16	11.24	11.26	5495.67	0.02
	1/24/2006	5506.91	14.16	NPP	11.31	5495.60	NPP
OW 23+ 10	1/10/2006	5514.12	18.34	NPP	16.19	5497.93	NPP
	1/24/2006	5514.12	18.34	NPP	16.25	5497.87	NPP
OW 23+ 90	1/10/2006	5515.18	18.01	NPP	17.14	5498.04	NPP
	1/24/2006	5515.18	18.01	NPP	17.13	5498.05	NPP
OW 25+ 70	1/10/2006	5509.00	13.98	NPP	10.71	5498.29	NPP
	1/24/2006	5509.00	13.98	NPP	10.75	5498.25	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring January 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	1/10/2006	5506.68	14.09	NPP	6.36	5500.32	NPP
	1/24/2006	5506.68	14.09	NPP	7.99	5498.69	NPP
CW 1+50	1/10/2006	5505.13	13.74	6.09	6.10	5499.04	0.01
	1/24/2006	5505.13	13.74	NPP	6.14	5498.99	NPP
CW 3+85	1/10/2006	5503.87	13.11	5.09	5.11	5498.78	0.02
	1/24/2006	5503.87	13.11	13.10	13.14	5490.76	0.04
CW 5+50	1/10/2006	5503.76	12.27	6.03	6.04	5497.73	0.01
	1/24/2006	5503.76	12.27	NPP	6.12	5497.64	NPP
CW 6+70	1/10/2006	5503.84	11.45	6.51	6.53	5497.33	0.02
	1/24/2006	5503.84	11.45	NPP	6.68	5497.16	NPP
CW 8+10	1/10/2006	5504.02	11.63	NPP	7.38	5496.64	NPP
	1/24/2006	5504.02	11.63	NPP	7.45	5496.57	NPP
CW 8+45	1/10/2006	5503.80	12.6	7.36	7.45	5496.42	0.09
	1/24/2006	5503.80	12.6	7.45	7.52	5496.34	0.07
CW 11+ 15	1/10/2006	5503.95	12.27	5.47	5.49	5498.48	0.02
	1/24/2006	5503.95	12.27	NPP	5.55	5498.40	NPP
CW 14+ 10	1/10/2006	5504.39	13.05	6.40	6.44	5497.98	0.04
	1/24/2006	5504.39	13.05	NPP	6.47	5497.92	NPP

NPM = No Product Measured NWM = No Water Measured

Collection Well Fluids Monitoring January 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 16+ 60	1/10/2006	5504.32	12.86	NPP	6.38	5497.94	NPP
	1/24/2006	5504.32	12.86	NPP	6.38	5497.94	NPP
CW 19+ 50	1/10/2006	5504.52	9.99	NPP	6.36	5498.16	NPP
	1/24/2006	55004.52	9.99	NPP	6.31	54998.21	NPP
CW 22+ 00	1/10/2006	5508.04	12.34	NPP	9.13	5498.91	NPP
	1/24/2006	5508.04	12.34	NPP	9.12	5498.92	NPP
CW 23+ 10	1/10/2006	5510.04	14.65	NPP	10.69	5499.35	NPP
	1/24/2006	5510.04	14.65	NPP	10.73	5499.31	NPP
CW 23+ 90	1/10/2006	5507.32	11.72	NPP	8.27	5499.05	NPP
	1/24/2006	5507.32	11.72	NPP	8.25	5499.07	NPP
CW 25+ 95	1/10/2006	5505.90	12.25	NPP	7.27	5498.63	NPP
	1/24/2006	5505.90	12.25	NPP	7.24	5498.66	NPP

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring January 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	1/10/2006	5510.31	22.94	NPP	10.78	5499.53	NPP
	1/24/2006	5510.31	22.94	NPP	10.54	5499.77	NPP
MW #12	1/10/2006	5501.61	14.98	NPP	9.88	5491.73	NPP
	1/24/2006	5501.61	14.98	NPP	9.78	5491.83	NPP
MW #20	1/10/2006	5519.90	27.13	21.07	21.14	5498.82	0.07
	1/24/2006	5519.90	27.13	20.71	20.86	5499.16	0.15
MW #21	1/10/2006	5521.99	30.38	21.52	21.53	5500.47	0.01
	1/24/2006	5521.99	30.38	21.54	21.55	5500.45	0.01
MW #39	1/10/2006	5520.83	38.34	NPP	24.40	5496.43	NPP
	1/24/2006	5520.83	38.34	NPP	24.97	5495.86	NPP
MW #45	1/10/2006	5506.36	16.92	11.74	11.96	5494.58	0.22
	1/24/2006	5506.36	16.92	11.08	11.18	5495.26	0.10
MW #46	1/10/2006	5504.65	10.39	NPP	NWP		NPP
	1/24/2006	5504.65	10.39	NPP	NWP		NPP
MW #47	1/10/2006	5506.77	14.28	11.04	11.11	5495.72	0.07
	1/24/2006	5506.77	14.28	11.73	12.04	5494.98	0.31

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring February 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	2/8/2006	5506.62	12.26	NPP	11.19	5495.43	NPP
	2/16/2006	5506.62	12.26	NPP	11.16	5495.46	NPP
OW 1+50	2/8/2006	5508.03	14.36	12.91	13.09	5495.08	0.18
	2/16/2006	5508.03	14.36	12.98	13.11	5495.02	0.13
OW 3+85	2/8/2006	5507.31	15.06	12.40	12.42	5494.91	0.02
	2/16/2006	5507.31	15.06	12.45	12.51	5494.85	0.06
OW 5+50	2/8/2006	5507.59	13.67	NPP	13.46	5494.13	NPP
	2/16/2006	5507.59	13.67	NPP	13.49	5494.10	NPP
OW 6+70	2/8/2006	5504.78	14.67	NPP	NWP		NPP
	2/16/2006	5504.78	14.67	NPP	NWP		NPP
OW 8+10	2/8/2006	5506.53	15.99	NPP	NWP		NPP
	2/16/2006	5506.53	15.99	NPP	NWP		NPP
OW 11+ 15	2/8/2006	5506.70	16.59	NPP	12.95	5493.75	NPP
	2/16/2006	5506.70	16.59	NPP	11.18	5495.52	NPP
OW 14+ 10	2/8/2006	5508.14	12.96	NPP	NWP		NPP
	2/16/2006	5508.14	12.96	NPP	NWP		NPP
OW 16+ 60	2/8/2006	5508.43	15.21	12.51	12.83	5495.86	0.32
	2/16/2006	5508.43	15.21	12.49	12.52	5495.93	0.03

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring February 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 19+ 50	2/8/2006	5508.03	13.00	NPP	12.3	5495.73	NPP
	2/16/2006	5508.03	13.00	NPP	12.14	5495.89	NPP
OW 22+ 00	2/8/2006	5506.91	14.16	11.24	11.39	5495.64	0.15
	2/16/2006	5506.91	14.16	NPP	11.33	5495.58	NPP
OW 23+ 10	2/8/2006	5514.12	18.34	NPP	17.28	5496.84	NPP
	2/16/2006	5514.12	18.34	NPP	16.27	5497.85	NPP
OW 23+ 90	2/8/2006	5515.18	18.01	NPP	17.15	5498.03	NPP
	2/16/2006	5515.18	18.01	NPP	17.14	5498.04	NPP
OW 25+ 70	2/8/2006	5509.00	13.98	NPP	10.82	5498.18	NPP
	2/16/2006	5509.00	13.98	NPP	10.78	5498.22	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring February 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	2/8/2006	5506.68	14.09	NPP	7.99	5498.69	NPP
	2/16/2006	5506.68	14.09	NPP	8.15	5498.53	NPP
CW 1+50	2/8/2006	5505.13	13.74	6.09	6.20	5499.02	0.11
	2/16/2006	5505.13	13.74	NPP	6.33	5498.80	NPP
CW 3+85	2/8/2006	5503.87	13.11	5.09	5.28	5498.74	0.19
	2/16/2006	5503.87	13.11	NPP	5.36	5498.51	NPP
CW 5+50	2/8/2006	5503.76	12.27	6.03	6.14	5497.71	0.11
	2/16/2006	5503.76	12.27	NPP	6.23	5497.53	NPP
CW 6+70	2/8/2006	5503.84	11.45	6.51	6.69	5497.29	0.18
	2/16/2006	5503.84	11.45	NPP	6.71	5497.13	NPP
CW 8+10	2/8/2006	5504.02	11.63	NPP	7.43	5496.59	NPP
	2/16/2006	5504.02	11.63	NPP	7.44	5496.58	NPP
CW 8+45	2/8/2006	5503.80	12.6	7.46	7.48	5496.34	0.02
	2/16/2006	5503.80	12.6	7.45	7.47	5496.35	0.02
CW 11+ 15	2/8/2006	5503.95	12.27	5.47	5.63	5498.45	0.16
	2/16/2006	5503.95	12.27	NPP	5.74	5498.21	NPP
CW 14+ 10	2/8/2006	5504.39	13.05	6.40	6.51	5497.97	0.11
	2/16/2006	5504.39	13.05	NPP	6.57	5497.82	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring February 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 16+ 60	2/8/2006	5504.32	12.86	NPP	6.37	5497.95	NPP
	2/16/2006	5504.32	12.86	NPP	6.47	5497.85	NPP
CW 19+ 50	2/8/2006	5504.52	9.99	NPP	6.34	5498.18	NPP
	2/16/2006	55004.52	9.99	NPP	6.34	54998.18	NPP
CW 22+ 00	2/8/2006	5508.04	12.34	NPP	9.14	5498.90	NPP
	2/16/2006	5508.04	12.34	NPP	9.14	5498.90	NPP
CW 23+ 10	2/8/2006	5510.04	14.65	NPP	10.71	5499.33	NPP
	2/16/2006	5510.04	14.65	NPP	10.75	5499.29	NPP
CW 23+ 90	2/8/2006	5507.32	11.72	NPP	8.28	5499.04	NPP
	2/16/2006	5507.32	11.72	NPP	8.27	5499.05	NPP
CW 25+ 95	2/8/2006	5505.90	12.25	NPP	7.23	5498.67	NPP
	2/16/2006	5505.90	12.25	NPP	7.24	5498.66	NPP

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring February 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	2/8/2006	5510.31	22.94	NPP	11.05	5499.26	NPP
	2/16/2006	5510.31	22.94	NPP	11.1	5499.21	NPP
MW #12	2/8/2006	5501.61	14.98	NPP	9.50	5492.11	NPP
	2/16/2006	5501.61	14.98	NPP	9.54	5492.07	NPP
MW #20	2/8/2006	5519.90	27.13	20.67	20.70	5499.22	0.03
	2/16/2006	5519.90	27.13	20.66	20.74	5499.22	0.08
MW #21	2/8/2006	5521.99	30.38	21.74	21.75	5500.25	0.01
	2/16/2006	5521.99	30.38	21.80	21.82	5500.19	0.02
MW #39	2/8/2006	5520.83	38.34	NPP	25.19	5495.64	NPP
	2/16/2006	5520.83	38.34	NPP	25.15	5495.68	NPP
MW #45	2/8/2006	5506.36	16.92	11.18	11.21	5495.17	0.03
	2/16/2006	5506.36	16.92	11.11	11.16	5495.24	0.05
MW #46	2/8/2006	5504.65	10.39	NPP	NWP		NPP
	2/16/2006	5504.65	10.39	NPP	NWP		NPP
MW #47	2/8/2006	5506.77	14.28	11.85	11.91	5494.91	0.06
	2/16/2006	5506.77	14.28	11.78	11.82	5494.98	0.04

NPP = No Product Present NWP = No Water Present

Sump Well Fluids Monitoring February 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
SW1-0206	2/22/2006	5508.27	53.08	NPP	NWP		NPP
	2/28/2005	5508.27	53.08	NPP	NWP		NPP
SW2-0206	2/22/2006	5507.75	27.69	NPP	27.61	5480.14	NPP
	2/28/2005	5507.75	27.69	NPP	27.60	5480.15	NPP
SW3-0206	2/22/2006	5505.29	52.56	NPP	NWP		NPP
	2/28/2005	5505.29	52.56	NPP	NWP		NPP
SW4-0206	2/22/2006	5504.45	42.34	NPP	NWP		NPP
	2/28/2005	5504.45	42.34	NPP	NWP		NPP
SW5-0206	2/22/2006	5514.34	52.24	NPP	33.49	5480.85	NPP
	2/28/2005	5514.35	52.24	NPP	33.08	5481.27	NPP
SW6-0206	2/22/2006	5519.72	47.41	NPP	NWP		NPP
	2/28/2005	5519.72	47.41	NPP	47.40	5472.32	NPP
SW7-0206	2/22/2006	5517.63	32.95	NPP	29.52	5488.11	NPP
	2/28/2005	5517.63	32.95	NPP	19.52	5498.11	NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	3/1/2006	5506.62	12.26	NPP	11.63	5494.99	NPP
	3/14/2006	5506.62	12.26	NPP	11.33	5495.29	NPP
	3/20/2006	5506.62	12.26	NPP	11.39	5495.23	NPP
OW 1+50	3/1/2006	5508.03	14.36	13.03	13.13	5494.98	0.10
	3/14/2006	5508.03	14.36	13.14	13.21	5494.88	0.07
	3/20/2006	5508.03	14.36	13.12	13.24	5494.89	0.12
OW 3+85	3/1/2006	5507.31	15.06	NPP	12.61	5494.70	NPP
	3/14/2006	5507.31	15.06	12.54	12.82	5494.71	0.28
	3/20/2006	5507.31	15.06	12.51	13.11	5494.68	0.60
OW 5+50	3/1/2006	5507.59	13.67	NPP	13.71	5493.88	NPP
	3/14/2006	5507.59	13.67	NPP	13.60	5493.99	NPP
	3/20/2006	5507.59	13.67	13.53	13.55	5494.06	0.02
OW 6+70	3/1/2006	5504.78	14.67	NPP	NWP		NPP
	3/14/2006	5504.78	14.67	NPP	NWP		NPP
	3/20/2006	5504.78	14.67	NPP	NWP		NPP
OW 8+10	3/1/2006	5506.53	15.99	NPP	NWP		NPP
	3/14/2006	5506.53	15.99	NPP	NWP		NPP
	3/20/2006	5506.53	15.99	NPP	NWP		NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 11+ 15	3/1/2006	5506.70	16.59	11.74	11.76	5494.96	0.02
	3/14/2006	5506.70	16.59	NPP	11.84	5494.86	NPP
	3/20/2006	5506.70	16.59	NPP	11.82	5494.88	NPP
OW 14+ 10	3/1/2006	5508.14	12.96	NPP	NWP		NPP
	3/14/2006	5508.14	12.96	NPP	NWP		NPP
	3/20/2006	5508.14	12.96	NPP	NWP		NPP
OW 16+ 60	3/1/2006	5508.43	15.21	12.61	12.71	5495.80	0.10
	3/14/2006	5508.43	15.21	12.51	12.53	5495.92	0.02
	3/20/2006	5508.43	15.21	12.42	12.46	5496.00	0.04
OW 19+ 50	3/1/2006	5508.03	13.00	NPP	12.91	5495.12	NPP
	3/14/2006	5508.03	13.00	NPP	12.98	5495.05	NPP
	3/20/2006	5508.03	13.00	NPP	12.48	5495.55	NPP
OW 22+ 00	3/1/2006	5506.91	14.16	NPP	11.42	5495.49	NPP
	3/14/2006	5506.91	14.16	NPP	11.48	5495.43	NPP
	3/20/2006	5506.91	14.16	NPP	11.47	5495.44	NPP
OW 23+ 10	3/1/2006	5514.12	18.34	NPP	16.31	5497.81	NPP
	3/14/2006	5514.12	18.34	NPP	16.28	5497.84	NPP
	3/20/2006	5514.12	18.34	NPP	16.29	5497.83	NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 23+ 90	3/1/2006	5515.18	18.01	NPP	17.16	5498.02	NPP
	3/14/2006	5515.18	18.01	NPP	17.16	5498.02	NPP
	3/20/2006	5515.18	18.01	NPP	17.18	5498.00	NPP
OW 25+ 70	3/1/2006	5509.00	13.98	NPP	10.81	5498.19	NPP
	3/14/2006	5509.00	13.98	NPP	10.79	5498.21	NPP
	3/20/2006	5509.00	13.98	NPP	10.83	5498.17	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	3/1/2006	5506.68	14.09	NPP	8.06	5498.62	NPP
	3/14/2005	5506.68	14.09	NPP	8.06	5498.62	NPP
	3/20/2006	5506.68	14.09	NPP	8.01	5498.67	NPP
CW 1+50	3/1/2006	5505.13	13.74	NPP	6.23	5498.90	NPP
	3/14/2005	5505.13	13.74	NPP	6.24	5498.89	NPP
	3/20/2006	5505.13	13.74	NPP	6.26	5498.87	NPP
CW 3+85	3/1/2006	5503.87	13.11	NPP	5.31	5498.56	NPP
	3/14/2005	5503.87	13.11	NPP	5.29	5498.58	NPP
	3/20/2006	5503.87	13.11	NPP	5.29	5498.58	NPP
CW 5+50	3/1/2006	5503.76	12.27	NPP	6.2	5497.56	NPP
	3/14/2005	5503.76	12.27	NPP	6.16	5497.60	NPP
	3/20/2006	5503.76	12.27	NPP	6.19	5497.57	NPP
CW 6+70	3/1/2006	5503.84	11.45	NPP	6.73	5497.11	NPP
	3/14/2005	5503.84	11.45	NPP	6.71	5497.13	NPP
	3/20/2006	5503.84	11.45	NPP	6.66	5497.18	NPP
CW 8+10	3/1/2006	5504.02	11.63	NPP	7.43	5496.59	NPP
	3/14/2005	5504.02	11.63	NPP	7.43	5496.59	NPP
	3/20/2006	5504.02	11.63	NPP	7.41	5496.61	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 8+45	3/1/2006	5503.80	12.6	7.47	7.48	5496.33	0.01
	3/14/2005	5503.80	12.6	7.49	7.61	5496.29	0.12
	3/20/2006	5503.80	12.6	7.41	7.43	5496.39	0.02
CW 11+ 15	3/1/2006	5503.95	12.27	NPP	5.67	5498.28	NPP
	3/14/2005	5503.95	12.27	NPP	5.64	5498.31	NPP
	3/20/2006	5503.95	12.27	NPP	5.66	5498.29	NPP
CW 14+ 10	3/1/2006	5504.39	13.05	NPP	6.49	5497.90	NPP
	3/14/2005	5504.39	13.05	NPP	6.46	5497.93	NPP
	3/20/2006	5504.39	13.05	NPP	6.42	5497.97	NPP
CW 16+ 60	3/1/2006	5504.32	12.86	NPP	6.36	5497.96	NPP
	3/14/2006	5504.32	12.86	NPP	6.36	5497.96	NPP
	3/20/2006	5504.32	12.86	NPP	6.31	5498.01	NPP
CW 19+ 50	3/1/2006	5504.52	9.99	NPP	6.27	5498.25	NPP
	3/14/2006	5504.52	9.99	NPP	6.27	5498.25	NPP
	3/20/2006	5504.52	9.99	NPP	6.23	5498.29	NPP
CW 22+ 00	3/1/2006	5508.04	12.34	NPP	9.10	5498.94	NPP
	3/14/2006	5508.04	12.34	NPP	9.13	5498.91	NPP
	3/20/2006	5508.04	12.34	NPP	9.13	5498.91	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 23+ 10	3/1/2006	5510.04	14.65	NPP	10.72	5499.32	NPP
	3/14/2006	5510.04	14.65	NPP	10.71	5499.33	NPP
	3/20/2006	5510.04	14.65	NPP	10.76	5499.28	NPP
CW 23+ 90	3/1/2006	5507.32	11.72	NPP	8.24	5499.08	NPP
	3/14/2006	5507.32	11.72	NPP	8.24	5499.08	NPP
	3/20/2006	5507.32	11.72	NPP	8.24	5499.08	NPP
CW 25+ 95	3/1/2006	5505.90	12.25	NPP	7.23	5498.67	NPP
	3/14/2006	5505.90	12.25	NPP	7.21	5498.69	NPP
	3/20/2006	5505.90	12.25	NPP	7.23	5498.67	NPP

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	3/1/2006	5510.31	22.94	NPM	11.12	5499.19	NPM
	3/14/2006	5510.31	22.94	NPM	11.13	5499.18	NPM
	3/20/2006	5510.31	22.94	NPM	11.15	5499.16	NPM
MW #12	3/1/2006	5501.61	14.98	NPM	9.97	5491.64	NPM
	3/14/2006	5501.61	14.98	NPM	9.63	5491.98	NPM
	3/20/2006	5501.61	14.98	NPM	9.64	5491.97	NPM
MW #20	3/1/2006	5519.90	27.13	20.68	20.74	5499.21	0.06
	3/14/2006	5519.90	27.13	20.69	20.78	5499.19	0.09
	3/20/2006	5519.90	27.13	20.68	20.78	5499.20	0.10
MW #21	3/1/2006	5521.99	30.38	NPM	21.77	5500.22	NPM
	3/14/2006	5521.99	30.38	21.78	21.8	5500.21	0.02
	3/20/2006	5521.99	30.38	21.77	21.81	5500.21	0.04
MW #39	3/1/2006	5520.83	38.34	NPM	25.16	5495.67	NPM
	3/14/2006	5520.83	38.34	NPM	25.31	5495.52	NPM
	3/20/2006	5520.83	38.34	NPM	25.09	5495.74	NPM
MW #45	3/1/2006	5506.36	16.92	11.21	11.24	5495.14	0.03
	3/14/2006	5506.36	16.92	11.20	11.27	5495.15	0.07
	3/20/2006	5506.36	16.92	11.19	11.21	5495.17	0.02

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #46	3/1/2006	5504.65	10.39	NPM	NWM		NPM
	3/14/2006	5504.65	10.39	NPM	NWM		NPM
	3/20/2006	5504.65	10.39	NPM	NWM		NPM
MW #47	3/1/2006	5506.77	14.28	11.91	11.94	5494.85	0.03
	3/14/2006	5506.77	14.28	11.95	12.60	5494.69	0.65
	3/20/2006	5506.77	14.28	11.87	12.41	5494.79	0.54

NPP = No Product Present NWP = No Water Present

Sump Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
SW1-0206	3/3/2006	5508.27	53.08	NPP	NWP		NPP
	3/6/2006	5508.27	53.08	NPP	NWP		NPP
	3/14/2006	5508.27	53.08	NPP	NWP		NPP
	3/20/2006	5508.27	53.08	NPP	NWP		NPP
SW2-0206	3/3/2006	5507.75	27.69	NPP	NWP		NPP
	3/6/2006	5507.75	27.69	NPP	NWP		NPP
	3/14/2006	5507.75	27.69	NPP	NWP		NPP
	3/20/2006	5507.75	27.69	NPP	NWP		NPP
SW3-0206	3/3/2006	5505.29	52.56	NPP	NWP		NPP
	3/6/2006	5505.29	52.56	NPP	NWP		NPP
	3/14/2006	5505.29	52.56	NPP	44.06	5461.23	NPP
	3/20/2006	5505.29	52.56	NPP	43.39	5461.90	NPP
SW4-0206	3/3/2006	5504.45	42.34	NPP	NWP		NPP
	3/6/2006	5504.45	42.34	NPP	NWP		NPP
	3/14/2006	5504.45	42.34	NPP	40.89	5463.56	NPP
	3/20/2006	5504.45	42.34	NPP	41.03	5463.42	NPP
SW5-0206	3/3/2006	5514.34	52.24	NPP	33.22	5481.12	NPP
	3/6/2006	5514.34	52.24	NPP	33.21	5481.13	NPP
	3/14/2006	5514.34	52.24	NPP	33.23	5481.11	NPP
	3/20/2006	5514.34	52.24	NPP	33.05	5481.29	NPP

NPP = No Product Present NWP = No Water Present

Sump Well Fluids Monitoring March 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
SW6-0206	3/3/2006	5519.72	47.41	NPP	46.50	5473.22	NPP
	3/6/2006	5519.72	47.41	46.40	46.43	5473.31	0.03
	3/14/2006	5519.72	47.41	NPP	44.97	5474.75	NPP
	3/20/2006	5519.72	47.41	43.85	44.05	5475.83	0.20
SW7-0206	3/3/2006	5517.63	32.95	NPP	19.41	5498.22	NPP
	3/6/2006	5517.63	32.95	NPP	21.83	5495.80	NPP
	3/14/2006	5517.63	32.95	NPP	28.33	5489.30	NPP
	3/20/2006	5517.63	32.95	NPP	22.76	5494.87	NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring April 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	4/3/2006	5506.62	12.26	NPP	11.39	5495.23	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 1+50	4/3/2006	5508.03	14.36	13.24	13.26	5494.79	0.02
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 3+85	4/3/2006	5507.31	15.06	12.68	13.12	5494.54	0.44
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 5+50	4/3/2006	5507.59	13.67	NPP	13.59	5494.00	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 6+70	4/3/2006	5504.78	14.67	NPP	NWP		NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 8+10	4/3/2006	5506.53	15.99	NPP	NWP		NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 11+ 15	4/3/2006	5506.70	16.59	NPP	11.89	5494.81	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 14+ 10	4/3/2006	5508.14	12.96	NPP	NWP		NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 16+ 60	4/3/2006	5508.43	15.21	12.40	12.42	5496.03	0.02
	4/19/2006	*****	*****	*****	*****	*****	*****

NPP = No Product Present NWP = No Water Present ***** = Equipment malfunction

Observation Well Fluids Monitoring April 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 19+ 50	4/3/2006	5508.03	13.00	NPP	12.65	5495.38	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 22+ 00	4/3/2006	5506.91	14.16	NPP	11.49	5495.42	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 23+ 10	4/3/2006	5514.12	18.34	NPP	16.29	5497.83	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 23+ 90	4/3/2006	5515.18	18.01	NPP	17.18	5498.00	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
OW 25+ 70	4/3/2006	5509.00	13.98	NPP	10.79	5498.21	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****

NPP = No Product Present NWP = No Water Present ***** = Equipment malfunction

Collection Well Fluids Monitoring April 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	4/3/2006	5506.68	14.09	NPP	8.09	5498.59	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 1+50	4/3/2006	5505.13	13.74	NPP	6.29	5498.84	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 3+85	4/3/2006	5503.87	13.11	NPP	5.39	5498.48	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 5+50	4/3/2006	5503.76	12.27	NPP	6.23	5497.53	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 6+70	4/3/2006	5503.84	11.45	NPP	6.69	5497.15	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 8+10	4/3/2006	5504.02	11.63	NPP	7.43	5496.59	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 8+45	4/3/2006	5503.80	12.6	7.45	7.52	5496.34	0.07
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 11+ 15	4/3/2006	5503.95	12.27	NPP	5.65	5498.30	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 14+ 10	4/3/2006	5504.39	13.05	NPP	6.47	5497.92	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****

NPP = No Product Present NWP = No Water Present ***** = Equipment malfunction

Collection Well Fluids Monitoring April 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 16+ 60	4/3/2006	5504.32	12.86	NPP	6.35	5497.97	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 19+ 50	4/3/2006	5504.52	9.99	NPP	6.31	5498.21	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 22+ 00	4/3/2006	5508.04	12.34	NPP	9.13	5498.91	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 23+ 10	4/3/2006	5510.04	14.65	NPP	10.76	5499.28	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 23+ 90	4/3/2006	5507.32	11.72	NPP	8.27	5499.05	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
CW 25+ 95	4/3/2006	5505.90	12.25	NPP	7.22	5498.68	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****

NPP = No Product Present NWP = No Water Present ***** = Equipment malfunction

Monitoring Well Fluids Monitoring April 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	4/3/2006	5510.31	22.94	NPP	11.19	5499.12	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
MW #12	4/3/2006	5501.61	14.98	NPP	9.71	5491.90	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
MW #20	4/3/2006	5519.90	27.13	20.69	20.79	5499.19	0.10
	4/19/2006	*****	*****	*****	*****	*****	*****
MW #21	4/3/2006	5521.99	30.38	21.76	21.84	5500.21	0.08
	4/19/2006	*****	*****	*****	*****	*****	*****
MW #39	4/3/2006	5520.83	38.34	NPP	25.30	5495.53	NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
MW #45	4/3/2006	5506.36	16.92	11.30	11.34	5495.05	0.04
	4/19/2006	*****	*****	*****	*****	*****	*****
MW #46	4/3/2006	5504.65	10.39	NPP	NWP		NPP
	4/19/2006	*****	*****	*****	*****	*****	*****
MW #47	4/3/2006	5506.77	14.28	12.05	12.84	5494.56	0.79
	4/19/2006	*****	*****	*****	*****	*****	*****

NPP = No Product Present NWP = No Water Present ***** = Equipment malfunction

Sump Well Fluids Monitoring April 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
SW1-0206	4/3/2006	5508.27	53.08	NPP	NWP		NPP
	4/19/2006	5508.27	53.08	*****	*****	*****	*****
SW2-0206	4/3/2006	5507.75	27.69	NPP	NWP		NPP
	4/19/2006	5507.75	27.69	*****	*****	*****	*****
SW3-0206	4/3/2006	5505.29	52.56	NPP	45.56	5459.73	NPP
	4/19/2006	5505.29	52.56	*****	*****	*****	*****
SW4-0206	4/3/2006	5504.45	42.34	NPP	41.02	5463.43	NPP
	4/19/2006	5504.45	42.34	*****	*****	*****	*****
SW5-0206	4/3/2006	5514.34	52.24	NPP	33.27	5481.07	NPP
	4/19/2006	5514.35	52.24	*****	*****	*****	*****
SW6-0206	4/3/2006	5519.72	47.41	42.71	43.05	5476.94	0.34
	4/19/2006	5519.72	47.41	*****	*****	*****	*****
SW7-0206	4/3/2006	5517.63	32.95	NPP	21.73	5495.90	NPP
	4/19/2006	5517.63	32.95	*****	*****	*****	*****

NPP = No Product Present NWP = No Water Present ***** = Equipment malfunction

Observation Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 0+60	5/3/2006	5506.62	12.26	NPP	11.29	5495.33	NPP
	5/17/2006	5506.62	12.26	NPP	11.23	5495.39	NPP
	5/30/2006	5506.62	12.26	NPP	11.21	5495.41	NPP
OW 1+50	5/3/2006	5508.03	14.36	13.25	13.30	5494.77	0.05
	5/17/2006	5508.03	14.36	13.26	13.31	5494.76	0.05
	5/30/2006	5508.03	14.36	13.30	13.31	5494.73	0.01
OW 3+85	5/3/2006	5507.31	15.06	12.71	12.90	5494.56	0.19
	5/17/2006	5507.31	15.06	12.75	13.01	5494.51	0.26
	5/30/2006	5507.31	15.06	12.40	13.70	5494.65	1.30
OW 5+50	5/3/2006	5507.59	13.67	13.45	13.46	5494.14	0.01
	5/17/2006	5507.59	13.67	NPP	13.49	5494.10	NPP
	5/30/2006	5507.59	13.67	NPP	NWP		NPP
OW 6+70	5/3/2006	5504.78	14.67	NPP	NWP		NPP
	5/17/2006	5504.78	14.67	NPP	NWP		NPP
	5/30/2006	5504.78	14.67	NPP	NWP		NPP
OW 8+10	5/3/2006	5506.53	15.99	NPP	NWP		NPP
	5/17/2006	5506.53	15.99	NPP	NWP		NPP
	5/30/2006	5506.53	15.99	NPP	NWP		NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 11+ 15	5/3/2006	5506.70	16.59	11.81	11.82	5494.89	0.01
	5/17/2006	5506.70	16.59	NPP	12.87	5493.83	NPP
	5/30/2006	5506.70	16.59	NPP	11.84	5494.86	NPP
OW 14+ 10	5/3/2006	5508.14	12.96	NPP	NWP		NPP
	5/17/2006	5508.14	12.96	NPP	NWP		NPP
	5/30/2006	5508.14	12.96	NPP	NWP		NPP
OW 16+ 60	5/3/2006	5508.43	15.21	12.46	12.47	5495.97	0.01
	5/17/2006	5508.43	15.21	12.49	12.55	5495.93	0.06
	5/30/2006	5508.43	15.21	12.60	12.61	5495.83	0.01
OW 19+ 50	5/3/2006	5508.03	13.00	12.83	12.84	5495.20	0.01
	5/17/2006	5508.03	13.00	NPP	12.57	5495.46	NPP
	5/30/2006	5508.03	13.00	NPP	12.71	5495.32	NPP
OW 22+ 00	5/3/2006	5506.91	14.16	11.55	11.57	5495.36	0.02
	5/17/2006	5506.91	14.16	NPP	11.71	5495.20	NPP
	5/30/2006	5506.91	14.16	NPP	11.81	5495.10	NPP
OW 23+ 10	5/3/2006	5514.12	18.34	NPP	16.31	5497.81	NPP
	5/17/2006	5514.12	18.34	NPP	16.28	5497.84	NPP
	5/30/2006	5514.12	18.34	NPP	16.29	5497.83	NPP

NPP = No Product Present NWP = No Water Present

Observation Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
OW 23+ 90	5/3/2006	5515.18	18.01	17.10	17.12	5498.08	0.02
	5/17/2006	5515.18	18.01	NPP	17.11	5498.07	NPP
	5/30/2006	5515.18	18.01	NPP	17.14	5498.04	NPP
OW 25+ 70	5/3/2006	5509.00	13.98	NPP	10.73	5498.27	NPP
	5/17/2006	5509.00	13.98	NPP	10.72	5498.28	NPP
	5/30/2006	5509.00	13.98	NPP	10.75	5498.25	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 0+60	5/3/2006	5506.68	14.09	NPP	7.94	5498.74	NPP
	5/17/2006	5506.68	14.09	NPP	7.95	5498.73	NPP
	5/30/2006	5506.68	14.09	NPP	7.92	5498.76	NPP
CW 1+50	5/3/2006	5505.13	13.74	NPP	6.29	5498.84	NPP
	5/17/2006	5505.13	13.74	NPP	6.28	5498.85	NPP
	5/30/2006	5505.13	13.74	NPP	6.31	5498.82	NPP
CW 3+85	5/3/2006	5503.87	13.11	NPP	5.36	5498.51	NPP
	5/17/2006	5503.87	13.11	NPP	5.39	5498.48	NPP
	5/30/2006	5503.87	13.11	NPP	5.93	5497.94	NPP
CW 5+50	5/3/2006	5503.76	12.27	NPP	6.19	5497.57	NPP
	5/17/2006	5503.76	12.27	NPP	6.22	5497.54	NPP
	5/30/2006	5503.76	12.27	NPP	6.19	5497.57	NPP
CW 6+70	5/3/2006	5503.84	11.45	NPP	6.64	5497.20	NPP
	5/17/2006	5503.84	11.45	NPP	6.63	5497.21	NPP
	5/30/2006	5503.84	11.45	NPP	6.61	5497.23	NPP
CW 8+10	5/3/2006	5504.02	11.63	NPP	7.39	5496.63	NPP
	5/17/2006	5504.02	11.63	NPP	7.37	5496.65	NPP
	5/30/2006	5504.02	11.63	NPP	7.33	5496.69	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 8+45	5/3/2006	5503.80	12.6	NPP	7.35	5496.45	NPP
	5/17/2006	5503.80	12.6	NPP	7.49	5496.31	NPP
	5/30/2006	5503.80	12.6	NPP	7.41	5496.39	NPP
CW 11+ 15	5/3/2006	5503.95	12.27	NPP	5.67	5498.28	NPP
	5/17/2006	5503.95	12.27	NPP	5.69	5498.26	NPP
	5/30/2006	5503.95	12.27	NPP	5.71	5498.24	NPP
CW 14+ 10	5/3/2006	5504.39	13.05	NPP	6.44	5497.95	NPP
	5/17/2006	5504.39	13.05	NPP	6.43	5497.96	NPP
	5/30/2006	5504.39	13.05	NPP	6.41	5497.98	NPP
CW 16+ 60	5/3/2006	5504.32	12.86	NPP	6.32	5498.00	NPP
	5/17/2006	5504.32	12.86	NPP	6.3	5498.02	NPP
	5/30/2006	5504.32	12.86	NPP	6.28	5498.04	NPP
CW 19+ 50	5/3/2006	5504.52	9.99	NPP	6.26	5498.26	NPP
	5/17/2006	5504.52	9.99	NPP	6.29	5498.23	NPP
	5/30/2006	5504.52	9.99	NPP	6.23	5498.29	NPP
CW 22+ 00	5/3/2006	5508.04	12.34	NPP	9.12	5498.92	NPP
	5/17/2006	5508.04	12.34	NPP	9.14	5498.90	NPP
	5/30/2006	5508.04	12.34	NPP	9.12	5498.92	NPP

NPP = No Product Present NWP = No Water Present

Collection Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
CW 23+ 10	5/3/2006	5510.04	14.65	NPP	10.73	5499.31	NPP
	5/17/2006	5510.04	14.65	NPP	10.76	5499.28	NPP
	5/30/2006	5510.04	14.65	NPP	10.74	5499.30	NPP
CW 23+ 90	5/3/2006	5507.32	11.72	NPP	8.26	5499.06	NPP
	5/17/2006	5507.32	11.72	NPP	8.28	5499.04	NPP
	5/30/2006	5507.32	11.72	NPP	8.23	5499.09	NPP
CW 25+ 95	5/3/2006	5505.90	12.25	NPP	7.19	5498.71	NPP
	5/17/2006	5505.90	12.25	NPP	7.15	5498.75	NPP
	5/30/2006	5505.90	12.25	NPP	7.19	5498.71	NPP

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #11	5/3/2006	5510.31	22.94	NPP	10.77	5499.54	NPP
	5/17/2006	5510.31	22.94	NPP	10.61	5499.70	NPP
	5/30/2006	5510.31	22.94	NPP	10.5	5499.81	NPP
MW #12	5/3/2006	5501.61	14.98	NPP	9.76	5491.85	NPP
	5/17/2006	5501.61	14.98	NPP	9.85	5491.76	NPP
	5/30/2006	5501.61	14.98	NPP	9.88	5491.73	NPP
MW #20	5/3/2006	5519.90	27.13	20.67	20.68	5499.23	0.01
	5/17/2006	5519.90	27.13	20.68	20.82	5499.19	0.14
	5/30/2006	5519.90	27.13	20.71	20.81	5499.17	0.10
MW #21	5/3/2006	5521.99	30.38	21.80	21.89	5500.17	0.09
	5/17/2006	5521.99	30.38	21.79	21.86	5500.19	0.07
	5/30/2006	5521.99	30.38	21.18	21.88	5500.67	0.70
MW #39	5/3/2006	5520.83	38.34	NPP	30.81	5490.02	NPP
	5/17/2006	5520.83	38.34	NPP	29.19	5491.64	NPP
	5/30/2006	5520.83	38.34	NPP	28.92	5491.91	NPP
MW #45	5/3/2006	5506.36	16.92	11.23	11.24	5495.13	0.01
	5/17/2006	5506.36	16.92	11.24	11.31	5495.11	0.07
	5/30/2006	5506.36	16.92	11.26	11.36	5495.08	0.10

NPP = No Product Present NWP = No Water Present

Monitoring Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
MW #46	5/3/2006	5504.65	10.39	NPP	NWP		NPP
	5/17/2006	5504.65	10.39	NPP	NWP		NPP
	5/30/2006	5504.65	10.39	NPP	NWP		NPP
MW #47	5/3/2006	5506.77	14.28	12.00	13.00	5494.57	1.00
	5/17/2006	5506.77	14.28	12.01	13.15	5494.53	1.14
	5/30/2006	5506.77	14.28	12.01	13.10	5494.54	1.09

NPP = No Product Present NWP = No Water Present

Sump Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
SW1-0206	5/3/2006	5508.27	53.08	NPP	NWP		NPP
	5/17/2006	5508.27	53.08	NPP	NWP		NPP
	5/30/2006	5508.27	53.08	NPP	NWP		NPP
SW2-0206	5/3/2006	5507.75	27.69	NPP	NWP		NPP
	5/17/2006	5507.75	27.69	NPP	NWP		NPP
	5/30/2006	5507.75	27.69	NPP	NWP		NPP
SW3-0206	5/3/2006	5505.29	52.56	NPP	28.11	5477.18	NPP
	5/17/2006	5505.29	52.56	NPP	29.1	5476.19	NPP
	5/30/2006	5505.29	52.56	NPP	26.86	5478.43	NPP
SW4-0206	5/3/2006	5504.45	42.34	NPP	38.25	5466.20	NPP
	5/17/2006	5504.45	42.34	NPP	37.49	5466.96	NPP
	5/30/2006	5504.45	42.34	NPP	36.45	5468.00	NPP
SW5-0206	5/3/2006	5514.34	52.24	NPP	33.25	5481.09	NPP
	5/17/2006	5514.34	52.24	NPP	33.39	5480.95	NPP
	5/30/2006	5514.34	52.24	NPP	33.53	5480.81	NPP

NPP = No Product Present NWP = No Water Present

Sump Well Fluids Monitoring May 2006

Well ID	Date	Measuring Point Elevation	Total Well Depth	Depth To Product (DTP)	Depth To Water (DTW)	Corrected Groundwater Elevation	Separate Phase Hydrocarbon Thickness
SW6-0206	5/3/2006	5519.72	47.41	42.31	42.91	5477.29	0.60
	5/17/2006	5519.72	47.41	43.86	44.05	5475.82	0.19
	5/30/2006	5519.72	47.41	43.57	43.65	5476.13	0.08
SW7-0206	5/3/2006	5517.63	32.95	NPP	19.47	5498.16	NPP
	5/17/2006	5517.63	32.95	NPP	19.98	5497.65	NPP
	5/30/2006	5517.63	32.95	NPP	19.51	5498.12	NPP

NPP = No Product Present NWP = No Water Present

Section 6.0 Monitoring Results

Sump Wells Baseline Analysis

Water - General Chemistry

		EPA Method 300.0						EPA 160.1	EPA 120.1	EPA 310.1	
WQCC 20 NMAC 6.2.3103		1.6	250		10		600	1000			
Well ID	Date Sampled	mg/L Fluoride	mg/L Chloride	mg/L Bromide	mg/L Nitrogen	mg/L P	mg/L Sulfate	mg/L TDS	umhos/cm E.C.	mg/L CO3	mg/L Alk
SW1 - 0206	3/8/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW2 - 0206	3/8/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW3 - 0206	3/27/2006	1.8	1100	0.82	<0.50	<0.50	3200	6900	8500	<2.0	100
SW4 - 0206	3/27/2006	0.44	230	0.98	<0.10	<0.50	4100	7400	8300	<2.0	680
SW5 - 0206	3/8/2006	0.28	340	<0.50	<0.10	<0.50	1400	3100	3800	<2.0	450
SW6 - 0206	3/8/2006	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
SW7 - 0206	3/13/2006	<0.50	500	9.1	<0.50	<2.5	2800	5600	6800	<2.0	420

NS = Not Sampled - Well is Dry SPH = Well Contains Separate Phase Hydrocarbon - Not Sampled

Sump Wells Baseline Analysis

Water - Total Metals

		EPA Method 6010C, EPA Method 7470: Mercury												
40 CFR 141.62 MCL		0.050	2.0	0.005	0.1	1.3	0.3	0.015	0.05	0.05	0.05	0.02	5.0	0.002
Well ID	Date Sampled	mg/L As	mg/L Ba	mg/L Cd	mg/L Cr	mg/L Cu	mg/L Fe	mg/L Pb	mg/L Mn	mg/L Se	mg/L Ag	mg/L U	mg/L Zn	mg/L Hg
SW1 - 0206	3/8/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW2 - 0206	3/8/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW3 - 0206	3/27/2006	<0.02	0.064	<0.002	<0.006	0.015	2.1	<0.005	0.68	<0.05	<0.005	<0.1	<0.05	0.0036
SW4 - 0206	3/27/2006	0.073	0.22	<0.002	0.0096	0.15	8.5	0.015	3.2	<0.25	<0.005	0.11	0.36	0.02
SW5 - 0206	3/8/2006	<0.02	0.024	<0.002	<0.006	<0.006	0.95	<0.005	2.3	<0.05	<0.005	<0.10	<0.05	<0.0002
SW6 - 0206	3/8/2006	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
SW7 - 0206	3/13/2006	<0.02	0.056	<0.002	<0.006	0.018	1.3	0.033	2.5	<0.05	<0.005	<0.10	<0.05	<0.0002

NS = Not Sampled - Well is Dry SPH = Well Contains Separate Phase Hydrocarbon - Not Sampled

Sump Wells Baseline Analysis

Water - Organics and Field Measurements

		EPA Method 8260B					EPA Method 8310	Field Measurements		
WQCC 20 NMAC 6.2.3103		0.01	0.75	0.75	0.62			6.0 - 9.0		
Well ID	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L EthylBen	mg/L Xylene	mg/L MTBE	mg/L Naphthalene	pH	umhos/cm E.C.	Farenheit Temp
SW1 - 0206	3/8/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW2 - 0206	3/8/2006	NS	NS	NS	NS	NS	NS	NS	NS	NS
SW3 - 0206	3/27/2006	<0.001	<0.001	<0.001	0.004	0.15	<0.0025	6.92	8469	55
SW4 - 0206	3/27/2006	<0.001	<0.001	<0.001	0.0049	<0.003	NS	6.88	8410	54.1
SW5 - 0206	3/8/2006	<0.001	<0.001	0.0017	0.011	8.3	<0.0025	6.92	3838	55.1
SW6 - 0206	3/8/2006	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
SW7 - 0206	3/13/2006	5.0	<0.1	6.8	11.0	0.24	0.12	7.02	5969	59.5

NS = Well is Dry/ SW4-0206 had a limited volume of water - unable to obtain enough sample for entire sample set
SPH = Well Contains Separate Phase Hydrocarbon - Not Sampled

Sump Wells Baseline Analysis

Water - Dissolved Metals

EPA Method 6010B								WQCC 20 NMAC 6.2.3103
mg/L	SW1 - 0206	SW2 - 0206	SW3 - 0206	SW4 - 0206	SW5 - 0206	SW6 - 0206	SW7 - 0206	
Date Sampled	3/8/2006	3/8/2006	3/27/2006	3/27/2006	3/8/2006	3/8/2006	3/13/2006	
Arsenic	NS	NS	<0.02	NS	<0.02	SPH	<0.02	0.10
Barium	NS	NS	0.039	NS	0.02	SPH	0.024	1.00
Cadmium	NS	NS	<0.002	NS	<0.002	SPH	<0.002	0.01
Calcium	NS	NS	490	470	500	SPH	550	
Cr	NS	NS	<0.006	NS	<0.006	SPH	<0.006	0.05
Copper	NS	NS	<0.006	NS	<0.006	SPH	<0.006	1.00
Iron	NS	NS	<0.02	NS	<0.02	SPH	0.069	1.00
Lead	NS	NS	<0.005	NS	<0.005	SPH	0.032	0.05
Mg	NS	NS	54	NS	70	SPH	48	
Mn	NS	NS	0.62	3.1	2.1	SPH	2.2	0.20
K	NS	NS	46	17	6.5	SPH	11	
Se	NS	NS	<0.05	NS	<0.05	SPH	<0.05	0.05
Silver	NS	NS	<0.005	NS	<0.005	SPH	<0.005	0.05
Sodium	NS	NS	1500	1700	410	SPH	1200	
Uranium	NS	NS	<0.1	NS	<0.1	SPH	<0.1	5.00
Zinc	NS	NS	0.11	NS	0.082	SPH	0.07	10.00

Not Sampled - Well is Dry/ SW4-0206 had a limited volume of water - unable to obtain enough sample for entire s

SPH = Well Contains Separate Phase Hydrocarbon - Not Sampled

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Collection Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
CW 0+60	Apr-06	0.360	0.015	0.048	0.160	<0.025	NR	1525	6.91	51.5	1148
	Aug-05	0.400	<0.005	0.800	0.350	NR	NR	1379	7.02	68	994
	May-05	0.200	0.032	0.180	1.000	NR	NR	1378	6.82	55	1023
CW1+50	Apr-06	0.130	0.024	0.120	1.700	<0.050	NR	2242	6.96	52.2	1691
	Aug-05	1.000	<0.02	0.200	1.800	NR	NR	1504	7.05	68	1090
	May-05	1.200	0.041	0.240	2.300	NR	NR	1463	6.86	56	1084
CW3+85	Apr-06	0.0120	0.0120	0.0200	0.2200	<0.012	NR	2242	6.96	52.2	1691
	Aug-05	0.0045	<0.002	0.0075	0.036	NR	NR	2514	6.96	65	1908
	May-05	0.035	0.022	0.020	0.250	NR	NR	2880	6.87	56	2270
CW5+50	Apr-06	0.044	<0.010	0.012	0.15	0.087	NR	4156	7.00	53.4	7439
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	0.2	0.011	0.064	0.24	NR	NR	8765	6.81	56	7762
CW6+70	Apr-06	0.019	<0.002	<0.002	<0.006	0.11	NR	7563	6.96	50.6	6449
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	0.0027	<0.005	<0.005	0.0013	NR	NR	8175	6.86	55	7191
CW8+10	Apr-06	0.17	<0.005	0.01	0.11	0.09	NR	8610	7.00	53.40	7439
	Aug-05	0.18	<0.005	0.01	0.21	NR	NR	6487	7.06	69.00	5382
	May-05	0.43	<0.025	0.05	0.66	NR	NR	5199	6.83	55.00	4358

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Collection Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
CW8+45	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
CW11+15	Apr-06	1.70	<0.020	0.024	0.380	1.200	NR	2388	7.01	53.1	1807
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
CW14+10	Apr-06	8.80	<0.100	1.10	<0.300	1.20	NR	1914	6.98	54.0	1428
	Aug-05	6.00	<0.100	1.20	0.24	NR	NR	3502	6.93	69.0	2739
	May-05	9.80	<0.025	2.10	1.30	NR	NR	4103	6.85	58.0	3353
CW16+60	Apr-06	6.30	<0.100	3.10	6.30	7.60	NR	2273	6.98	56.5	1718
	Aug-05	6.80	0.065	3.10	7.10	NR	NR	2108	6.98	73.0	1569
	May-05	5.30	0.075	3.80	7.30	NR	NR	2420	6.91	60.0	1875
CW19+50	Apr-06	4.90	<0.001	1.30	2.60	80.00	NR	2670	6.98	52.8	1428
	Aug-05	6.60	<0.05	2.80	4.30	NR	NR	3001	6.88	67.0	2321
	May-05	4.80	0.021	1.70	5.10	NR	NR	2844	6.83	56.0	6724
CW22+00	Apr-06	7.20	<0.001	<0.001	<0.003	6.70	NR	3310	7.00	53.3	2595
	Aug-05	6.50	<0.10	<0.10	0.15	NR	NR	3461	6.98	70.0	2699
	May-05	7.00	0.090	0.10	0.20	NR	NR	3202	6.83	57.0	2548

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Collection Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
CW23+10	Apr-06	4.20	<0.010	<0.010	1.1	2.9	NR	3306	6.86	53.5	2601
	Aug-05	9.40	0.015	0.42	0.36	NR	NR	3284	6.96	68.0	2554
	May-05	6.30	0.076	0.19	0.35	NR	NR	3046	6.92	54.0	2425
CW23+90	Apr-06	2.90	<0.100	0.11	<0.300	0.94	NR	3306	6.87	53.7	2601
	Aug-05	3.30	<0.05	0.17	0.33	NR	NR	3222	6.96	68.0	2501
	May-05	3.40	0.035	0.17	0.40	NR	NR	2702	6.86	55.0	2124
CW25+95	Apr-06	<0.001	<0.001	<0.001	<0.003	0.0054	NR	2205	6.93	52.3	1670
	Aug-05	0.00059	<0.0005	<0.0005	<0.0005	NR	NR	1252	6.98	66.0	899
	May-05	0.001	<0.0005	<0.0005	<0.0005	NR	NR	1287	6.92	56.0	949

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Observation Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
OW 0+60	Apr-06	0.065	0.033	0.34	116	<0.025	110	1942	6.93	55.6	1453
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
OW1+50	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
OW3+85	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
OW5+50	Apr-06	0.015	0.014	0.089	9.7	<0.0025	130	3073	6.96	54.5	2393
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
OW6+70	Apr-06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Aug-05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	May-05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Observation Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
OW 8+10	Apr-06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Aug-05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	May-05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
OW11+15	Apr-06	0.23	<0.020	<0.020	<0.060	1.6	15	1840	6.92	55.1	2014
	Aug-05	0.75	<0.01	0.12	0.27	NR	NR	2467	6.90	66.0	1866
	May-05	0.42	<0.025	0.14	0.52	NR	NR	2507	6.90	57.0	1951
OW14+10	Apr-06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	10.00	<0.0005	3.90	3.20	NR	NR	2311	6.95	60.0	1784
OW16+60	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
OW19+50	Apr-06	0.035	<0.001	0.012	0.077	0.18	3.4	4043	6.9	54.9	3242
	Aug-05	0.0057	<0.0005	0.0011	0.0019	NR	NR	3251	6.99	74.0	2527
	May-05	1.90	0.013	0.86	3.20	NR	NR	2896	6.82	58.0	2288

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Observation Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
OW22+00	Apr-06	<0.001	<0.001	<0.001	<0.003	3.9	13	2878	6.99	54.6	2227
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	May-05	3.10	0.045	0.15	0.34	NR	NR	2928	6.84	57.0	2311
OW23+10	Apr-06	0.026	0.012	0.018	0.18	0.31	20	1772	6.99	59	1309
	Aug-05	0.53	<0.01	<0.01	0.047	NR	NR	2502	6.98	69.0	1894
	May-05	0.34	0.0092	0.011	0.08	NR	NR	2678	6.96	59.0	2095
OW23+90	Apr-06	0.012	0.0032	0.014	0.029	0.034	24	1499	7.02	61.3	1092
	Aug-05	0.39	<0.02	0.03	0.072	NR	NR	2201	6.97	67.0	1747
	May-05	0.98	0.016	0.031	0.13	NR	NR	2268	6.97	60.0	1747
OW25+70	Apr-06	<0.0025	<0.001	<0.001	<0.003	<0.0025	<1.0	1552	6.99	54.7	1137
	Aug-05	<0.0005	<0.0005	<0.0005	<0.0005	NR	NR	1161	7.04	69.0	833
	May-05	<0.0005	<0.0005	<0.0005	<0.0005	NR	NR	1303	6.94	56.0	963

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Monitoring Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
MW - #11	Apr-06	3.2	<0.005	<0.005	0.23	<0.120	35	2052	6.78	56	1535
	Aug-05	4.2	<0.05	0.11	0.5	<0.05	NR	2084	7.03	68	NR
	Apr-05	0.4	<0.02	<0.02	0.28	<0.1	NR	2093	6.81	68	NR
MW - #12	Apr-06	0.001	<0.001	<0.001	<0.003	<0.025	<1.0	1048	6.86	48.9	757
	Aug-05	<0.001	<0.001	<0.001	0.0085	<0.001	NR	4291	6.90	65	NR
	Apr-05	<0.0005	<0.0005	<0.0005	0.00072	0.0025	NR	2052	6.97	51	NR
MW - #20	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Apr-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
MW - #21	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Apr-05	0.13	<0.0025	0.025	0.028	0.041	NR	4352	7.01	62	NR
MW -#38	Apr-06	<0.001	0.0029	<0.001	<0.003	0.0045	2.8	2298	6.43	55.8	1740
	Aug-05	<0.001	<0.001	<0.001	<0.001	0.0062	NR	2073	7.1	65.0	NR
	Apr-05	<0.0005	<0.0005	<0.005	0.0015	0.0071	NR	2269	6.95	55	NR

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

PHASE II MONITORING - 2005/2006

Water Analysis BTEX & Field Data - Monitoring Wells

		EPA Method 8021B					EPA Method 8015B	Field Data			
WQCC 20NMAC 6.2.3103		0.01	0.75	0.75	0.62				6.0-9.0		1000
	Date Sampled	mg/L Benzene	mg/L Toluene	mg/L Ethylben	mg/L Xylene	mg/L MTBE	mg/L DRO	mmhos/cm E.C.	pH	Farenheit Temp.	mg/L TDS
MW -#39	Apr-06	0.28	0.05	0.9	0.98	<0.050	2.6	5698	6.96	61.8	4782
	Aug-05	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
	Apr-05	0.52	0.057	1.3	1.5	<0.05	NR	5666	6.93	59	NR
MW -#45	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Apr-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
MW -#46	Apr-06	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Aug-05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	Apr-05	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW -#47	Apr-06	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Aug-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH
	Apr-05	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH	SPH

NS = Well is Dry - No Sample NR = Not Required SPH = Well Contains Separated Phase Hydrocarbons - No Sample

Section 7.0 Remediation System Monitoring

Remediation System Monitoring

North Boundary Barrier Wall

The North Boundary Barrier Wall Collection System was completed in early 2005. The primary purpose of the wall and collection system was to prevent the flow of hydrocarbon-impacted groundwater to the San Juan River. The wall and the collection wells were designed to accumulate fluids in the depressions or troughs of the Naciemento Formation.

Collection wells, located on the plant-side of the barrier, were installed with six-inch diameter PVC well casing and slotted screen. The spacing of the wells (~300 feet between Collection Wells) captures groundwater/SPH behind the barrier preventing build up of fluids. Observation wells, with two inch diameter PVC well casing, were installed adjacent to and 5 to 10 feet downgradient of the wall to allow monitoring of fluid levels.

Monitoring of fluids levels on both sides of the barrier wall consisted of measuring the Depth to Water and Depth to Product in accordance with the schedule provided by NMED through the first three months. In order to better determine if the barrier wall is preventing contaminated groundwater from migrating beyond the barrier wall, Giant continues to measure all Observation and Collection Wells on a twice per month basis.

While monitoring during the third week of April 2006, the Interface Probe malfunctioned. Results from that period are unreliable and have not been included in the elevation data.

Using a vacuum truck, fluids have been removed from the Collection Wells on a 3X per week basis since May 2005. Fluids were removed from the Observation Wells on a monthly basis until September 2005. At that time, the schedule was modified to 3X per week. The seven sump wells that were installed in February 2006 were included in the vacuum truck schedule on a once per week basis in March 2006.

Total volume removed from Collection wells, Observation wells, and sump wells from May 2005 to May 2006 is estimated at 110,000 gallons.

North Outfalls/Draws

Inspections of the draws north of the barrier wall indicate that the barrier wall is preventing migration of contaminated groundwater toward the San Juan River.

Since installation of the barrier wall, all previous areas where seepage of fuel hydrocarbon impacted water was present have been reduced or eliminated.

As a matter of preventive maintenance, containments in the draws are upgraded periodically.

Section 8.0 Summary

Summary

At the request of NMED, (May 9, 2005 letter - Approval With Conditions North Boundary Barrier Collection System Design And Monitoring Phase II) Giant personnel collected initial and annual groundwater samples from all Observation and Collection Wells that do not contain separate phase hydrocarbons in May 2005 and August 2005. Phase II semi-annual sampling occurred in April 2006. The following Collection Wells were sampled during all three events: CW0+60, CW 1+50, CW 3+85, CW 8+10, CW14+10, CW 16+60, CW19+50, CW22+00, CW23+10, CW23+90, CW25+95. CW 5+50 and CW 6+70 had separate phase hydrocarbon present in August 2005 but were sampled in May 2005 and April 2006. CW 11+15 was sampled in April 2006 but had separate phase hydrocarbon in August 2005 and May 2005 and was not sampled at that time. CW 8+45 contains separate phase hydrocarbon and has never been sampled, The following Observation Wells were sampled during all three sampling events: OW 11+15, OW 19+50, OW 23+10, OW 23+90, and OW 25+70. OW 22+00 had separate phase hydrocarbon present in August 2005 but was sampled in May 2005 and April 2006. OW 1+50, OW 3+85, and OW 16+60 had separate phase hydrocarbon during all three events and were not sampled. OW 0+60 contained separate phase hydrocarbon in May 2005 and August 2005 but was sampled in April 2006. OW 5+50 was sampled in April 2006 but had separate phase hydrocarbon present in May and was dry in August and was not sampled. OW 6+70 and OW 8+10 were dry and not sampled during any event. OW 14+10 was sampled in May 2005 but contained separate phase hydrocarbon in August 2005 and was dry in April 2006.

There were sporadic hits of arsenic, barium, cadmium, chromium, and lead in the Observation wells. Collection wells were below maximum contaminant levels except for a hit of mercury (0.4mg/L) in CW 0+60 during the August sampling event. The well was re-sampled in October 2005 and April 2006 with results of <0.0002 mg/L. As anticipated, benzene has been detected in all the Collection wells and Observation wells with CW 25+95 and OW 25+70 having the lowest concentration.

In February 2006, seven sump wells (SW1-0206 to SW7-0206) were installed in accordance with the North Barrier Wall Work Plan which was submitted to OCD February 7, 2006. These wells were constructed to aid in assessing the groundwater hydraulics north of the barrier and to allow for removal of perched groundwater on the Naciemento Formation.

After well development, baseline analysis was performed on SW3-0206, SW4-0206, SW5-0206, and SW7-0206. SW1-0206 and SW2-0206 were dry and were not sampled. SW6-0206 contains separate phase hydrocarbon and was not sampled.

All four wells sampled were over maximum contaminant levels on iron and manganese. SW3 was also over on mercury and SW4 was over on arsenic, uranium, and mercury. All four wells exceeded WQCC standards for sulfate and TDS. SW3 also surpassed the standards for fluoride and chloride. SW5 went over the standard on chloride and SW7 exceeded WQCC standards for chloride, benzene, ethylbenzene, xylene.

All seven sump wells have been included in the bi-weekly fluid measurement schedule established for the North Boundary Collection System. Fluids are removed from the sump wells once per week. Extracted fluids are disposed of through the refinery wastewater system.

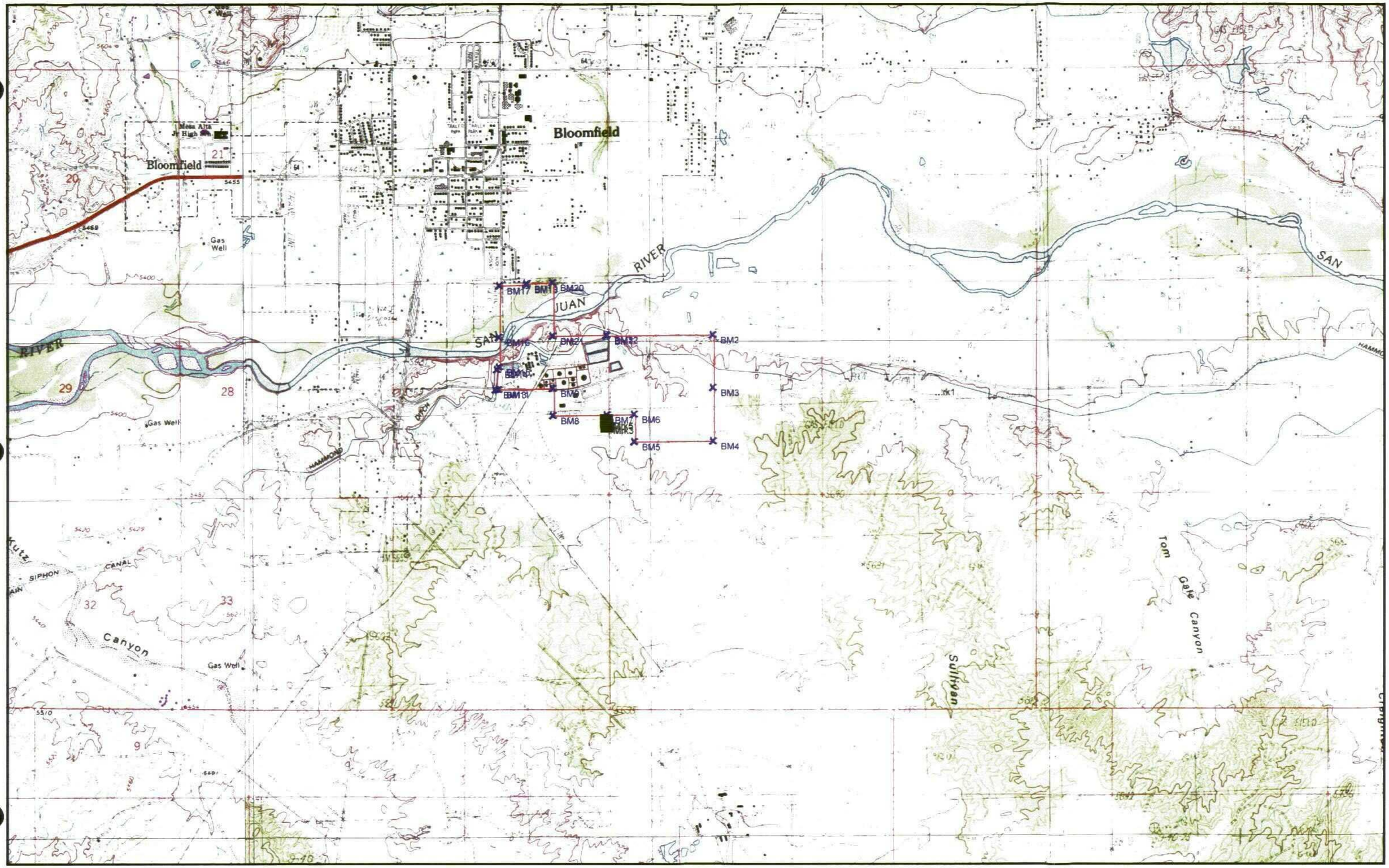
Currently, monitoring results show groundwater levels have not risen significantly in the Collection wells following fluid removal efforts. The presence of separate phase hydrocarbon in Collection wells has decreased behind the barrier and in Observation wells immediately down gradient of the barrier wall. Areas where seepage of fuel hydrocarbon impacted water was present have been reduced or eliminated.

Fluid level measurements from August 2005 and April 2006 were used to produce water table potentiometric surface maps as well as product thickness maps. The maps indicate that the barrier wall and the fluid collection system are effective at impeding the flow of perched water and petroleum hydrocarbons along the bluff.

Future remedial action will consist of continuing to remove fluids from the Observation and Collection wells three times per week and sump wells once per week. In addition, fluid monitoring will continue on a bimonthly schedule. The location of separate phase hydrocarbon in the wells along Hammond Ditch will be assessed and trends in detection, absence, SPH thickness, and fluid build up on both sides of the barrier will be assessed.

Section 9.0 Maps

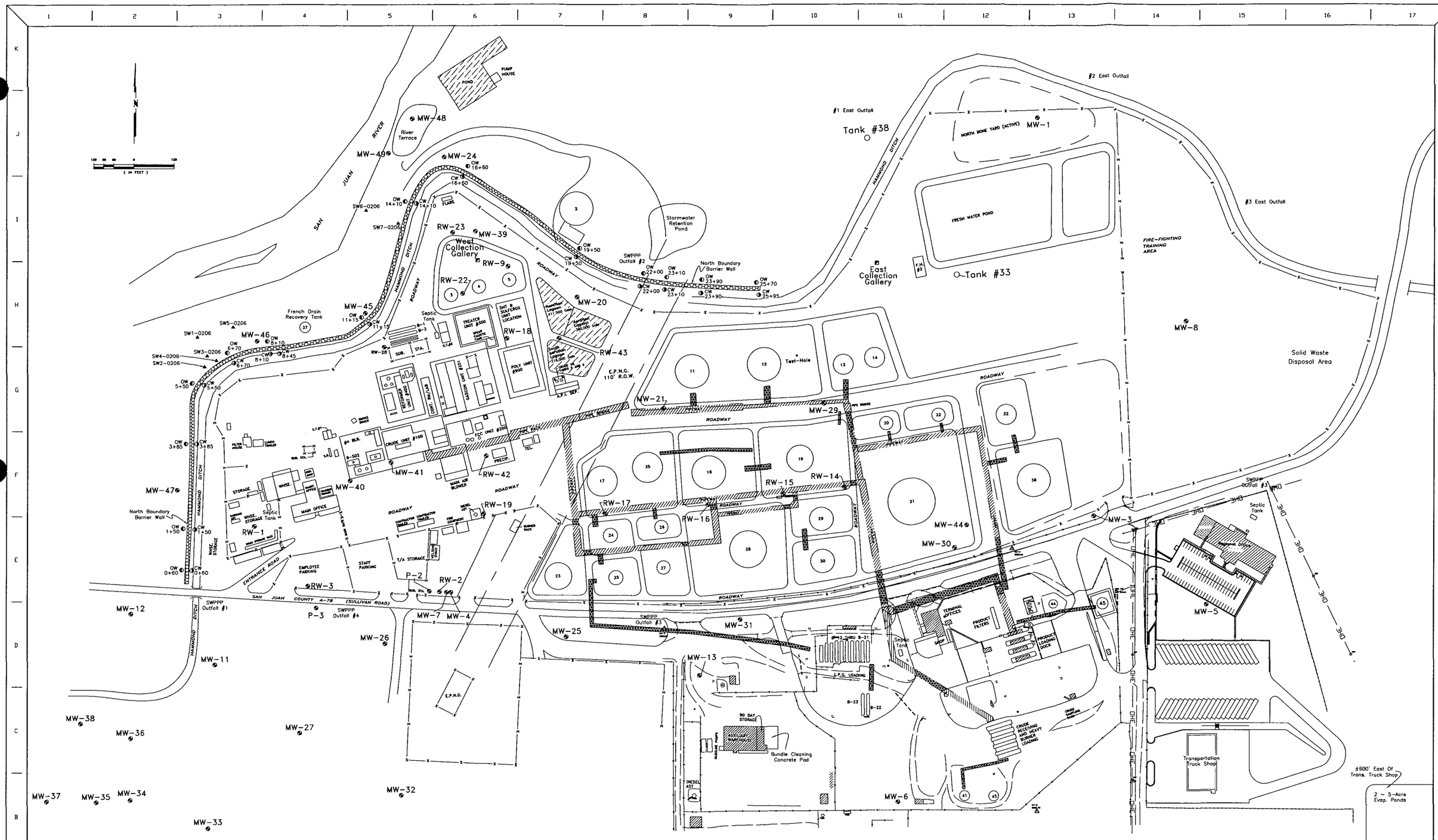
Section 9.0 Maps



N

Scale: 1 inch equals 2000 feet

GIANT



NOTES "MW-XX" – Monitoring Wells Locations
"RW-XX" – Recovery Well Locations
"P" – Piezometer
– Denotes Under Ground Pipe-Way.
– Denotes Above Ground Pipe-Way.
– Denotes Slurry Barrier Wall
"CW" – Collection Well Locations
"OW" – Observation Well Locations
"SW" – Sump Well Locations

REFERENCE DWGS.

NO.	REVISION	JOB No.	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
8	Revised To Indicate Tanks 24 & 25 Addition.		NHB	3/06				
7	Observation, & Collection Wells Added As Per Enviro. Dept. Mark-Ups.		NHB	12/05				
6	Updated To Indicate Changes As Per Enviro. Dept. Red-Line Mark-Ups.		NHB	7/05				
5	Updated To Indicate Changes As Per Enviro. Dept. Red-Line Mark-Ups.		NHB	3/05				
4	Updated To Indicate Changes As Per Enviro. Dept. Red-Line Mark-Ups.		NHB	2/04				
3	Updated To Indicate Under Ground Pipe Ways In The Tank Farm Area.		NHB	12/03				
9	Revised To Indicate "SW" or Sump Well Locations.		NHB	5/06				
1	Updated As Per Enviromental Dept. Mark Up							

AFE/WO No.

SCALE	As Noted
DRAWN BY	NHB
INITIAL CHK.	
FINAL CHK.	
ENGR.	
APPR. BY	
DATE	8/29/02

Giant Bloomfield Refinery
Area Plot Plan
Recovery Well & Monitoring Well Locations

GIANT REFINING CO.
BLOOMFIELD REFINERY — BLOOMFIELD NEW MEXICO

DWG. NO. D-000-900-023 — REV. 9

Figure 6
Giant Refining Company
Bloomfield Refinery
April 2006
Product Thickness

1" = 200'

Contours (0.10' interval)

MW-6 0.09 Well Name, Product Thickness, Location

N

PRECISION ENGINEERING, INC.

MW-49 MW-48 OW16+60 0.02 CW16+60 0.00 SW7-0206 SW6-0206 0.00 0.00 OW14+10 Dry CW14+10 0.00 RW23(MW23) 0.01 MW-39 0.00 CW19+50 0.00 OW19+50 0.00 MW-46 DRY OW06+70 Dry SW4-0206 SW5-0206 0.00 SW1-0206 SW3-0206 SW2-0206 OW05+50 0.00 CW05+50 0.00 RW22(MW22) 0.01 RW9(MW9) 0.14 MW-45 0.04 OW11+15 0.00 CW11+15 0.00 OW08+10 Dry CW08+10 0.07 CW08+45 0.00 CW06+70 0.00 RW26(MW26) 0.35 MW-20 0.10 RW-18 0.41 RW-43(MW-43) 0.24 OW22+00 0.00 CW22+00 0.00 OW23+10 0.00 CW23+10 0.00 OW23+90 0.00 CW23+90 0.00 OW25+70 0.00 CW25+90 0.00 CW25+95 0.00 MW-1 0.00 0 FT

0.44 OW03+85 MW-47 0.79 CW03+85 0.00 OW01+50 0.02 CW01+50 0.00 RW-1 0.02 OW0+60 0.00 CW0+60 0.00 RW-3 0.00 MW-42(MW-42) 0.50 MW-41 0.21 MW-40 0.34 RW-19 0.11 RW-17 0.02 MW-21 0.08 MW-29 0.00 MW-8 0.00 SURVEYCP

MW-12 0.00 RW-16 0.00 RW-15 0.01 RW-14 0.00 P-3 0.00 MW-77 0.00 RW-2 0.01 MW-4 0.01 MW-44 0.00 MW-30 0.00 MW-3 0.00

MW-38 0.00 MW-36 0.00 MW-11 0.00 MW-26 0.00 MW-25 0.25 MW-31 0.00 0 FT

MW-37 0.00 MW-35 0.00 MW-34 0.00 MW-13 0.00 MW-5 Dry

MW-27 0.00

MW-33 0.00

MW-32 0.00 MW-6 Dry

Figure 5

Giant Refining Company
Bloomfield Refinery
April 2006
Groundwater Elevation
Flow Direction

Flow Direction

Contours (1' interval)

MW-6 Dry — Well Name, Water Elevation, Location

1" = 200'

N

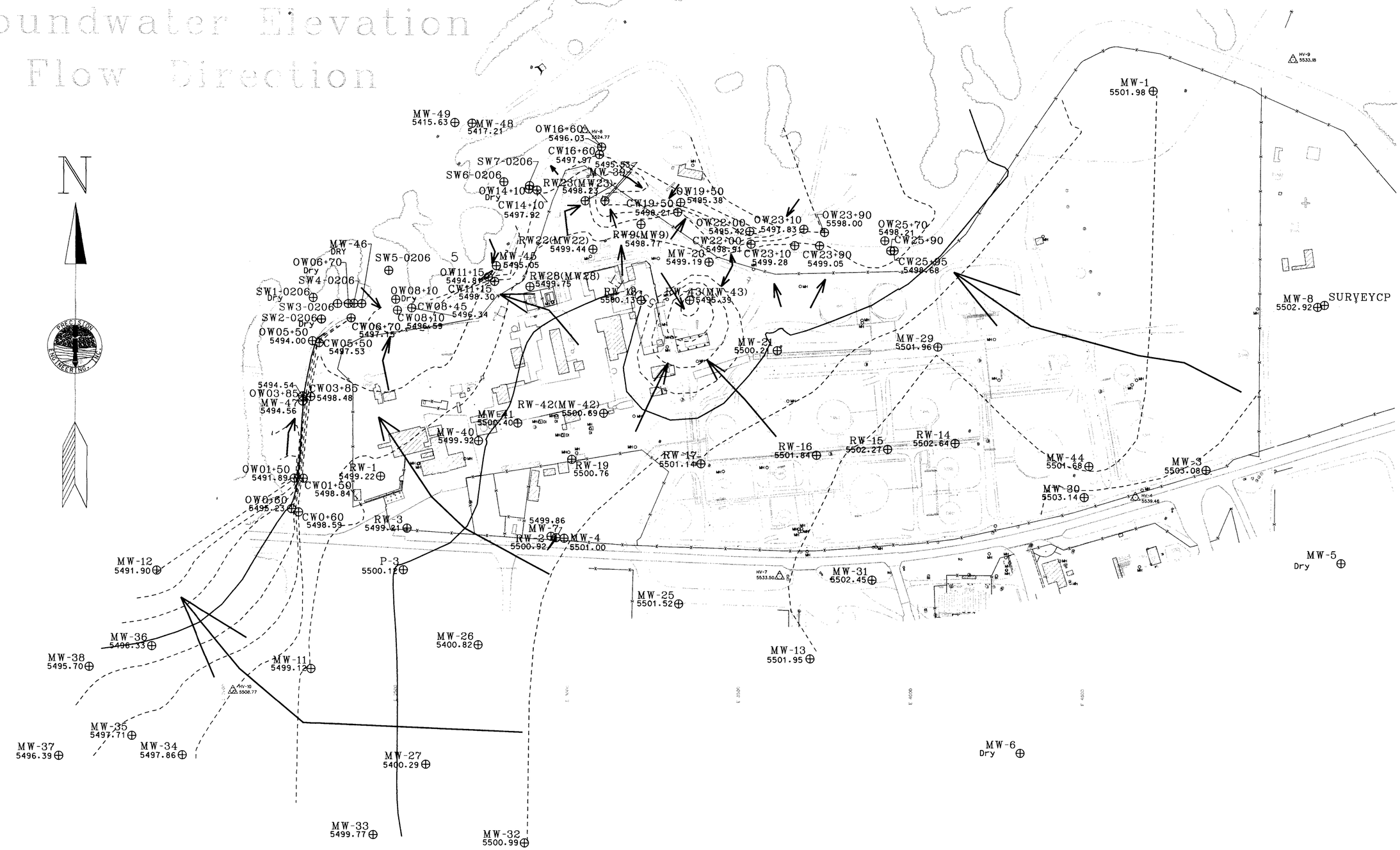


Figure 4

Giant Refining Company
Bloomfield Refinery
August 2005
Product Thickness

Scale: 1" = 200'

Contour Interval = 0.1'

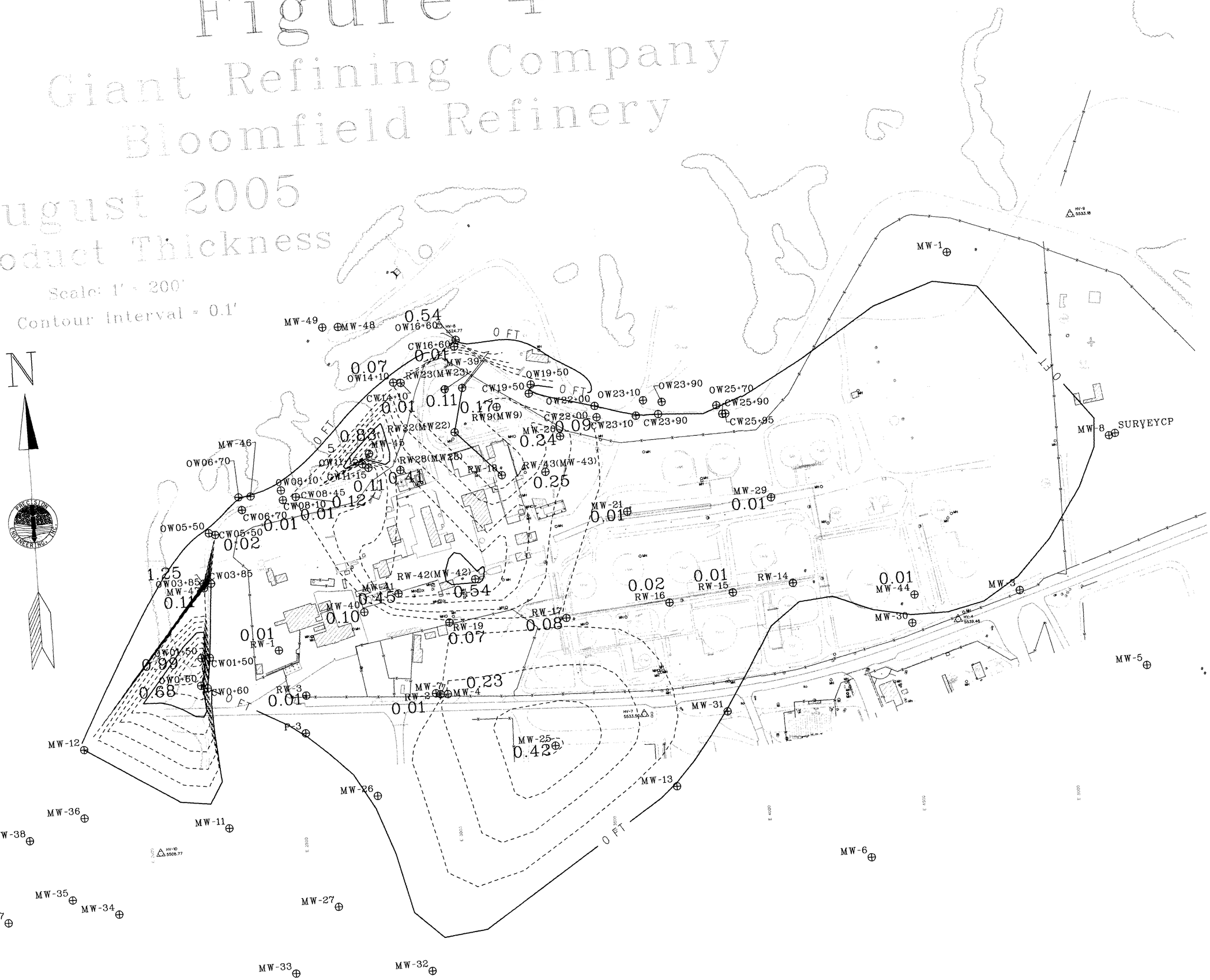
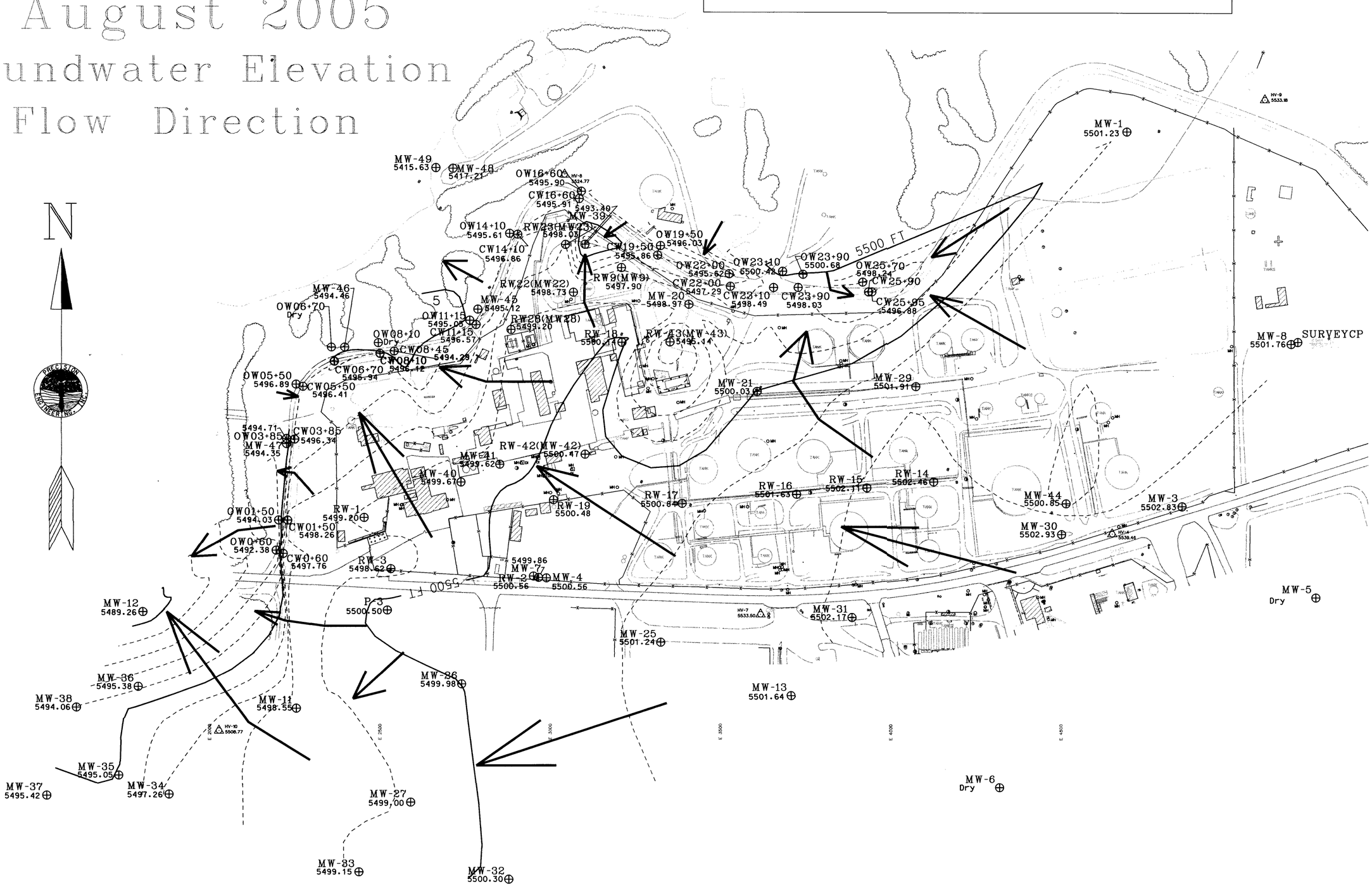


Figure 3

Giant Refining Company
Bloomfield Refinery
August 2005
Groundwater Elevation
Flow Direction



Section 10.0 Field Methods

Field Methods

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

Water quality parameters are measured using an Ultrameter 6P by the Myron L Company. Electrical conductance, total dissolved solids (TDS), pH, and temperature are monitored during purging.

Instrument Calibration

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.

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

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.

Well Sampling and Sample Handling Procedure

Equipment and supplies needed for collecting representative groundwater samples include:

- Interface Probe
- Ultrameter 6P
- 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/Logsheet
- Two 5-gallon buckets
- Trash container (plastic garbage bag)
- Ziploc Bags
- Paper towels

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 logsheet is reviewed to verify all entries.

Purge and Decontamination Water Disposal

The Ultrameter 6P 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.

Section 11.0 Drilling Logs and Installation Diagrams

KEY TO EXPLORATION LOGS

Project: OCD Compliance Drilling
Bloomfield Refinery

Abbreviations

AL	Atterberg Limits
AR	Air Rotary Drilling Method
BTEX	benzene, toluene, ethylbenzene, xzylene
C	Consolidation
DS	Direct Shear
HSA	Hollow-stem Auger
LL	Liquid Limit
MC	Modified California Split-spoon Sampler
N	Number of hammer blows for last 12 inches
OVA	Organic Vapor Analyzer; head space reading
PI	Plasticity Index
PID	Photo Ionization Detector; head space reading
ppm	Parts per Million
PL	Plastic Limit
SA	Sieve Analysis
SG	Specific Gravity
SPT	Standard Penetration Test
TPH	Total Petroleum Hydrocarbons
TX	Triaxial Shear
3¾"/7"	3¾" Inside Diameter/7" Outside Diameter
6¼"/10"	6¼" Inside Diameter/10" Outside Diameter
5½"	Rotary Bit Diameter

Minor Constituent Descriptors

Trace	<5%
Few	5 to 15%
Little	10 to 25%
Some	25 to 45%
Scattered	Evenly distributed throughout
Occasional	Randomly distributed

(Percentages on dry weight basis)

Plasticity Descriptors

Low	⅛" thread can barely be rolled
Medium	Thread is easily rolled
High	Thread can be rolled many times after reaching plastic limit

Blow Count/Density & Consistency Relationship

Cohesionless Soils		*Cohesive Soils*	
Density	N, SPT	Consistency	N, SPT
Very Loose	0 – 4	Very Soft	0 – 2
Loose	5 – 10	Soft	3 – 5
Medium Dense	11 – 30	Firm	6 – 12
Dense	31 – 50	Hard	12 – 30
Very Dense	> 50	Very Hard	> 30

(Cohesionless density description applied to nonplastic silt)

Moisture Descriptors

Dry	Absence of moisture, dusty
Moist	Damp but no visible water
Wet	Visible free water

Structure

Stratified	> ¼ inch thick
Laminated	< ¼ inch thick
Fissured	Breaks along planes
Slickensided	Planes polished, striated
Blocky	Cohesive soil breaks to angular lumps
Lensed	Scattered small lenses
Fractured	Breakage in other than fissility direction
Homogenous	Same color and appearance throughout

Cementation Descriptors

Weakly Cemented	Crumbles or breaks with little finger pressure
Moderately Cemented	Crumbles or breaks with considerable finger pressure
Strongly Cemented	Will not crumble or break with finger pressure

Contact Symbols

Geologic Units	————
Lithologic Units	- - - - - - - -

Groundwater Level Symbols

Level at time of drilling (ATD)	▼
Level in monitoring well and date measured	▽

General Notes

Descriptions and stratum lines are interpretive. Field descriptions may be modified to reflect lab test results. Descriptions on logs apply only at the specific boring locations and at the time the borings were advanced; they are not warranted to represent subsurface conditions.

Descriptions are recorded in the following order; major constituent with geologic unit, gradation, minor constituents, plasticity, color, density/consistency, moisture, structure, cementation, additional comments

Key to Exploration Logs Prepared Specifically for this Project at this Time - Not for Reprint

Log of SW1-0206

Location	Project Name OCD Compliance Drilling	Date February 20, 2006	Page 1 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Elevation
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 40'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
					Surface Condition: Fill Soil
1–2					**Sand** *Fill* — fine to medium, trace coarse, little fine to coarse gravel, few clayey silt, brown, medium dense, dry
3	S-1	---	---	0.0	**Gravel** *Jackson Lake Terrace* — fine to coarse, some fine to coarse sand, trace clayey silt, scattered cobbles, gray-brown, very dense, dry
4	Grab				
5–8					
9					**Sand** — fine to medium, trace coarse, few fine gravel, trace clayey silt, brown, dense, dry
10	S-2	12	0	---	
	SPT	17			
11		12			
12–13					
14					**Claystone** *Nacimiento Formation* — Silty Clay; medium plasticity, brown, very hard, dry, faint laminated bedding, silt partings on approx. 1" to 2" spacing, oxidized reddish-brown ⅛" to ¼" nodules, lightly fractured, moderately cemented
15	S-3	13	100	0.0	
16	SPT	26			
		46			
17–20					

Log of SW1-0206

Location	Project Name OCD Compliance Drilling	Date February 20, 2006	Page 2 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 40'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
20	S-4	18	100	>10	**Claystone** continued, laminated bedding, highly fractured
21	SPT	19			
		50			
22		5½"			
23					
24					
25	S-5	29	100	0.0	laminated with gray-brown clayey silt
26	SPT	50			
		4"			
27					
28					
29					
30	S-6	50	0	---	Silty Clay; medium plasticity, light gray, very hard, brown, very hard, dry, fissured bedding, moderately cemented
31	SPT	4"			
32					
33					
34					
35	S-7	31	100	0.0	Silty Clay; medium plasticity, dark gray, very hard, dry, highly fractured, slickensides on fractures, moderately cemented
36	SPT	49			
37					
38					
39					**Siltstone** Clayey Silt; trace fine sand, low plasticity, light gray, very hard, moist, laminated bedding, laminated with gray-brown clayey silt, moderately cemented
40					

Log of SW1-0206

Location	Project Name OCD Compliance Drilling	Date February 20, 2006	Page 3 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 40'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
40	S-8 SPT	50/5"	100	0.0	**Siltstone** continued
41					
42					
43					**Sandstone** Sand; fine, few clayey silt, light gray, very dense, moist, faint laminated bedding, weakly cemented
44					
45	S-9 SPT	50/5"	100	0.0	
46					
47					
48					
49					
50	S-10 SPT	40 50/5"	20	0.0	no bedding observed
51					
52					
53					
54					
55	S-11 SPT	35 50/5"	100	0.0	little clayey silt, laminated bedding
56					
57					
58					
59					
60					

Log of SW1-0206

Location	Project Name	Date	Page
See Plan	OCD Compliance Drilling	February 20, 2006	4 of 4
	Drilling Co. Enviro-Drill, Albuquerque, NM	**Driller** M. Cain	**Elevation**
	Drill Rig CME 75	**Logged By** JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 40'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
60	S-12	36	100	0.0	**Sandstone** continued, few clayey silt
61	SPT	50/4"			
62					Bottom of boring at approximately 60¾ feet.
63					Boring completed on February 20, 2006.
64					No groundwater observed during drilling.
65					No groundwater measured in well on March 2, 2006.
66					
67					
68					
69					
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71					
72					
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78					
79					
80					

Log of SW2-0206

Location	Project Name OCD Compliance Drilling	Date February 16, 2006	Page 1 of 2
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HAS to 35'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
					Surface Condition: Soil, Shoulder of Hammond Ditch Road
1					**Sand** *Fill* — fine to coarse, little fine to coarse gravel, trace clayey silt, brown, medium dense, dry
2	S-1	---	---	1.3	
3	Grab				**Sand** *Jackson Lake Terrace* — fine to coarse, little fine to coarse gravel, trace clayey silt, scattered cobbles, brown, dense, dry
4					
5					**Gravel** — fine to coarse, some fine to coarse sand, trace clayey silt, scattered cobbles, gray-brown, dense, dry
6					
7					
8					
9	S-2	11	100	>10	**Sand** — fine to medium, trace coarse, trace clayey silt, gray-brown, medium dense, moist, dark gray/black petroleum staining
10	SPT	17			
		22			**Claystone** *Nacimiento Formation* — Silty Clay; trace fine sand, medium plasticity, brown, very hard, moist, faint laminated bedding, silt partings on approx. 1" spacing, lightly fractured with occasional reddish-brown oxidization on fractures, moderately cemented, 10' to 10.1' dark gray/black petroleum staining
11					
12					
13					
14					
15	S-3	20	100	3.5	
16	SPT	21			laminated bedding
		30			
17					
18					
19					
20					

Log of SW2-0206

Location	Project Name OCD Compliance Drilling	Date February 16, 2006	Page 2 of 2
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HAS to 35'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
20	S-4	18	100	0.3	**Claystone** continued
21	SPT	33			
		50			
22		3"			
23					
24					
25	S-5	30	100	0.6	Silty Clay; low plasticity, medium gray, laminated bedding, occasional laminations of clayey silt, moderately fractured, faint slickensides on fractures, moderately cemented
26	SPT	50			
		4"			
27					
28					
29					
30	S-6	40	25	0.3	
31	SPT	50			occasional silt partings
		5"			
32					
33					
34					
35	S-7	50	100	0.4	
36	SPT	5½"			Bottom of boring at approximately 35½ feet.
37					Boring completed on February 16, 2006.
38					No groundwater observed during drilling.
39					No groundwater measured in well on March 2, 2006.
40					

Log of SW3-0206

Location	Project Name OCD Compliance Drilling	Date February 17, 2006	Page 1 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 58'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
					Surface Condition: Soil, Shoulder of Hammond Ditch Road
1					**Sand** *Fill* — fine to medium, trace coarse, few fine gravel, trace clayey silt, brown, medium dense, moist
2					
3					
4					
5	S-1	---	---	0.1	
6	Grab				
7					
8					**Claystone** *Nacimiento Formation* — Silty Clay; trace fine sand, medium plasticity, brown, hard, dry, laminated bedding, silt partings on approx. 1" to 2½" spacing, moderately cemented
9	S-2	7	100	0.2	
	SPT	8			
10		10			
11					
12					
13					
14					
15	S-3	11	100	0.2	moderately fractured with reddish-brown oxidization on fractures
	SPT	12			
16		11			
17					
18					
19					
20					

Log of SW3-0206

Location	Project Name OCD Compliance Drilling	Date February 17, 2006	Page 2 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 58'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
20					**Claystone** continued
21					
22					
23					
24					
25					
26					
27					
28					
29					
30	S-4	38	100	0.2	Silty Clay; medium plasticity, dark gray, laminated bedding, highly fractured, slickensided fractures, moderately cemented
31	SPT	50/3"			
32					
33					
34					
35	S-5	13	100	0.2	
36	SPT	33			
		50/4"			
37					**Siltstone** Clayey Silt; trace fine sand, low plasticity, light gray, very hard, dry, laminated bedding, laminated with medium gray clayey silt, moderately cemented
38					
39					
40					

Log of SW3-0206

Location	Project Name	Date	Page
See Plan	OCD Compliance Drilling	February 17, 2006	3 of 4
	Drilling Co. Enviro-Drill, Albuquerque, NM	**Driller** M. Cain	**Elevation**
	Drill Rig CME 75	**Logged By** JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 58'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
40	S-6	34	100	0.7	**Siltstone** continued
41	SPT	50/4"			
42					
43					
44					**Sandstone** Clayey Sand; fine, low plasticity, light gray, very dense, moist, faint laminated bedding, laminated with medium gray clayey silt, moderately cemented
45					
46					
47					
48					
49					
50	S-7	50/5"	100	0.2	
51	SPT				
52					
53					
54					
55					
56					laminated bedding
57					
58					
59					
60					

Log of SW3-0206

Location	Project Name OCD Compliance Drilling	Date February 17, 2006	Page 4 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 58'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
60	S-8	50	100	0.2	**Sandstone** continued
	SPT	3"			
61					Bottom of boring at approximately 60¼ feet.
					Boring completed on February 17, 2006.
62					No groundwater observed during drilling.
					No groundwater measured in well on March 2, 2006.
63					
64					
65					
66					
67					
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71					
72					
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74					
75					
76					
77					
78					
79					
80					

Log of SW4-0206

Location	Project Name OCD Compliance Drilling	Date February 16, 2006	Page 1 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Elevation
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 10'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
					Surface Condition: Soil, Shoulder of Hammond Ditch Road
1					**Sand** *Fill* — fine to medium, trace coarse, few fine gravel, few clayey silt, brown, loose, moist
2					
3					
4	S-1 Grab	---	---	0.1	
5					medium dense
6					
7					
8					
9					
10	S-2 SPT	3 4 4	50	3.6	scattered organics, old topsoil horizon, weeds in sample
11					**Claystone** *Nacimiento Formation* — Silty Clay; trace fine sand, medium plasticity, brown, soft, moist, faint laminated bedding, silt partings on approx. 1" to 2" spacing, moderately cemented
12					
13					
14					
15	S-3 SPT	17 24 50/5"	100	0.4	very hard
16					
17					highly fractured, occasional reddish-brown oxidization on fractures, faint slickensides on fractures
18					
19					
20					

Log of SW4-0206

Location	Project Name OCD Compliance Drilling	Date February 16, 2006	Page 2 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 10'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
20	S-4	14	100	0.0	**Claystone** continued
21		34			
		38			
22					
23					
24					
25	S-5	24	100	0.2	
26		50			
		4"			
27					
28					
29					Silty Clay, medium plasticity, light gray, very hard, dry, laminated bedding, silt partings on approx. 1" spacing, moderately cemented
30	S-6	50	50	0.0	
31	SPT	4"			Silty Clay: medium plasticity, dark gray, very hard, dry, faint laminated bedding, highly fractured, slickensided fractures, moderately cemented
32					
33					
34					
35	S-7	18	100	0.8	
36	SPT	38			
		50			
37		5½"			
38					**Siltstone** Clayey Silt; low plasticity, light gray, very hard, dry, laminated bedding, silt partings on approx. ⅜" to ⅝" spacing, moderately cemented
39					
40					

Log of SW4-0206

Location	Project Name OCD Compliance Drilling	Date February 16, 2006	Page 3 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Elevation
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 10'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
40	S-8 SPT	50/6"	100	0.2	**Siltstone** continued
41					
42					**Sandstone** Clayey Sand; fine, low plasticity, light gray, very dense, moist, faint laminated bedding, laminated with medium gray clayey silt, moderately cemented
43					
44					
45	S-9 SPT	46 50/4"	80	0.0	
46					
47					
48					
49					
50	S-10 SPT	50/5½"	100	0.0	
51					
52					
53					
54					
55	S-11 SPT	50/5½"	100	0.0	laminated bedding, little clayey silt
56					
57					
58					
59					
60					

Log of SW4-0206

Location	Project Name OCD Compliance Drilling	Date February 16, 2006	Page 4 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 10'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
60	S-12	50	100	0.0	**Sandstone** continued
61	SPT	5"			Bottom of boring at approximately 60½ feet.
62					Boring completed on February 16, 2006.
63					No groundwater observed during drilling.
64					No groundwater measured in well on March 2, 2006.
65					
66					
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75					
76					
77					
78					
79					
80					

Log of SW5-0206

Location	Project Name OCD Compliance Drilling	Date February 15, 2006	Page 1 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 6¼"/10" HSA to 14'; 5½" AR 14' to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
					Surface Condition: Fill Soil
1–7					**Sand** *Fill* — fine to coarse, little fine to coarse gravel, trace clayey silt, brown, loose, dry; scattered cobbles; medium dense
7–9					**Gravel** *Jackson Lake Terrace* — fine to coarse, some fine to coarse sand, trace clayey silt, scattered cobbles, gray-brown, medium dense, dry
9–10					**Sand** — fine to coarse, some fine to coarse gravel, trace clayey silt, brown, dense, dry
10	S-1 Grab	---	---	0.3	
11–16					**Gravel** — some cobbles, few fine to coarse sand, trace clayey silt, dense, dry
17–20					**Sand** — fine to medium, trace coarse, few clayey silt, yellowish brown, very dense, dry, oxidized ¼" lenses
18	S-2 SPT	50 / 5"	100	0.3	

Log of SW5-0206

Location	Project Name OCD Compliance Drilling	Date February 15, 2006	Page 2 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 6¼"/10" HSA to 14'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
20	S-3	38	50	0.3	**Sand** continued
21		29 / < 1"			
22					
23	S-4	27	100	0.2	laminated bedding
		44			
24		45			
25	S-5	15	100	0.1	stratified with 1" to 1½" thick light gray clayey fine sand
26		24			
		27			
27					
28					**Sandstone** *Nacimiento Formation* Clayey Sand; fine, low plasticity, light gray, very dense, moist, moderately cemented
29					
30	S-6	11	100	0.0	
31	SPT	26			
		29			
32					
33					▽ 3.2.06
34					**Claystone** Silty Clay; medium plasticity, medium gray, very hard, moist, laminated bedding, laminated with light brown and dark brown silty clay, lightly fractured, moderately cemented
35	S-7	24	100	0.1	
36	SPT	50 / 5"			
37					
38					Silty Clay; trace fine sand, medium plasticity light gray, very hard, dry, faint laminated bedding, silt partings on approx. ¼" to ½" spacing, moderately cemented
39					
40					

Log of SW5-0206

Location	Project Name OCD Compliance Drilling	Date February 15, 2006	Page 3 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 6¼"/10" HSA to 14'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
40	S-8	40	100	0.3	**Claystone** continued
41	SPT	50/5"			
42					Silty Clay; medium plasticity, dark gray, very hard, moist, laminated bedding, highly fractured, faint slickensides on fractures, moderately cemented
43					
44					
45	S-9	21	80	0.3	
46	SPT	50/2"			
47					
48					**Siltstone** Clayey Silt; trace fine sand, low plasticity, light gray, very hard, moist, laminated bedding, laminated with medium gray clayey silt, moderately cemented
49					
50	S-10	50	100	0.2	
51	SPT	5½"			
52					
53					
54					
55	S-11	50	100	0.3	**Sandstone** Sand; fine, few clayey silt, light gray, very dense, moist, faint laminated bedding, laminated with medium gray clayey silt, weakly cemented
56	SPT	5"			
57					
58					
59					
60					

Log of SW5-0206

Location	Project Name OCD Compliance Drilling	Date February 15, 2006	Page 4 of 4
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 6¼"/10" HSA to 14'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
60	S-12	50	100	0.3	**Sandstone** continued
61	SPT	4"			Bottom of boring at approximately 60¼ feet.
62					Boring completed on February 15, 2006.
63					No groundwater observed during drilling.
64					Perched groundwater measured in well at approximately 33¼ feet on March 2, 2006.
65					
66					
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					
78					
79					
80					

Log of SW6-0206

Location	Project Name OCD Compliance Drilling	Date February 13 & 14, 2006	Page 1 of 3
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HAS to 60'; 6¼"/10" HAS to 30'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Graphic	Description
						Surface Condition: Fill Soil, Weeds
1–4						**Sand** *Fill* — fine to coarse, little fine to coarse gravel, trace clayey silt, gray-brown, loose, dry; medium dense
5–9						**Silt** *Loess* — little fine sand, brown, loose, dry
10–14						**Sand** *Jackson Lake Terrace* — fine to coarse, some fine to coarse gravel, trace clayey silt, scattered cobbles, gray-brown, medium dense, dry, stratified with 2" to 12" thick fine to coarse sand, few clayey silt, trace fine to coarse gravel; very dense
15–20						

Log of SW6-0206

Location	Project Name OCD Compliance Drilling	Date February 13 & 14, 2006	Page 2 of 3
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HAS to 60'; 6¼"/10" HAS to 30'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Graphic	Description
20						**Sand** continued
21						
22						
23	S-1	39	100	0.8		Sand; fine, few clayey silt, yellowish brown, very dense, moist, stratified with ¼" to ½" thick clayey fine sand
	MC	50/4"				
24						
25						
26						
27						dark gray/black petroleum staining, petroleum odor
28	S-2	21	100	>10		
	MC	50/4"		5.2		PID reading of >10 on slough
29						
30						
31						
32						**Sandstone** *Nacimiento Formation* Clayey Sand; fine, low plasticity, light gray, very dense, moist, moderately cemented
33	S-3	50/4"	0	---		
	MC					
34						
35						
36						
37						
38	S-4	26	100	4.7		laminated bedding
	SPT	51				PID reading of 4.7 on slough
39						
40						

Log of SW6-0206

Location	Project Name	Date	Page
See Plan	OCD Compliance Drilling	February 13 & 14, 2006	3 of 3
	Drilling Co. Enviro-Drill, Albuquerque, NM	**Driller** M. Cain	**Elevation**
	Drill Rig CME 75	**Logged By** JCB	
	Drilling Method 3¾"/7" HAS to 60'; 6¼"/10" HAS to 30'; 5½" AR to 60'		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Graphic	Description
40						**Sandstone** continued
41						
42						
43	S-5	31	100	0.8		Sand; fine, few clayey silt, light gray, very dense, moist, laminated with medium gray clayey silt, moderately cemented
	SPT	50				
44		4"				
45						**Claystone** Silty Clay; trace fine sand, medium plasticity, light gray, very hard, moist, faint laminated bedding, laminated with medium gray clayey silt, moderately cemented
46						
47						
48	S-6	40	100	0.9		
	SPT	50				
49		2"				
50						
51						**Siltstone** Silt; few fine sand, light gray, very dense, moist, laminated bedding, laminated with medium gray clayey silt, weakly cemented
52						
53	S-7	50	100	0.7		
	SPT	5"				
54						
55						
56						**Sandstone** Clayey Sand; fine, low plasticity, light gray, very dense, moist, laminated bedding, laminated with medium gray clayey silt, moderately cemented
57						
58	S-8	20	100	4.4		PID reading of 4.4 on slough
	SPT	50				
59		5"				Bottom of boring at approximately 58½ feet.
60						Boring completed on February 14, 2006.
						No groundwater observed during drilling.
						No groundwater measured in well on March 2, 2006.

Log of SW7-0206

Location	Project Name OCD Compliance Drilling	Date February 22, 2006	Page 1 of 2
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	Elevation
	Drill Rig CME 75	Logged By JCB	
	Drilling Method 3¾"/7" HSA		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Graphic	Description
						Surface Condition: Soil, Shoulder of Hammond Ditch Road
1						**Sand** *Fill* — fine to medium, few clayey silt, brown, loose, moist
2						
3	S-1 Grab	---	---	5.1		
4						**Gravel** *Jackson Lake Terrace* — fine to coarse, little fine to coarse sand, trace clayey silt, scattered cobbles, gray-brown, very dense, dry
5						
6						
7						
8						
9	S-2 Grab	---	---	>10		
10	S-3	27	80	>10		10' to 11'dark gray petroleum staining, petroleum odor
11	SPT	50 / 5½"				**Sandstone** *Nacimiento Formation* — Sand; fine to medium, little clayey silt, light gray, very dense, moist, laminated with medium gray clayey silt, dark gray petroleum stained layers approx. ½" to 1½" thick, weakly cemented
12						
13						
14						
15	S-4	18	100	>10		Clayey Sand; fine, low plasticity, yellowish gray-brown, very dense, moist, moderately cemented
16	SPT	50 / 5"				∇ 3.2.06
17						Clayey Sand; fine, low plasticity, light gray, very dense, moist, faint laminated bedding, moderately cemented
18						
19						
20						

Log of SW7-0206

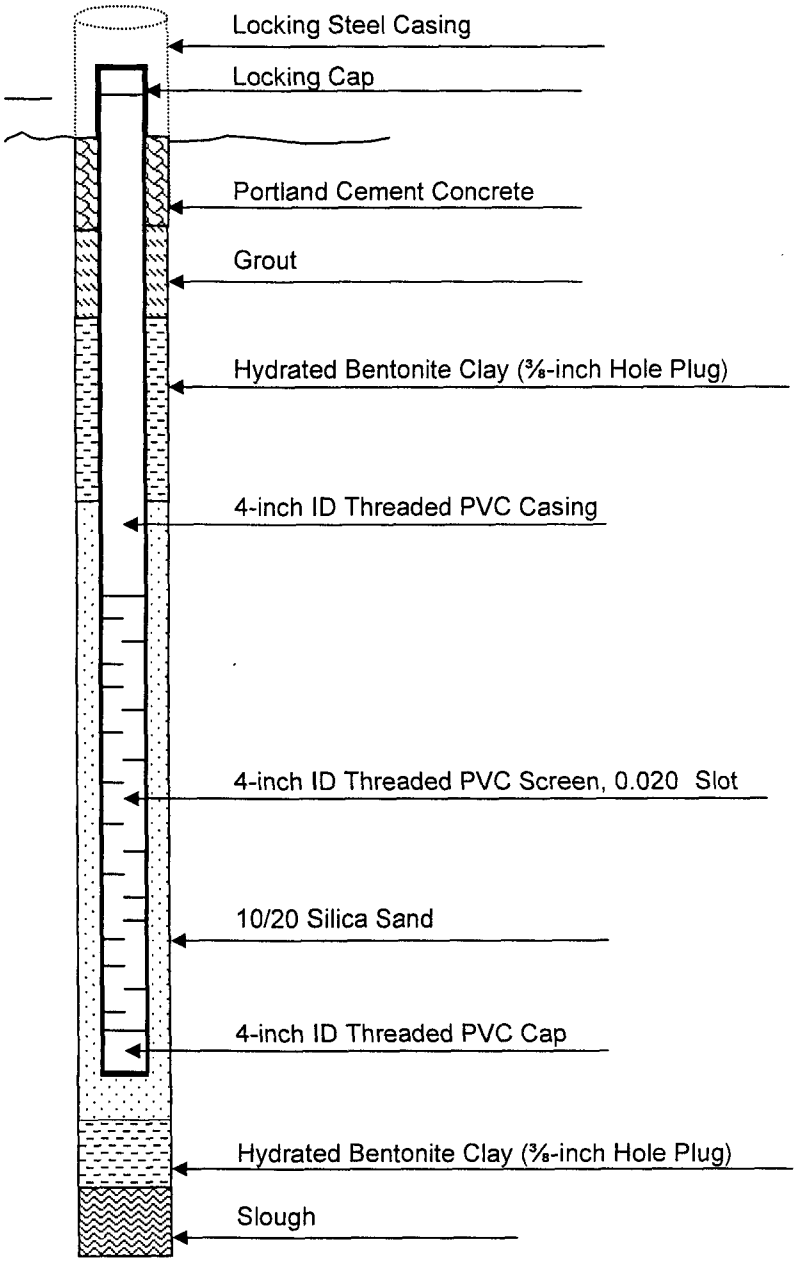
Location	Project Name	Date	Page
See Plan	OCD Compliance Drilling	February 22, 2006	2 of 2
	Drilling Co. Enviro-Drill, Albuquerque, NM	**Driller** M. Cain	**Elevation**
	Drill Rig CME 75	**Logged By** JCB	
	Drilling Method 3¾"/7" HSA		

Depth, feet	Sample No./Type	Blow Counts	Recovery, %	PID, ppm	Description
20	S-5	45	25	>10	**Sandstone** continued
	SPT	50/5½"			
21					
22					
23					
24					
25	S-6	29	90	>10	
	SPT	50/5"			
26					
27					**Claystone** Clay; high plasticity, medium gray, very hard, moist, moderately cemented
28					
29					
30	S-7	50/5"	90	>10	**Sandstone** Clayey Sand; fine, low plasticity, light gray, very dense, moist, laminated bedding, laminated with medium gray silty clay, moderately cemented
	SPT				
31					
32					
33					
34					
35	S-8	35	90	>10	
	SPT	25/1"			
36					Bottom of boring at approximately 35½ feet.
37					Boring completed on February 22, 2006.
38					Perched groundwater observed at approximately 15 feet during drilling.
39					Perched groundwater measured in well at approximately 15¾ feet on March 2, 2006.
40					

Well Installation Summary

Location See Plan	Project Name OCD Compliance Drilling	Date February 20, 2006	Well No. SW1-0206
	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Page 1 of 1
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 40'; 5½" AR to 60'		

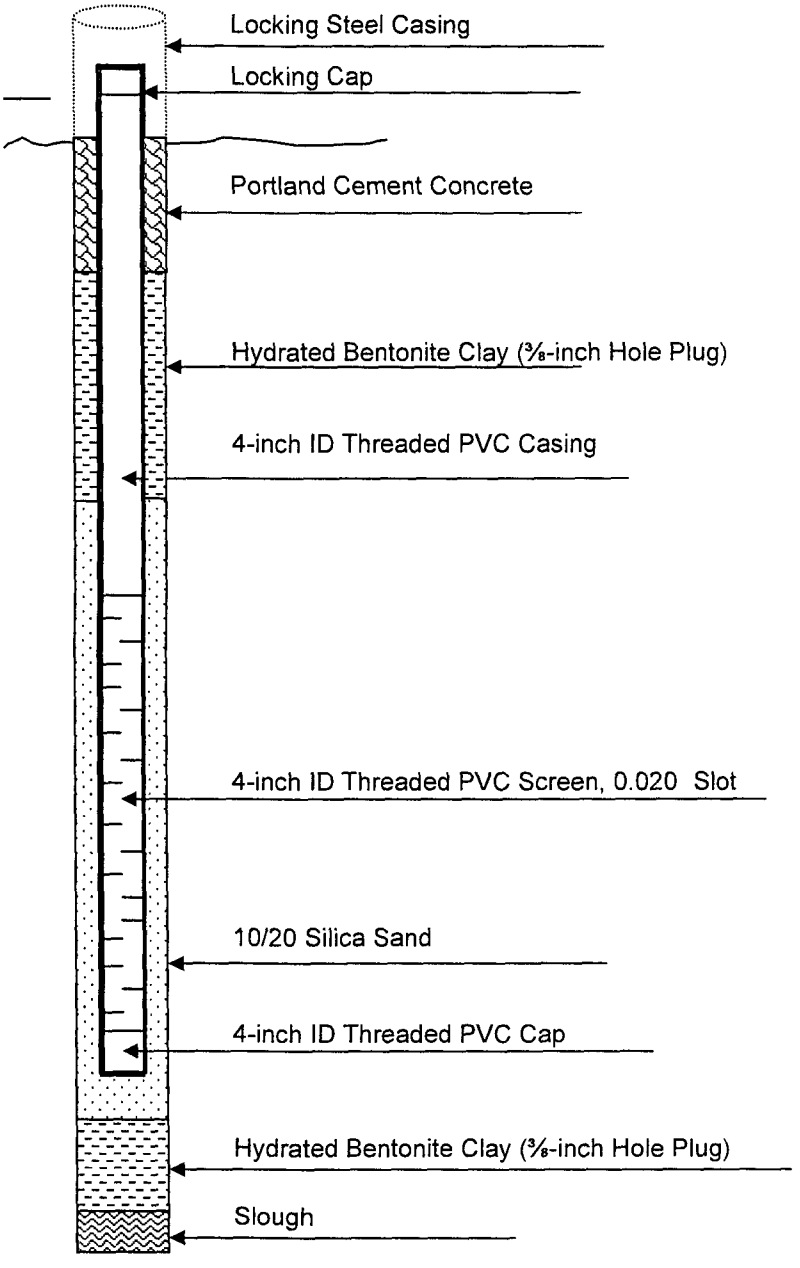
Elevation, feet msl	Depth, feet
	+ 2.5
	Ground Surface
	2
	14
	16
	21
	51½
	53
	58
	60



Well Installation Summary

Location See Plan	Project Name OCD Compliance Drilling	Date February 16, 2006	Well No. SW2-0206
	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Page 1 of 1
	Drilling Method 3¾"/7" HAS to 35'		

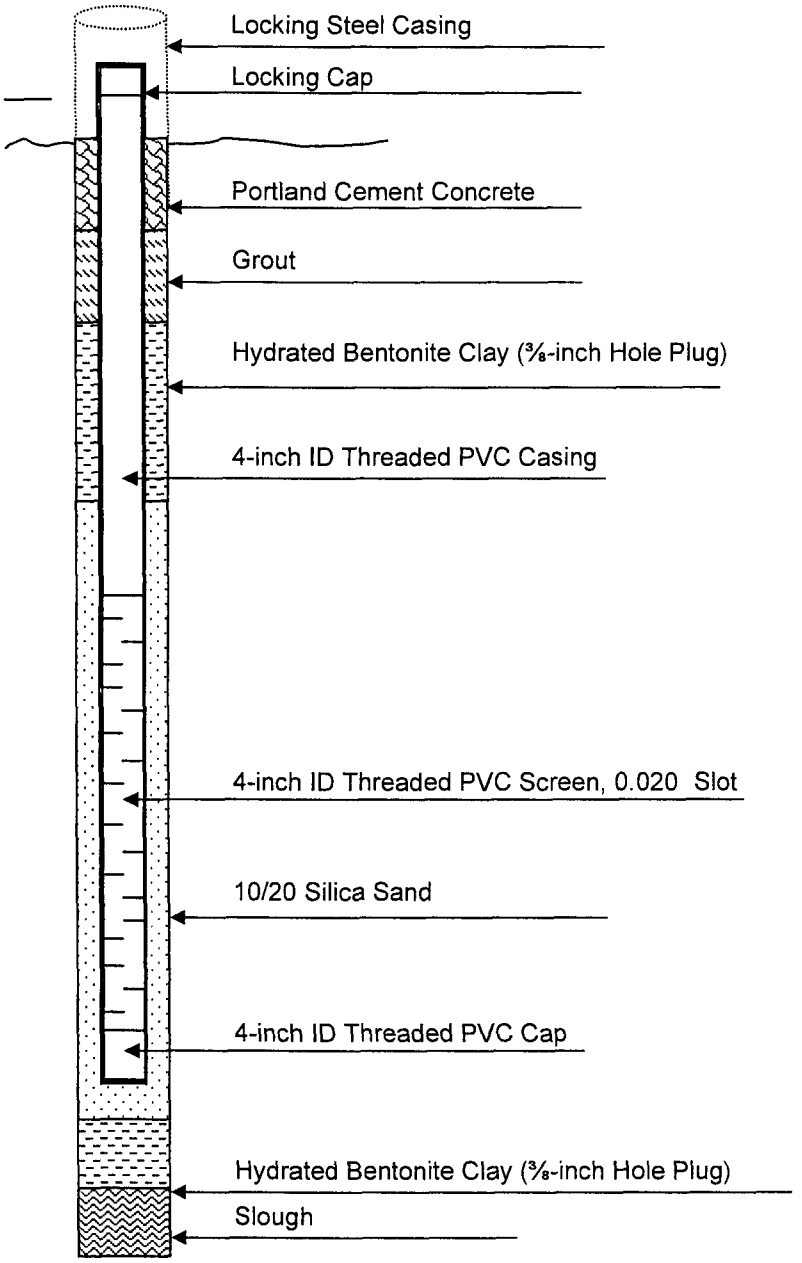
Elevation, feet msl	Depth, feet
	+ 2.4
	Ground
	Surface
	1
	4
	5
	25½
	27
	32
	35½



Well Installation Summary

Location	Project Name OCD Compliance Drilling	Date February 17, 2006	Well No. SW3-0206
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Page 1 of 1
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 58'		

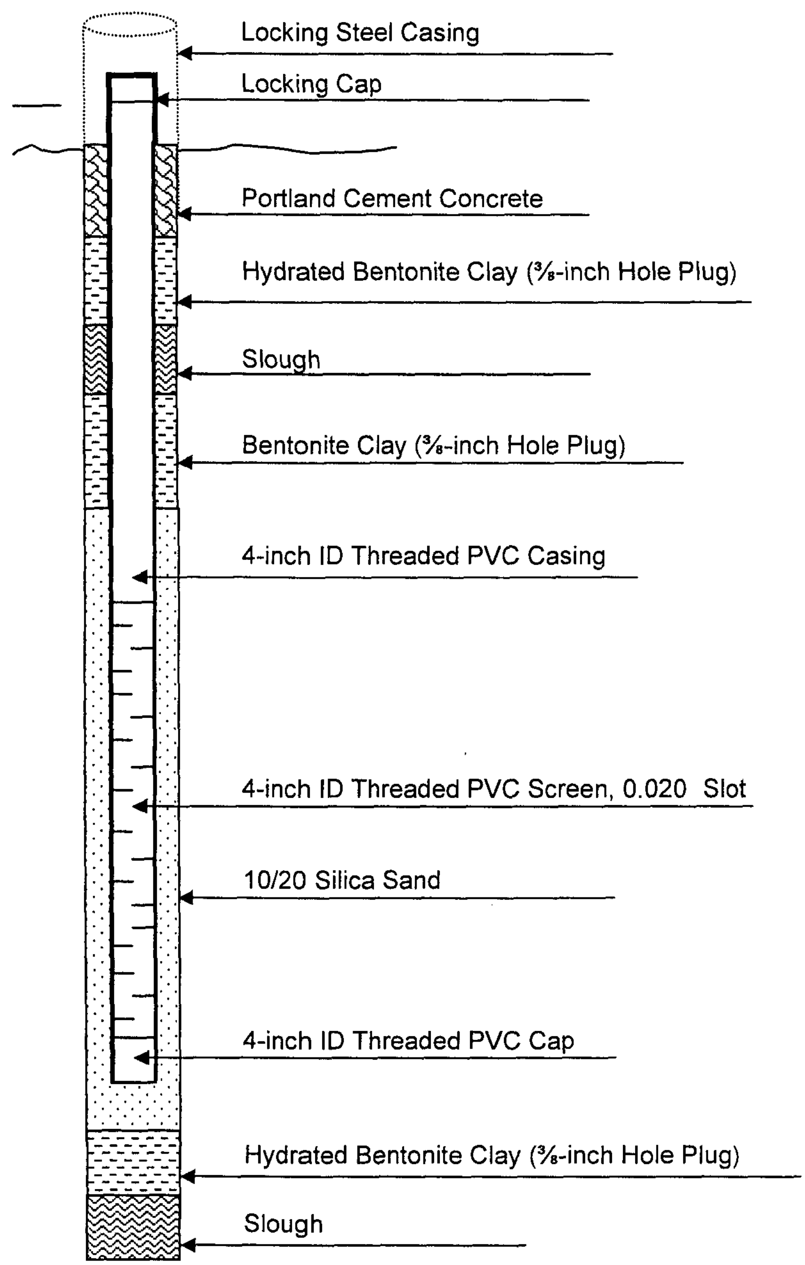
Elevation, feet msl	Depth, feet
	+ 2.1
	Ground
	Surface
	3
	13
	16
	20
	50½
	51½
	55
	60



Well Installation Summary

Location See Plan	**Project Name** OCD Compliance Drilling	**Date** February 16, 2006	**Well No.** SW4-0206
	Drilling Co. Enviro-Drill, Albuquerque, NM	**Driller** M. Cain	
	Drill Rig CME 75	**Logged By** JCB	**Page** 1 of 1
	Drilling Method 3¾"/7" HSA to 60'; 6¼"/10" HSA to 10'; 5½" AR to 60'		

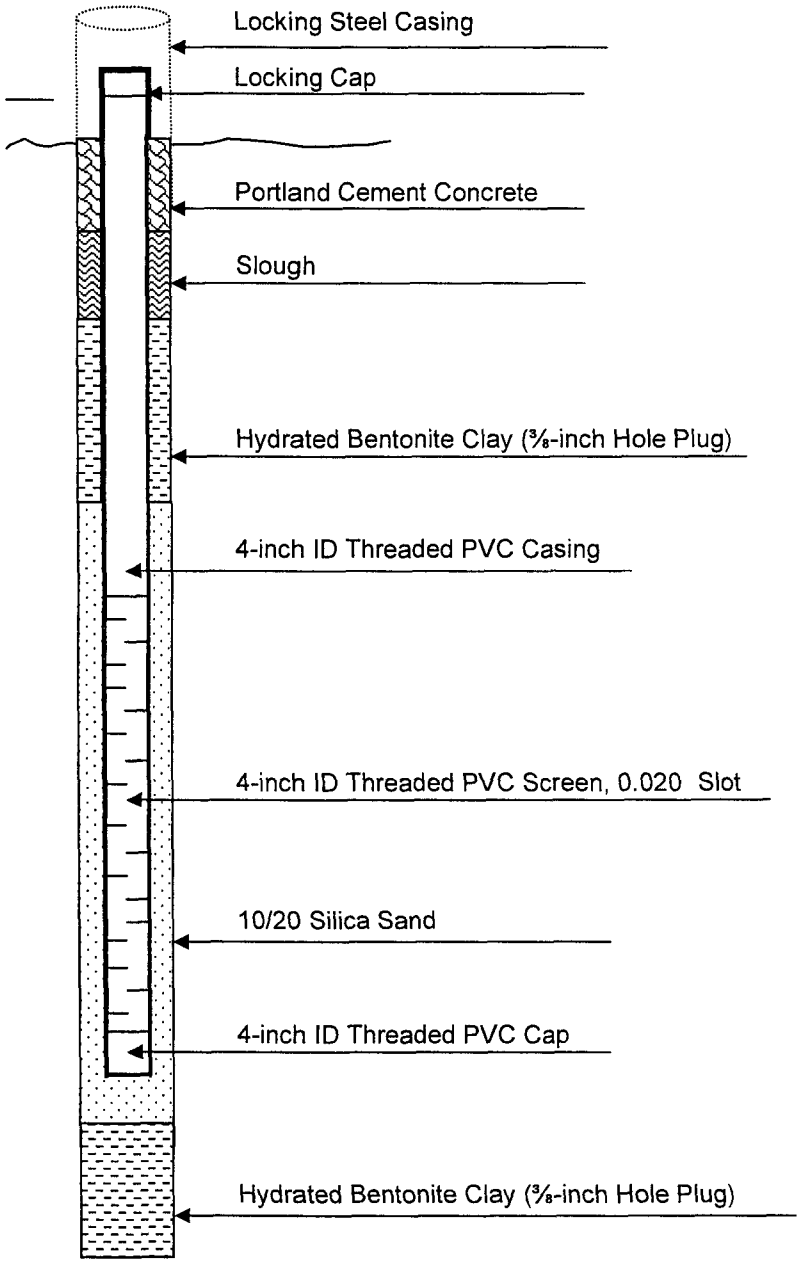
Elevation, feet msl	**Depth**, feet
	+ 2.3
	Ground Surface
	2½
	4
	5
	8
	9½
	40
	42
	57
	60



Well Installation Summary

Location	Project Name OCD Compliance Drilling	Date February 15, 2006	Well No. SW5-0206
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Page 1 of 1
	Drilling Method 6¼"/10" HSA to 14'; 5½" AR 14' to 60'		

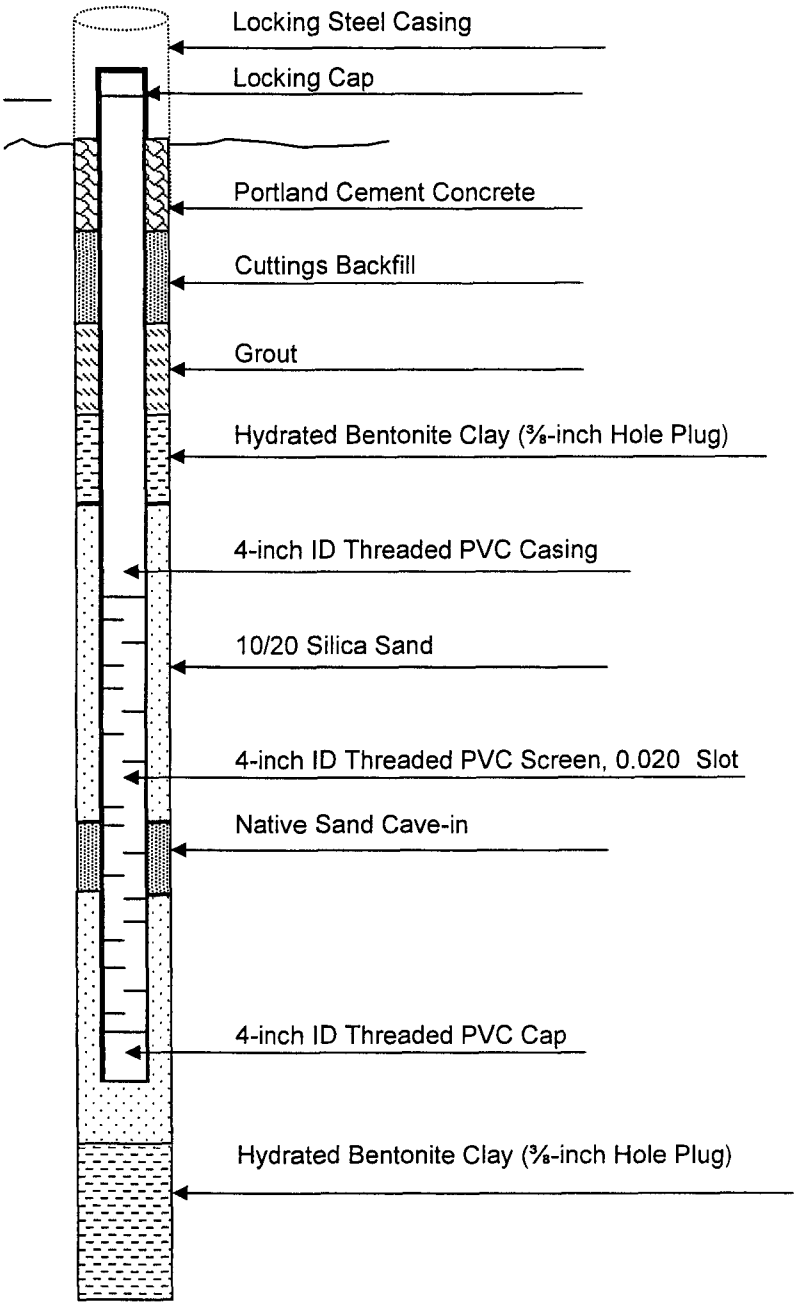
Elevation, feet msl	Depth, feet
	+ 2.3
	Ground
	Surface
	2½
	10
	14
	19
	49½
	52
	60



Well Installation Summary

Location	Project Name OCD Compliance Drilling	Date February 15, 2006	Well No. SW6-0206
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Page 1 of 1
	Drilling Method 3¾"/7" HAS to 60'; 6¼"/10" HAS to 30'; 5½" AR to 60'		

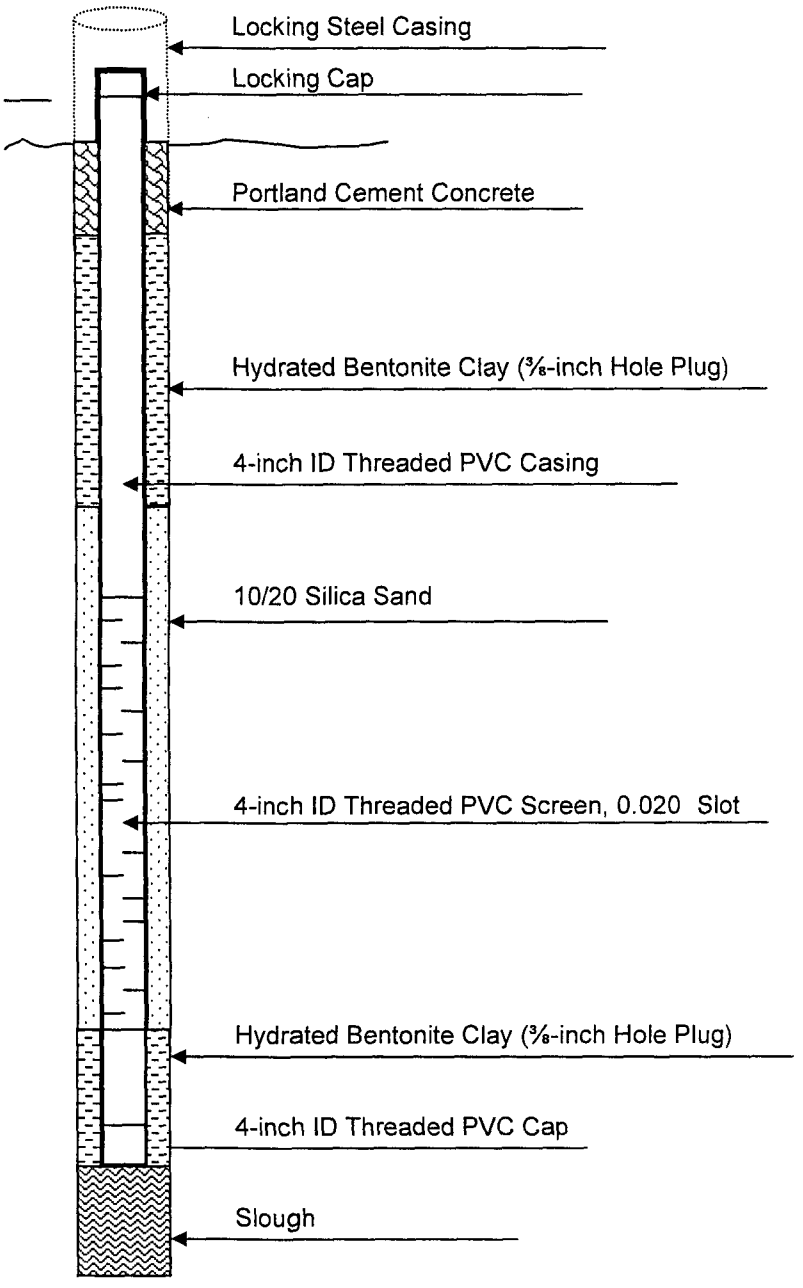
Elevation, feet msl	Depth, feet
+ 2.3	
Ground	
Surface	
	3
	7
	10
	12
	15
	20
	22
	45½
	40
	60



Well Installation Summary

Location	Project Name OCD Compliance Drilling	Date February 22, 2006	Well No. SW7-0206
See Plan	Drilling Co. Enviro-Drill, Albuquerque, NM	Driller M. Cain	
	Drill Rig CME 75	Logged By JCB	Page 1 of 1
	Drilling Method 3¾"/7" HSA		

Elevation, feet msl	Depth, feet
	+ 2.5
	Ground
	Surface
	2
	4
	4
	24
	29½
	35



Section 12.0 Chemical Analytical Program

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

hallenvironmental.com

QUALITY ASSURANCE PLAN

October 2004

Revision 6

Control Number: 0000038

Approved By:

Nancy McDuffie Date
Laboratory Manager

Approved By:

Scott Hallenbeck Date
Laboratory Director

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Table of Contents

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 Control documents are reviewed and approved, and assisting in conducting Quality Assurance Audits. The lab manager addresses questions or complaints that cannot be answered by the section managers. Someone with a minimum of 7 years of directly related experience and a scientific degree should fill this position.

Business/ Project Manager

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

Quality Assurance Officer

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

Section Supervisors

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

Senior Analyst

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

Analyst

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

Lab Technician

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

Sample Control Manager

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

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

Delegations in the Absence of Key Personnel

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

Laboratory Personnel Qualification and Training

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

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

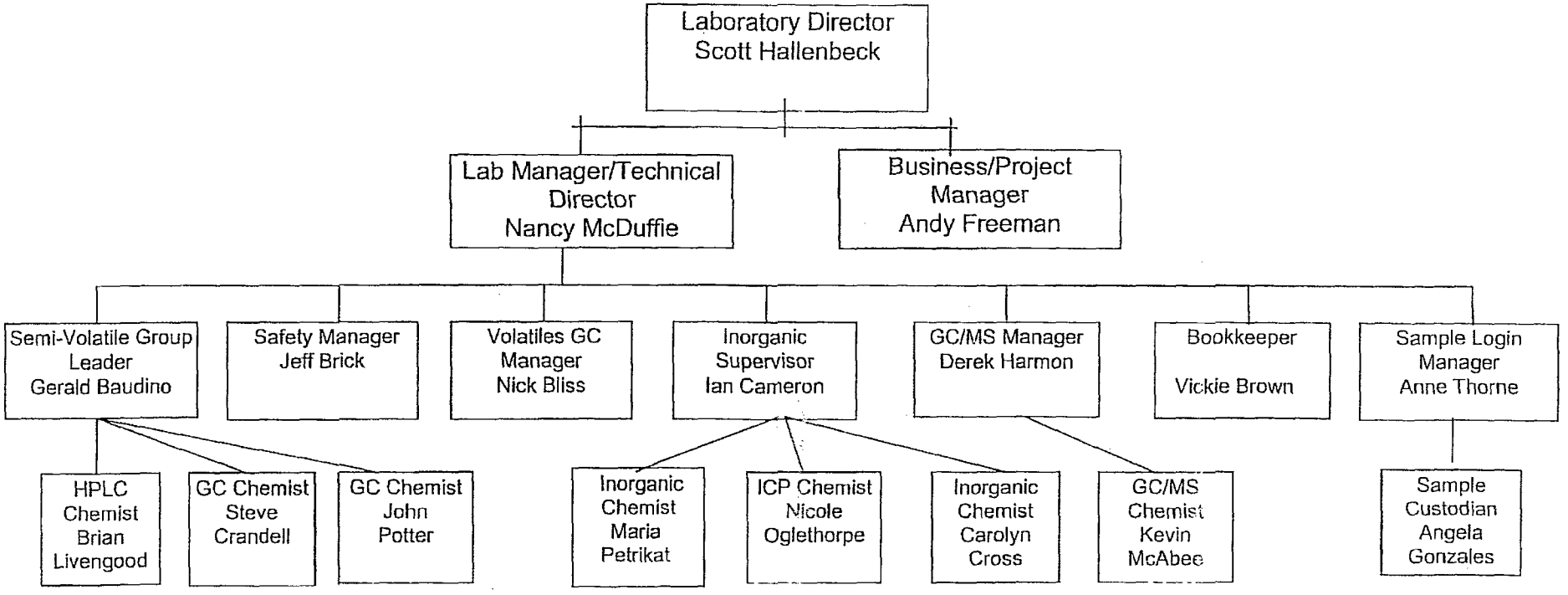

Diagram of organizational Structure

5.0 Receipt and Handling of Samples

Sampling

Procedures

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

Containers

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

Preservation

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

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

Tables of Standard Holding Times, Preservation, and Containers

Organic Compounds

Compound	Matrix	Container	Preservative	Holding Time
Purgeable halocarbons and aromatics	aqueous	40 mL glass voas, teflon-lined septum	$HgCl_2$, or HCl, pH <2; cool	14 days to analysis
Purgeable halocarbons and aromatics	Soil/MeOH*	4 oz. Jar/2-20 ml VOAs w/ methanol	cool, 4° C	14 days to analysis
Semi-volatiles	aqueous	1 L amber	cool, 4° C	7 days to extract, 40 days after extraction to analyze
Semi-volatiles	soil	8 oz. Jar	cool, 4° C	14 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	aqueous	1 L amber	cool, 4° C	7 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	soil	8 oz. Jar	cool, 4° C	14 days to extract, 40 days after extraction to analyze

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

Inorganic Compounds

Compound	Matrix	Container	Preservative	Holding Time
Acidity	aqueous	250-mL HDP	cool, 4° C	14 days
Alkalinity	aqueous	250-mL HDP	cool, 4° C	14 days
Ammonia	aqueous	1-L HDP	cool, 4° C, H_2SO_4 pH<2	28 days
Biochemical Oxygen Demand	aqueous	2-L HDP	cool, 4° C	48 hours
Bromide	aqueous	250-mL HDP	none required	28 days
Chemical Oxygen Demand	aqueous	125-mL HDP	cool, 4° C, H_2SO_4 pH<2	28 days
Chloride	aqueous	125-mL HDP	none required	28 days
Chloride	solid	4-oz jar	none required	28 days
Chlorine, total residual	aqueous	500-mL HDP	none required	analyze immediately
Chromium VI	aqueous	250-mL HDP	cool, 4° C	24 hours
Chromium VI	solid	8-oz jar	cool, 4° C	as soon as possible
Color	aqueous	125-mL HDP	cool, 4° C	48 hours
Cyanide	aqueous	1-L HDP	cool, 4° C NaOH pH>12	14 days
Cyanide	solid	4-oz jar	cool, 4° C	14 days
Fluoride	aqueous	500-mL HDP	none required	28 days
Hardness	aqueous	250-mL HDP	HNO_3 or H_2SO_4 pH<2	6 months
Hydrogen ion (pH)	aqueous	60-mL HDP	none required	analyze immediately
Hydrogen ion (pH)	solid	4-oz jar	none required	analyze immediately
Kjeldahl and organic nitrogen	aqueous	1-L HDP	cool, 4° C, H_2SO_4 pH<2	28 days

Compound	Matrix	Container	Preservative	Holding Time
Mercury	aqueous	250-mL HDP	HNO_3 pH < 2	28 days
Mercury	solid	8-oz jar	none required	28 days
Metals (except Cr VI and Hg)	aqueous	500-mL HDP	HNO_3 pH < 2	6 months
Metals (except Cr VI and Hg)	solid	8-oz jar		6 months
Nitrate	aqueous	250-mL HDP	cool, 4° C	48 hours
Nitrate	solid	8-oz jar	cool, 4° C	analyze immediately
Nitrate-Nitrite	aqueous	250-mL HDP	cool, 4° C, H_2SO_4 pH<2	28 days
Nitrate-Nitrite	solid	8-oz jar	cool, 4° C	28 days
Nitrite	aqueous	125-mL HDP	cool, 4° C	48 hours
Oil and Grease	aqueous	2-L wide-mouth glass	cool, 4° C, H_2SO_4 pH<2	28 days
Oil and Grease	solid	2-L wide-mouth glass	cool, 4° C	28 days
Organic Carbon	aqueous	125-mL HDP	cool, 4° C, HCl or H_2SO_4 pH<2	28 days
Organic Carbon	solid	4-oz jar	cool, 4° C	28 days
Orthophosphate	aqueous	125-mL HDP	Cool, 4° C	48 hours
Phenolics	aqueous	1-L Boston Round	cool, 4° C, H_2SO_4 pH<2	28 days
Phenolics	solid	8-oz jar (glass only)	cool, 4° C	28 days
Phosphorous (elemental)	aqueous	1-L Boston Round	cool, 4° C	48 hours
Phosphorous (total)	aqueous	125-mL HDP	cool, 4° C, H_2SO_4 pH<2	28 days
Residue, total	aqueous	250-mL HDP	cool, 4° C	7 days
Residue, filterable(TDS)	aqueous	250-mL HDP	cool, 4° C	7 days
Residue, non-filterable (TSS)	aqueous	250-mL HDP	cool, 4° C	7 days
Residue, settleable	aqueous	Imhoff Cone	cool, 4° C	48 hours
Residue, volatile	aqueous	250-mL HDP	cool, 4° C	7 days

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

Sample Custody

Chain-of-Custody Form

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

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

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

Receiving Samples

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

Logging in Samples and Storage

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

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

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

Disposal of Samples

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

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

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

CHAIN-OF-CUSTODY RECORD

Accreditation Applied:
NELAC ☐ USACE ☐
Other: _____

Client:

Address:

Phone #:

Fax #:

Project Name:

Project #:

Project Manager:

Sampler:

Sample Temperature:

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative			HEAL No.
					H_2Cl_2	HNO_3		

Date: | Time: | Relinquished By: (Signature) | Remarks:

Date: | Time: | Relinquished By: (Signature) | Remarks:

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ANALYSIS REQUEST

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

Remarks:

6.0 Analytical Procedures

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

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

List of Procedures Used

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

Organic Analysis

Methodology	Title of Method
8021B	"Halogenated and Aromatic Volatile Organics by Gas Chromatography"
8015B	"Nonhalogenated Volatile Organics by Gas Chromatography" (Gasoline Range and Diesel Range Organics)
8081A	"Organochlorine Pesticides by Gas Chromatography"
8082	"PCBs as Aroclors by Gas Chromatography"
8151A	"Chlorinated Herbicides by GC using Methylation or 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

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

Inorganic Analysis

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

Preparative Methodologies

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

7.0 Calibration

Instrument Calibration

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

Standards

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

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

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

Procedures

Reagents

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

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

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

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

Analytical balance

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

pH Meter

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

Thermometers

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

Refrigerators/Freezers

Each laboratory refrigerator or freezer contains a thermometer capable of measuring to a minimum precision of 1°C. The thermometers are kept with the bulb immersed in liquid. Each workday, the temperatures of the refrigerators are recorded in a designated logbook to insure that the refrigerators are between ± 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 blank and a minimum of five dilutions of the analyte list (or lists) outlined in the analytical method. The quality assurance program requires a second source verification of a calibration curve. Ideally, a second source verification is provided from a separate vendor. However, a different Lot Number from the same vendor is acceptable for second source verification. In the absence of standards from a separate vendor or the same vendor with two different Lot Numbers, two separate preparations from the same source standard can be used for second source verification.

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

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

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

Other Analytical Instrumentation and Equipment

The conductivity probe constant shall be determined prior to use.

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

8.0 Maintenance

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

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

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

Maintenance Date
Maintenance Description
Maintenance Performed by Initials

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

9.0 Quality Control

Internal Quality Control Checks

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Precision, Accuracy, Detection Levels

Precision

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

Accuracy

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

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

%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.

$$\text{Average} = (\Sigma x_I) / n$$

x_I = the value x in the I^{th} trial
n = the number of trials

Standard Deviation

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

$$\text{Standard deviation} = s = [\Sigma (x_I - \text{average})^2 / (n - 1)]^{1/2}$$

Percent Recovery (MS, MSD, LCS and LCSD)

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

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:

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

Student's t Distribution

# values	10	15	20	25	31	41	61	121	> 121
95 %	2.262	2.145	2.093	2.064	2.042	2.021	2.000	1.980	1.960
99%	3.250	2.977	2.861	2.797	2.750	2.704	2.660	2.617	2.576

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

RPD (Relative Percent Difference)

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

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

10.0 Data Reduction, Validation, Reporting, and Record Keeping

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

Data Reduction

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

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

Validation

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

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

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

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

Reports and Records

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

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

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

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

11.0 Corrective Action

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

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

Assure that proper procedures were followed.

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

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

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

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

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

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

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

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

12.0 Quality Assurance Audits, Reports and Complaints

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

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

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

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

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

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

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

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

Complaints

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

Internal and External Reports

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

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

1. Standard Methods for the Examination of Water and Wastewater: AOHA, AWWA, and WPCG; 20th Edition, 1999.

2. Methods for Chemical Analysis of Water and Wastes, USEPA, EPA-600/4-79-020, March 1979 and as amended December, 1982 (EPA-600/4-82-055)

3. Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, USEPA SW-846, 3rd Edition, Updates I, II, IIA, IIB, III, December, 1996.

4. Methods of Soil Analysis: Parts 1 & 2, 2nd Edition, Agronomy Society of America, Monograph 9

5. Diagnosis & Improvement of Saline & Alkali Soils, Agriculture Handbook No. 60, USDA, 1954

6. Handbook on Reference Methods for Soil Testing, The Council on Soil Testing & Plant Analysis, 1980 and 1992

7. Field and Laboratory Methods Applicable to Overburdens and Mine Soils, USEPA, EPA-600/2-78-054, March 1978

8. Laboratory Procedures for Analyses of Oilfield Waste. Department of Natural Resources, Office of Conservation, Injection and Mining Division, Louisiana, August 1988

9. Soil Testing Methods Used at Colorado State University for the Evaluation of Fertility, Salinity and Trace Element Toxicity, Technical Bulletin LT B88-2 January, 1988

10. Manual of Operating Procedures for the Analysis of Selected Soil, Water, Plant Tissue and Wastes Chemical and physical Parameter. Soil, Water, and Plant Analysis Laboratory, Dept. of Soil and Water Science, The University of Arizona, August 1989

11. Sampling Procedures and Chemical Methods in Use at the U.S. Salinity Laboratory for Characterizing Salt-Affected Soils and Water. USDA Salinity Laboratory.

12. Procedures for Collecting Soil Samples and Methods of Analysis for Soil Survey. USDA Soil Conservation Service, SSIR No. 1.

13. Soil Survey Laboratory Methods Manual. Soil Survey Laboratory Staff. Soil Survey Investigations Report No. 42, version 2.0, August 1992.

14. Methods for the Determination of Metals in Environmental Samples, USEPA, EPA-600/4-91-010, June 1991

15. The Merck Index, Eleventh Edition, Merck & Co., Inc. 1989.

16. Handbook of Chemistry and Physics, 62nd Edition, CRC Press, Inc. 1981-1982.

17. Analytical Chemistry of PCB's. Erickson, Mitchell D., CRC Press, Inc. 1992.

18. Environmental Perspective on the Emerging Oil Shale Industry, EPA Oil & Shale Research Group.

19. Polycyclic Aromatic Hydrocarbons in Water Systems, CRC Press, Inc.

Section 13.0 Chemical Analytical Reports

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, April 06, 2006

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

RE: SW3-0206 Baseline

Order No.: 0603310

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/28/2006 for the analyses presented in the following report.

This report is an addendum to the report dated April 6, 2006. Hg has been added to this report. Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	SW3-0206
Lab Order:	0603310	Collection Date:	3/27/2006 9:15:00 AM
Project:	SW3-0206 Baseline	Date Received:	3/28/2006
Lab ID:	0603310-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: JMP
Naphthalene	ND	2.5		µg/L	1	4/5/2006 3:43:50 PM
1-Methylnaphthalene	ND	2.5		µg/L	1	4/5/2006 3:43:50 PM
2-Methylnaphthalene	ND	2.5		µg/L	1	4/5/2006 3:43:50 PM
Acenaphthylene	ND	2.5		µg/L	1	4/5/2006 3:43:50 PM
Acenaphthene	ND	2.5		µg/L	1	4/5/2006 3:43:50 PM
Fluorene	ND	0.040		µg/L	1	4/5/2006 3:43:50 PM
Phenanthrene	ND	0.020		µg/L	1	4/5/2006 3:43:50 PM
Anthracene	ND	0.020		µg/L	1	4/5/2006 3:43:50 PM
Fluoranthene	ND	0.30		µg/L	1	4/5/2006 3:43:50 PM
Pyrene	ND	0.30		µg/L	1	4/5/2006 3:43:50 PM
Benz(a)anthracene	ND	0.020		µg/L	1	4/5/2006 3:43:50 PM
Chrysene	ND	0.20		µg/L	1	4/5/2006 3:43:50 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	4/5/2006 3:43:50 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	4/5/2006 3:43:50 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	4/5/2006 3:43:50 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	4/5/2006 3:43:50 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	4/5/2006 3:43:50 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	4/5/2006 3:43:50 PM
Surr: Benzo(e)pyrene	79.8	54-102		%REC	1	4/5/2006 3:43:50 PM
EPA METHOD 300.0: ANIONS						Analyst: MAP
Bromide	0.82	0.50		mg/L	1	3/28/2006 8:09:59 PM
Chloride	1100	5.0		mg/L	50	3/30/2006 12:21:07 AM
Fluoride	1.8	0.10		mg/L	1	3/28/2006 8:09:59 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	4/5/2006 6:55:49 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	3/28/2006 8:09:59 PM
Sulfate	3200	25		mg/L	50	3/30/2006 12:21:07 AM
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	0.0036	0.00020		mg/L	1	4/13/2006
EPA METHOD 6010B: DISSOLVED METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	3/30/2006 1:10:05 PM
Barium	0.039	0.0020		mg/L	1	3/30/2006 1:10:05 PM
Cadmium	ND	0.0020		mg/L	1	3/30/2006 1:10:05 PM
Calcium	490	10		mg/L	10	3/30/2006 1:56:29 PM
Chromium	ND	0.0060		mg/L	1	3/30/2006 1:10:05 PM
Copper	ND	0.0060		mg/L	1	3/30/2006 1:10:05 PM
Iron	ND	0.020		mg/L	1	3/30/2006 1:10:05 PM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H 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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	SW3-0206
Lab Order:	0603310	Collection Date:	3/27/2006 9:15:00 AM
Project:	SW3-0206 Baseline	Date Received:	3/28/2006
Lab ID:	0603310-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: DISSOLVED METALS						Analyst: NMO
Lead	ND	0.0050		mg/L	1	3/30/2006 1:10:05 PM
Magnesium	54	1.0		mg/L	1	3/30/2006 1:10:05 PM
Manganese	0.62	0.0020		mg/L	1	3/30/2006 1:10:05 PM
Potassium	46	1.0		mg/L	1	3/30/2006 1:10:05 PM
Selenium	ND	0.050		mg/L	1	3/30/2006 1:10:05 PM
Silver	ND	0.0050		mg/L	1	3/30/2006 1:10:05 PM
Sodium	1500	20		mg/L	20	3/30/2006 2:05:51 PM
Uranium	ND	0.10		mg/L	1	3/31/2006 11:50:54 AM
Zinc	0.11	0.0050		mg/L	1	3/30/2006 1:10:05 PM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: CMC
Arsenic	ND	0.020		mg/L	1	3/31/2006 1:35:09 PM
Barium	0.064	0.020		mg/L	1	3/31/2006 1:35:09 PM
Cadmium	ND	0.0020		mg/L	1	3/31/2006 1:35:09 PM
Chromium	ND	0.0060		mg/L	1	3/31/2006 1:35:09 PM
Copper	0.015	0.0060		mg/L	1	3/31/2006 1:35:09 PM
Iron	2.1	0.050		mg/L	1	3/31/2006 1:35:09 PM
Lead	ND	0.0050		mg/L	1	3/31/2006 1:35:09 PM
Manganese	0.68	0.0020		mg/L	1	3/31/2006 1:35:09 PM
Selenium	ND	0.050		mg/L	1	3/31/2006 1:35:09 PM
Silver	ND	0.0050		mg/L	1	3/31/2006 1:35:09 PM
Uranium	ND	0.10		mg/L	1	3/31/2006 3:19:22 PM
Zinc	ND	0.050		mg/L	1	3/31/2006 1:35:09 PM
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Benzene	ND	1.0		µg/L	1	3/30/2006
Toluene	ND	1.0		µg/L	1	3/30/2006
Ethylbenzene	ND	1.0		µg/L	1	3/30/2006
Methyl tert-butyl ether (MTBE)	150	1.5		µg/L	1	3/30/2006
1,2,4-Trimethylbenzene	2.5	1.0		µg/L	1	3/30/2006
1,3,5-Trimethylbenzene	5.4	1.0		µg/L	1	3/30/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/30/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/30/2006
Naphthalene	ND	2.0		µg/L	1	3/30/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2006
Acetone	34	10		µg/L	1	3/30/2006
Bromobenzene	ND	1.0		µg/L	1	3/30/2006
Bromochloromethane	ND	1.0		µg/L	1	3/30/2006

Qualifiers:

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- E Value above quantitation range
- H 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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW3-0206
Lab Order:	0603310	**Collection Date:**	3/27/2006 9:15:00 AM
Project:	SW3-0206 Baseline	**Date Received:**	3/28/2006
Lab ID:	0603310-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Bromodichloromethane	ND	1.0		µg/L	1	3/30/2006
Bromoform	ND	1.0		µg/L	1	3/30/2006
Bromomethane	ND	2.0		µg/L	1	3/30/2006
2-Butanone	ND	10		µg/L	1	3/30/2006
Carbon disulfide	ND	10		µg/L	1	3/30/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	3/30/2006
Chlorobenzene	ND	1.0		µg/L	1	3/30/2006
Chloroethane	ND	2.0		µg/L	1	3/30/2006
Chloroform	ND	1.0		µg/L	1	3/30/2006
Chloromethane	ND	1.0		µg/L	1	3/30/2006
2-Chlorotoluene	ND	1.0		µg/L	1	3/30/2006
4-Chlorotoluene	ND	1.0		µg/L	1	3/30/2006
cis-1,2-DCE	ND	1.0		µg/L	1	3/30/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/30/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/30/2006
Dibromochloromethane	ND	1.0		µg/L	1	3/30/2006
Dibromomethane	ND	2.0		µg/L	1	3/30/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/30/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/30/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	3/30/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	3/30/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	3/30/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	3/30/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	3/30/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	3/30/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	3/30/2006
2-Hexanone	ND	10		µg/L	1	3/30/2006
Isopropylbenzene	ND	1.0		µg/L	1	3/30/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	3/30/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	3/30/2006
Methylene Chloride	ND	3.0		µg/L	1	3/30/2006
n-Butylbenzene	1.4	1.0		µg/L	1	3/30/2006
n-Propylbenzene	ND	1.0		µg/L	1	3/30/2006
sec-Butylbenzene	ND	2.0		µg/L	1	3/30/2006
Styrene	ND	1.5		µg/L	1	3/30/2006
tert-Butylbenzene	ND	1.0		µg/L	1	3/30/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/30/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	3/30/2006

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H 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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	SW3-0206
Lab Order:	0603310	Collection Date:	3/27/2006 9:15:00 AM
Project:	SW3-0206 Baseline	Date Received:	3/28/2006
Lab ID:	0603310-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: KTM
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/30/2006
trans-1,2-DCE	ND	1.0		µg/L	1	3/30/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/30/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/30/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/30/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/30/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	3/30/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/30/2006
Vinyl chloride	ND	1.0		µg/L	1	3/30/2006
Xylenes, Total	4.0	3.0		µg/L	1	3/30/2006
Surr: 1,2-Dichloroethane-d4	119	69.9-130		%REC	1	3/30/2006
Surr: 4-Bromofluorobenzene	87.6	71.2-123		%REC	1	3/30/2006
Surr: Dibromofluoromethane	120	57.3-135		%REC	1	3/30/2006
Surr: Toluene-d8	87.8	81.9-122		%REC	1	3/30/2006
EPA METHOD 310.1: ALKALINITY						Analyst: ks
Alkalinity, Total (As CaCO3)	100	2.0		mg/L CaCO3	1	3/29/2006
Carbonate	ND	2.0		mg/L CaCO3	1	3/29/2006
Bicarbonate	100	2.0		mg/L CaCO3	1	3/29/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: ks
Specific Conductance	8500	0.010		µmhos/cm	1	3/29/2006
EPA METHOD 160.1: TDS						Analyst: ks
Total Dissolved Solids	6900	50		mg/L	1	3/30/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18742
Client ID: ZZZZZ	Batch ID: R18742	TestNo: E300		Analysis Date: 3/28/2006	SeqNo: 465471

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18764
Client ID: ZZZZZ	Batch ID: R18764	TestNo: E300		Analysis Date: 3/29/2006	SeqNo: 465843

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18841
Client ID: ZZZZZ	Batch ID: R18841	TestNo: E300		Analysis Date: 4/5/2006	SeqNo: 467497

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Qualifiers:

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

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CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: LCS ST300-06006	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18742
Client ID: ZZZZZ	Batch ID: R18742	TestNo: E300		Analysis Date: 3/28/2006	SeqNo: 465472

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5191	0.10	0.5	0	104	90	110				
Chloride	4.563	0.10	5	0	91.3	90	110				
Bromide	2.377	0.10	2.5	0	95.1	90	110				
Nitrate (As N)+Nitrite (As N)	3.285	0.10	3.5	0	93.9	90	110				
Phosphorus, Orthophosphate (As P)	4.723	0.50	5	0	94.5	90	110				
Sulfate	9.424	0.50	10	0	94.2	90	110				

Sample ID: LCS ST300-06006	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18764
Client ID: ZZZZZ	Batch ID: R18764	TestNo: E300		Analysis Date: 3/29/2006	SeqNo: 465855

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5105	0.10	0.5	0	102	90	110				
Chloride	4.803	0.10	5	0	96.1	90	110				
Bromide	2.496	0.10	2.5	0	99.8	90	110				
Nitrate (As N)+Nitrite (As N)	3.462	0.10	3.5	0	98.9	90	110				
Phosphorus, Orthophosphate (As P)	5.002	0.50	5	0	100	90	110				
Sulfate	9.828	0.50	10	0	98.3	90	110				

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Sample ID: LCS ST300-06006	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18841
Client ID: ZZZZZ	Batch ID: R18841	TestNo: E300		Analysis Date: 4/5/2006	SeqNo: 467498

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4904	0.10	0.5	0	98.1	90	110				
Chloride	4.786	0.10	5	0	95.7	90	110				
Bromide	2.484	0.10	2.5	0	99.4	90	110				
Nitrate (As N)+Nitrite (As N)	3.463	0.10	3.5	0	98.9	90	110				
Phosphorus, Orthophosphate (As P)	4.966	0.50	5	0	99.3	90	110				
Sulfate	9.862	0.50	10	0	98.6	90	110				

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

CLIENT: San Juan Refining

Work Order: 0603310

Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 310.1_W

Sample ID: MB	SampType: MBLK	TestCode: 310.1_W	Units: mg/L CaCO3	Prep Date:	RunNo: 18747
Client ID: ZZZZZ	Batch ID: R18747	TestNo: E310.1		Analysis Date: 3/29/2006	SeqNo: 465541

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.0									
Carbonate	ND	2.0									
Bicarbonate	ND	2.0									

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: MB-10092	SampType: MBLK	TestCode: 8310_W	Units: µg/L	Prep Date: 3/30/2006	RunNo: 18843
Client ID: ZZZZZ	Batch ID: 10092	TestNo: SW8310	(SW3510C)	Analysis Date: 4/5/2006	SeqNo: 467572

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	2.5									
1-Methylnaphthalene	ND	2.5									
2-Methylnaphthalene	ND	2.5									
Acenaphthylene	ND	2.5									
Acenaphthene	ND	2.5									
Fluorene	ND	0.040									
Phenanthrene	ND	0.020									
Anthracene	ND	0.020									
Fluoranthene	ND	0.30									
Pyrene	ND	0.30									
Benz(a)anthracene	ND	0.020									
Chrysene	ND	0.20									
Benzo(b)fluoranthene	ND	0.050									
Benzo(k)fluoranthene	ND	0.020									
Benzo(a)pyrene	ND	0.020									
Dibenz(a,h)anthracene	ND	0.040									
Benzo(g,h,i)perylene	ND	0.030									
Indeno(1,2,3-cd)pyrene	ND	0.080									

Sample ID: LCS-10092	SampType: LCS	TestCode: 8310_W	Units: µg/L	Prep Date: 3/30/2006	RunNo: 18843
Client ID: ZZZZZ	Batch ID: 10092	TestNo: SW8310	(SW3510C)	Analysis Date: 4/5/2006	SeqNo: 467573

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	19.30	2.5	40	0	48.2	40.5	83.1				
1-Methylnaphthalene	18.18	2.5	40.1	0	45.3	42.1	80.8				
2-Methylnaphthalene	17.64	2.5	40	0	44.1	41.4	79.6				
Acenaphthylene	22.20	2.5	40.1	0	55.4	49.6	79.4				
Acenaphthene	19.70	2.5	40	0	49.2	47.3	81.4				
Fluorene	2.120	0.040	4.01	0	52.9	50.1	80.6				
Phenanthrene	1.300	0.020	2.01	0	64.7	54	87.4				

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: LCS-10092	SampType: LCS	TestCode: 8310_W	Units: µg/L	Prep Date: 3/30/2006	RunNo: 18843
Client ID: ZZZZZ	Batch ID: 10092	TestNo: SW8310	(SW3510C)	Analysis Date: 4/5/2006	SeqNo: 467573

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	1.260	0.020	2.01	0	62.7	55.2	85.2				
Fluoranthene	3.320	0.30	4.01	0	82.8	55.7	91.7				
Pyrene	3.220	0.30	4.01	0	80.3	55.7	96.5				
Benz(a)anthracene	0.3400	0.020	0.401	0	84.8	54.2	95.6				
Chrysene	1.820	0.20	2.01	0	90.5	54.9	97.3				
Benzo(b)fluoranthene	0.4100	0.050	0.501	0	81.8	53.8	94.9				
Benzo(k)fluoranthene	0.2100	0.020	0.25	0	84.0	53.8	92.9				
Benzo(a)pyrene	0.2000	0.020	0.251	0	79.7	51.2	98.9				
Dibenz(a,h)anthracene	0.4100	0.040	0.501	0	81.8	52.2	94.7				
Benzo(g,h,i)perylene	0.4100	0.030	0.5	0	82.0	55.5	101				
Indeno(1,2,3-cd)pyrene	0.8020	0.080	1.002	0	80.0	57.4	98.7				

Sample ID: LCSD-10092	SampType: LCSD	TestCode: 8310_W	Units: µg/L	Prep Date: 3/30/2006	RunNo: 18843
Client ID: ZZZZZ	Batch ID: 10092	TestNo: SW8310	(SW3510C)	Analysis Date: 4/5/2006	SeqNo: 467574

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	22.74	2.5	40	0	56.8	40.5	83.1	19.3	16.4	32.1	
1-Methylnaphthalene	19.93	2.5	40.1	0	49.7	42.1	80.8	18.18	9.18	32.7	
2-Methylnaphthalene	19.35	2.5	40	0	48.4	41.4	79.6	17.64	9.25	34	
Acenaphthylene	24.30	2.5	40.1	0	60.6	49.6	79.4	22.2	9.07	38.8	
Acenaphthene	21.71	2.5	40	0	54.3	47.3	81.4	19.7	9.71	38.6	
Fluorene	2.330	0.040	4.01	0	58.1	50.1	80.6	2.12	9.44	39.3	
Phenanthrene	1.400	0.020	2.01	0	69.7	54	87.4	1.3	7.41	25	
Anthracene	1.340	0.020	2.01	0	66.7	55.2	85.2	1.26	6.15	23.9	
Fluoranthene	3.190	0.30	4.01	0	79.6	55.7	91.7	3.32	3.99	15.7	
Pyrene	3.330	0.30	4.01	0	83.0	55.7	96.5	3.22	3.36	15.3	
Benz(a)anthracene	0.3500	0.020	0.401	0	87.3	54.2	95.6	0.34	2.90	119	
Chrysene	1.800	0.20	2.01	0	89.6	54.9	97.3	1.82	1.10	16.6	
Benzo(b)fluoranthene	0.4100	0.050	0.501	0	81.8	53.8	94.9	0.41	0	21.7	
Benzo(k)fluoranthene	0.2100	0.020	0.25	0	84.0	53.8	92.9	0.21	0	19.4	

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

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CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: LCSD-10092	SampType: LCSD	TestCode: 8310_W	Units: µg/L	Prep Date: 3/30/2006	RunNo: 18843
Client ID: ZZZZZ	Batch ID: 10092	TestNo: SW8310	(SW3510C)	Analysis Date: 4/5/2006	SeqNo: 467574

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.1900	0.020	0.251	0	75.7	51.2	98.9	0.2	5.13	16.7	
Dibenz(a,h)anthracene	0.4200	0.040	0.501	0	83.8	52.2	94.7	0.41	2.41	17.3	
Benzo(g,h,i)perylene	0.4100	0.030	0.5	0	82.0	55.5	101	0.41	0	118	
Indeno(1,2,3-cd)pyrene	0.7850	0.080	1.002	0	78.3	57.4	98.7	0.802	2.14	17.7	

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Sample ID: MB-10166	SampType: MBLK	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/13/2006	RunNo: 18921
Client ID: ZZZZZ	Batch ID: 10166	TestNo: SW7470	(SW7470)	Analysis Date: 4/13/2006	SeqNo: 469924

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00020									

Sample ID: LCS-10166	SampType: LCS	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/13/2006	RunNo: 18921
Client ID: ZZZZZ	Batch ID: 10166	TestNo: SW7470	(SW7470)	Analysis Date: 4/13/2006	SeqNo: 469925

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004752	0.00020	0.005	0.0000783	93.5	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: MB	SampType: MBLK	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18775
Client ID: ZZZZZ	Batch ID: R18775	TestNo: SW6010A		Analysis Date: 3/30/2006	SeqNo: 466036

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Calcium	ND	1.0									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.020									
Lead	ND	0.0050									
Magnesium	ND	1.0									
Manganese	ND	0.0020									
Potassium	ND	1.0									
Selenium	ND	0.020									
Silver	ND	0.0050									
Sodium	ND	1.0									
Zinc	ND	0.050									

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Sample ID: MB	SampType: MBLK	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18775
Client ID: ZZZZZ	Batch ID: R18775	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466202

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	0.10									

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18775
Client ID: ZZZZZ	Batch ID: R18775	TestNo: SW6010A		Analysis Date: 3/30/2006	SeqNo: 466037

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4895	0.020	0.5	0	97.9	80	120				
Barium	0.4584	0.020	0.5	0	91.7	80	120				
Cadmium	0.4643	0.0020	0.5	0	92.9	80	120				
Calcium	49.54	1.0	50.5	0	98.1	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18775
Client ID: ZZZZZ	Batch ID: R18775	TestNo: SW6010A		Analysis Date: 3/30/2006	SeqNo: 466037

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.4597	0.0060	0.5	0	91.9	80	120				
Copper	0.4714	0.0060	0.5	0	94.3	80	120				
Iron	0.4440	0.020	0.5	0	88.8	80	120				
Lead	0.4573	0.0050	0.5	0	91.5	80	120				
Magnesium	49.92	1.0	50.5	0	98.8	80	120				
Manganese	0.4582	0.0020	0.5	0	91.6	80	120				
Potassium	51.66	1.0	55	0	93.9	80	120				
Selenium	0.4297	0.020	0.5	0	85.9	80	120				
Silver	0.4700	0.0050	0.5	0	94.0	80	120				
Sodium	52.94	1.0	50.5	0	105	80	120				
Zinc	0.4586	0.050	0.5	0	91.7	80	120				

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18775
Client ID: ZZZZZ	Batch ID: R18775	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466203

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.5419	0.10	0.5	0	108	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: MB-10088	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466247

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.050									
Lead	ND	0.0050									
Manganese	ND	0.0020									
Selenium	ND	0.050									
Silver	ND	0.0050									
Uranium	ND	0.10									
Zinc	ND	0.050									

Sample ID: MB-10088	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	0.10									

Sample ID: LCS-10088	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4990	0.020	0.5	0	99.8	80	120				
Barium	0.4660	0.020	0.5	0.000541	93.1	80	120				
Cadmium	0.4733	0.0020	0.5	0	94.7	80	120				
Chromium	0.4727	0.0060	0.5	0	94.5	80	120				
Copper	0.4891	0.0060	0.5	0.0008457	97.6	80	120				
Iron	0.4494	0.050	0.5	0	89.9	80	120				
Lead	0.4708	0.0050	0.5	0	94.2	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: LCS-10088	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.4750	0.0020	0.5	0.0001369	95.0	80	120				
Selenium	0.4348	0.050	0.5	0	87.0	80	120				
Silver	0.4714	0.0050	0.5	0	94.3	80	120				
Zinc	0.4641	0.050	0.5	0	92.8	80	120				

Sample ID: LCS-10088	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466258

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.5364	0.10	0.5	0	107	80	120				

Sample ID: 0603310-01DMS	SampType: MS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: SW3-0206	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466254

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5863	0.020	0.5	0.0498	107	75	125				
Barium	0.5388	0.020	0.5	0.06413	94.9	75	125				
Cadmium	0.4898	0.0020	0.5	0	98.0	75	125				
Chromium	0.4625	0.0060	0.5	0.002778	91.9	75	125				
Copper	0.5665	0.0060	0.5	0.01508	110	75	125				
Lead	0.4549	0.0050	0.5	0	91.0	75	125				
Manganese	1.168	0.0020	0.5	0.6834	96.9	75	125				
Selenium	0.3996	0.050	0.5	0	79.9	75	125				
Silver	0.5201	0.0050	0.5	0	104	75	125				
Zinc	0.4797	0.050	0.5	0.03109	89.7	75	125				

Sample ID: 0603310-01DMS	SampType: MS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: SW3-0206	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466262

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

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

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CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: 0603310-01DMS	SampType: MS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: SW3-0206	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466262

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.5586	0.10	0.5	0.03098	106	75	125				

Sample ID: 0603310-01DMSD	SampType: MSD	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: SW3-0206	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466255

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5834	0.020	0.5	0.0498	107	75	125	0.5863	0.495	20	
Barium	0.5334	0.020	0.5	0.06413	93.9	75	125	0.5388	1.00	20	
Cadmium	0.4877	0.0020	0.5	0	97.5	75	125	0.4898	0.446	20	
Chromium	0.4611	0.0060	0.5	0.002778	91.7	75	125	0.4625	0.312	20	
Copper	0.5603	0.0060	0.5	0.01508	109	75	125	0.5665	1.12	20	
Lead	0.4512	0.0050	0.5	0	90.2	75	125	0.4549	0.837	20	
Manganese	1.156	0.0020	0.5	0.6834	94.6	75	125	1.168	1.01	20	
Selenium	0.4134	0.050	0.5	0	82.7	75	125	0.3996	3.39	20	
Silver	0.5150	0.0050	0.5	0	103	75	125	0.5201	0.981	20	
Zinc	0.4770	0.050	0.5	0.03109	89.2	75	125	0.4797	0.563	20	

Sample ID: 0603310-01DMSD	SampType: MSD	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: SW3-0206	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466263

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.5731	0.10	0.5	0.03098	108	75	125	0.5586	2.56	20	

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: TDS_W

Sample ID: MB-10080	SampType: MBLK	TestCode: TDS_W	Units: mg/L	Prep Date: 3/29/2006	RunNo: 18767
Client ID: ZZZZZ	Batch ID: 10080	TestNo: E160.1		Analysis Date: 3/30/2006	SeqNo: 465928

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

Sample ID: LCS-10080	SampType: LCS	TestCode: TDS_W	Units: mg/L	Prep Date: 3/29/2006	RunNo: 18767
Client ID: ZZZZZ	Batch ID: 10080	TestNo: E160.1		Analysis Date: 3/30/2006	SeqNo: 465929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	985.0	50	1000	0	98.5	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603310
Project: SW3-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18760
Client ID: ZZZZZ	Batch ID: R18760	TestNo: SW8260B		Analysis Date: 3/29/2006	SeqNo: 465773

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.20	1.0	20	0	106	79.2	130				
Toluene	18.10	1.0	20	0	90.5	81.5	118				
Chlorobenzene	19.77	1.0	20	0	98.8	81.2	132				
1,1-Dichloroethene	16.60	1.0	20	0	83.0	65.5	134				
Trichloroethene (TCE)	20.76	1.0	20	0	104	67	131				

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18774
Client ID: ZZZZZ	Batch ID: R18774	TestNo: SW8260B		Analysis Date: 3/30/2006	SeqNo: 466030

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.65	1.0	20	0	98.3	79.2	130				
Toluene	19.28	1.0	20	0	96.4	81.5	118				
Chlorobenzene	21.08	1.0	20	0	105	81.2	132				
1,1-Dichloroethene	15.98	1.0	20	0	79.9	65.5	134				
Trichloroethene (TCE)	20.28	1.0	20	0	101	67	131				

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Qualifiers:

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

CHAIN-OF-CUSTODY RECORD

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

Client: San Juan Refining

Address: #50 Rd 4990
Bloomfield, NM
87413

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

Project Name: SW3-0206 Baseline

Project #:

Project Manager:

Sampler: Cindy Hurtado

Sample Temperature: 1.0

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
3/27/06	915	H20	SW3-0206	3-VOA			HCL	0603310-1
				1-500ml		X		
				1-250ml		X	filtered	
				1-liter			Amber	
				1-500ml				
				1-500ml			H_2SO_4	

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

ANALYSIS REQUEST

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

Date: 3/27/06 Time: 330pm Relinquished By: (Signature) Cindy Hurtado
Received By: (Signature) 3/28/06

Date: Time: Relinquished By: (Signature)
Received By: (Signature) 1620

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, April 05, 2006

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

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

RE: SW4-0206 Baseline

Order No.: 0603309

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/28/2006 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

Hall Environmental Analysis Laboratory

Date: *05-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW4-0206
Lab Order:	0603309	**Collection Date:**	3/27/2006 9:45:00 AM
Project:	SW4-0206 Baseline	**Date Received:**	3/28/2006
Lab ID:	0603309-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Bromide	0.98	0.50		mg/L	1	3/28/2006 7:52:35 PM
Chloride	230	2.0		mg/L	20	3/29/2006 11:11:29 PM
Fluoride	0.44	0.10		mg/L	1	3/28/2006 7:52:35 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	3/28/2006 7:52:35 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	3/28/2006 7:52:35 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	3/28/2006 7:52:35 PM
Sulfate	4100	50		mg/L	100	3/30/2006 7:04:06 PM
EPA METHOD 7470: MERCURY						Analyst: **CMC**
Mercury	0.020	0.0010		mg/L	5	3/29/2006
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **NMO**
Calcium	470	10		mg/L	10	3/30/2006 1:53:17 PM
Manganese	3.1	0.020		mg/L	10	3/30/2006 1:53:17 PM
Potassium	17	10		mg/L	10	3/30/2006 1:53:17 PM
Sodium	1700	20		mg/L	20	3/30/2006 2:02:45 PM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: **CMC**
Arsenic	0.073	0.020		mg/L	1	3/31/2006 1:23:05 PM
Barium	0.22	0.020		mg/L	1	3/31/2006 1:23:05 PM
Cadmium	ND	0.0020		mg/L	1	3/31/2006 1:23:05 PM
Chromium	0.0096	0.0060		mg/L	1	3/31/2006 1:23:05 PM
Copper	0.15	0.0060		mg/L	1	3/31/2006 1:23:05 PM
Iron	8.5	0.25		mg/L	5	3/31/2006 1:56:52 PM
Lead	0.015	0.0050		mg/L	1	3/31/2006 1:23:05 PM
Manganese	3.2	0.0020		mg/L	1	3/31/2006 1:23:05 PM
Selenium	ND	0.25		mg/L	5	3/31/2006 1:56:52 PM
Silver	ND	0.0050		mg/L	1	3/31/2006 1:23:05 PM
Uranium	0.11	0.10		mg/L	1	3/31/2006 3:16:12 PM
Zinc	0.36	0.050		mg/L	1	3/31/2006 1:23:05 PM
EPA METHOD 8260B: VOLATILES						Analyst: **KTM**
Benzene	ND	1.0		µg/L	1	3/30/2006
Toluene	ND	1.0		µg/L	1	3/30/2006
Ethylbenzene	ND	1.0		µg/L	1	3/30/2006
Methyl tert-butyl ether (MTBE)	4.9	1.5		µg/L	1	3/30/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/30/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/30/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *05-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW4-0206
Lab Order:	0603309	**Collection Date:**	3/27/2006 9:45:00 AM
Project:	SW4-0206 Baseline	**Date Received:**	3/28/2006
Lab ID:	0603309-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **KTM**
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/30/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/30/2006
Naphthalene	ND	2.0		µg/L	1	3/30/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2006
Acetone	ND	10		µg/L	1	3/30/2006
Bromobenzene	ND	1.0		µg/L	1	3/30/2006
Bromochloromethane	ND	1.0		µg/L	1	3/30/2006
Bromodichloromethane	ND	1.0		µg/L	1	3/30/2006
Bromoform	ND	1.0		µg/L	1	3/30/2006
Bromomethane	ND	2.0		µg/L	1	3/30/2006
2-Butanone	ND	10		µg/L	1	3/30/2006
Carbon disulfide	ND	10		µg/L	1	3/30/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	3/30/2006
Chlorobenzene	ND	1.0		µg/L	1	3/30/2006
Chloroethane	ND	2.0		µg/L	1	3/30/2006
Chloroform	ND	1.0		µg/L	1	3/30/2006
Chloromethane	ND	1.0		µg/L	1	3/30/2006
2-Chlorotoluene	ND	1.0		µg/L	1	3/30/2006
4-Chlorotoluene	ND	1.0		µg/L	1	3/30/2006
cis-1,2-DCE	ND	1.0		µg/L	1	3/30/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/30/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/30/2006
Dibromochloromethane	ND	1.0		µg/L	1	3/30/2006
Dibromomethane	ND	2.0		µg/L	1	3/30/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/30/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/30/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	3/30/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	3/30/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	3/30/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	3/30/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	3/30/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	3/30/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	3/30/2006
2-Hexanone	ND	10		µg/L	1	3/30/2006
Isopropylbenzene	ND	1.0		µg/L	1	3/30/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	3/30/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	3/30/2006

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H 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 Environmental Analysis Laboratory

Date: *05-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW4-0206
Lab Order:	0603309	**Collection Date:**	3/27/2006 9:45:00 AM
Project:	SW4-0206 Baseline	**Date Received:**	3/28/2006
Lab ID:	0603309-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **KTM**
Methylene Chloride	ND	3.0		µg/L	1	3/30/2006
n-Butylbenzene	ND	1.0		µg/L	1	3/30/2006
n-Propylbenzene	ND	1.0		µg/L	1	3/30/2006
sec-Butylbenzene	ND	2.0		µg/L	1	3/30/2006
Styrene	ND	1.5		µg/L	1	3/30/2006
tert-Butylbenzene	ND	1.0		µg/L	1	3/30/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/30/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	3/30/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/30/2006
trans-1,2-DCE	ND	1.0		µg/L	1	3/30/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/30/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/30/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/30/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/30/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/30/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	3/30/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/30/2006
Vinyl chloride	ND	1.0		µg/L	1	3/30/2006
Xylenes, Total	ND	3.0		µg/L	1	3/30/2006
Surr: 1,2-Dichloroethane-d4	116	69.9-130		%REC	1	3/30/2006
Surr: 4-Bromofluorobenzene	93.4	71.2-123		%REC	1	3/30/2006
Surr: Dibromofluoromethane	113	57.3-135		%REC	1	3/30/2006
Surr: Toluene-d8	93.5	81.9-122		%REC	1	3/30/2006
EPA METHOD 310.1: ALKALINITY						Analyst: **ks**
Alkalinity, Total (As CaCO3)	680	2.0		mg/L CaCO3	1	3/29/2006
Carbonate	ND	2.0		mg/L CaCO3	1	3/29/2006
Bicarbonate	680	2.0		mg/L CaCO3	1	3/29/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **ks**
Specific Conductance	8300	0.010		µmhos/cm	1	3/29/2006
EPA METHOD 160.1: TDS						Analyst: **ks**
Total Dissolved Solids	7400	50		mg/L	1	3/30/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *05-Apr-06*

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK**	SampType: **MBLK**	TestCode: **300_W**	Units: **mg/L**	Prep Date:	RunNo: **18742**
Client ID: **ZZZZZ**	Batch ID: **R18742**	TestNo: **E300**		Analysis Date: **3/28/2006**	SeqNo: **465471**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Nitrogen, Nitrite (As N)	ND	0.10									
Bromide	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: **MBLK**	SampType: **MBLK**	TestCode: **300_W**	Units: **mg/L**	Prep Date:	RunNo: **18764**
Client ID: **ZZZZZ**	Batch ID: **R18764**	TestNo: **E300**		Analysis Date: **3/29/2006**	SeqNo: **465843**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Nitrogen, Nitrite (As N)	ND	0.10									
Bromide	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

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Sample ID: **MBLK**	SampType: **MBLK**	TestCode: **300_W**	Units: **mg/L**	Prep Date:	RunNo: **18777**
Client ID: **ZZZZZ**	Batch ID: **R18777**	TestNo: **E300**		Analysis Date: **3/30/2006**	SeqNo: **466075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Nitrogen, Nitrite (As N)	ND	0.10									
Bromide	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **MBLK** SampType: **MBLK** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18777**
Client ID: **ZZZZZ** Batch ID: **R18777** TestNo: **E300** Analysis Date: **3/30/2006** SeqNo: **466075**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18742**
Client ID: **ZZZZZ** Batch ID: **R18742** TestNo: **E300** Analysis Date: **3/28/2006** SeqNo: **465472**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5191	0.10	0.5	0	104	90	110				
Chloride	4.563	0.10	5	0	91.3	90	110				
Nitrogen, Nitrite (As N)	0.9675	0.10	1	0	96.8	90	110				
Bromide	2.377	0.10	2.5	0	95.1	90	110				
Nitrogen, Nitrate (As N)	2.318	0.10	2.5	0	92.7	90	110				
Phosphorus, Orthophosphate (As P)	4.723	0.50	5	0	94.5	90	110				
Sulfate	9.424	0.50	10	0	94.2	90	110				

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Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18764**
Client ID: **ZZZZZ** Batch ID: **R18764** TestNo: **E300** Analysis Date: **3/29/2006** SeqNo: **465855**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5105	0.10	0.5	0	102	90	110				
Chloride	4.803	0.10	5	0	96.1	90	110				
Nitrogen, Nitrite (As N)	1.011	0.10	1	0	101	90	110				
Bromide	2.496	0.10	2.5	0	99.8	90	110				
Nitrogen, Nitrate (As N)	2.450	0.10	2.5	0	98.0	90	110				
Phosphorus, Orthophosphate (As P)	5.002	0.50	5	0	100	90	110				
Sulfate	9.828	0.50	10	0	98.3	90	110				

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **LCS ST300-06006**	SampType: **LCS**	TestCode: **300_W**	Units: **mg/L**	Prep Date:		RunNo: **18777**
Client ID: **ZZZZZ**	Batch ID: **R18777**	TestNo: **E300**		Analysis Date: **3/30/2006**		SeqNo: **466076**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4834	0.10	0.5	0	96.7	90	110				
Chloride	4.686	0.10	5	0	93.7	90	110				
Nitrogen, Nitrite (As N)	0.9963	0.10	1	0	99.6	90	110				
Bromide	2.457	0.10	2.5	0	98.3	90	110				
Nitrogen, Nitrate (As N)	2.360	0.10	2.5	0	94.4	90	110				
Phosphorus, Orthophosphate (As P)	4.894	0.50	5	0	97.9	90	110				
Sulfate	9.611	0.50	10	0	96.1	90	110				

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 310.1_W

Sample ID: **MB**	SampType: **MBLK**	TestCode: **310.1_W**	Units: **mg/L CaCO3**	Prep Date:		RunNo: **18747**
Client ID: **ZZZZZ**	Batch ID: **R18747**	TestNo: **E310.1**		Analysis Date: **3/29/2006**		SeqNo: **465541**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.0									
Carbonate	ND	2.0									
Bicarbonate	ND	2.0									

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Sample ID: MB-10078	SampType: MBLK	TestCode: HG_CTW	Units: mg/L	Prep Date: 3/29/2006	RunNo: 18757
Client ID: ZZZZZ	Batch ID: 10078	TestNo: SW7470	(SW7470)	Analysis Date: 3/29/2006	SeqNo: 465738

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00020									

Sample ID: LCS-10078	SampType: LCS	TestCode: HG_CTW	Units: mg/L	Prep Date: 3/29/2006	RunNo: 18757
Client ID: ZZZZZ	Batch ID: 10078	TestNo: SW7470	(SW7470)	Analysis Date: 3/29/2006	SeqNo: 465727

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004860	0.00020	0.005	0	97.2	80	120				

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18775**
Client ID: **ZZZZZ**	Batch ID: **R18775**	TestNo: **SW6010A**		Analysis Date: **3/30/2006**	SeqNo: **466036**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	ND	1.0									
Manganese	ND	0.0020									
Potassium	ND	1.0									
Sodium	ND	1.0									

Sample ID: **LCS**	SampType: **LCS**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18775**
Client ID: **ZZZZZ**	Batch ID: **R18775**	TestNo: **SW6010A**		Analysis Date: **3/30/2006**	SeqNo: **466037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	49.54	1.0	50.5	0	98.1	80	120				
Manganese	0.4582	0.0020	0.5	0	91.6	80	120				
Potassium	51.66	1.0	55	0	93.9	80	120				
Sodium	52.94	1.0	50.5	0	105	80	120				

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: MB-10088	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466247

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.050									
Lead	ND	0.0050									
Manganese	ND	0.0020									
Selenium	ND	0.050									
Silver	ND	0.0050									
Uranium	ND	0.10									
Zinc	ND	0.050									

Sample ID: MB-10088	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466257

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	ND	0.10									

Sample ID: LCS-10088	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4990	0.020	0.5	0	99.8	80	120				
Barium	0.4660	0.020	0.5	0.000541	93.1	80	120				
Cadmium	0.4733	0.0020	0.5	0	94.7	80	120				
Chromium	0.4727	0.0060	0.5	0	94.5	80	120				
Copper	0.4891	0.0060	0.5	0.0008457	97.6	80	120				
Iron	0.4494	0.050	0.5	0	89.9	80	120				
Lead	0.4708	0.0050	0.5	0	94.2	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: LCS-10088	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466248

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.4750	0.0020	0.5	0.0001369	95.0	80	120				
Selenium	0.4348	0.050	0.5	0	87.0	80	120				
Silver	0.4714	0.0050	0.5	0	94.3	80	120				
Zinc	0.4641	0.050	0.5	0	92.8	80	120				

Sample ID: LCS-10088	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/30/2006	RunNo: 18787
Client ID: ZZZZZ	Batch ID: 10088	TestNo: SW6010A		Analysis Date: 3/31/2006	SeqNo: 466258

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Uranium	0.5364	0.10	0.5	0	107	80	120				

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: TDS_W

Sample ID: MB-10080	SampType: MBLK	TestCode: TDS_W	Units: mg/L	Prep Date: 3/29/2006	RunNo: 18767
Client ID: ZZZZZ	Batch ID: 10080	TestNo: E160.1		Analysis Date: 3/30/2006	SeqNo: 465928

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

Sample ID: LCS-10080	SampType: LCS	TestCode: TDS_W	Units: mg/L	Prep Date: 3/29/2006	RunNo: 18767
Client ID: ZZZZZ	Batch ID: 10080	TestNo: E160.1		Analysis Date: 3/30/2006	SeqNo: 465929

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	985.0	50	1000	0	98.5	80	120				

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603309
Project: SW4-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18760
Client ID: ZZZZZ	Batch ID: R18760	TestNo: SW8260B		Analysis Date: 3/29/2006	SeqNo: 465773

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	21.20	1.0	20	0	106	79.2	130				
Toluene	18.10	1.0	20	0	90.5	81.5	118				
Chlorobenzene	19.77	1.0	20	0	98.8	81.2	132				
1,1-Dichloroethene	16.60	1.0	20	0	83.0	65.5	134				
Trichloroethene (TCE)	20.76	1.0	20	0	104	67	131				

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18774
Client ID: ZZZZZ	Batch ID: R18774	TestNo: SW8260B		Analysis Date: 3/30/2006	SeqNo: 466030

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.65	1.0	20	0	98.3	79.2	130				
Toluene	19.28	1.0	20	0	96.4	81.5	118				
Chlorobenzene	21.08	1.0	20	0	105	81.2	132				
1,1-Dichloroethene	15.98	1.0	20	0	79.9	65.5	134				
Trichloroethene (TCE)	20.28	1.0	20	0	101	67	131				

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Qualifiers:

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 3/28/2006

Work Order Number 0603309 | Received by LMM

Checklist completed by Lisa Hedrick 3/28/06
Signature Date

Matrix | Carrier name Greyhound

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

Container/Temp Blank temperature? 1° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: 125 HNO3 bottle preserved at lab and in lab / 3/29/06 AT

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

Project Name: SJ4-0206 Baseline
Project #:
Project Manager: Cindy Hurtado
Sampler: Cindy Hurtado
Sample Temperature: 10

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
3/27/06	945A	H_2O	SJ4-0206	3-VOA			060300 -1
				1-500 ml			-1
				1-500ml		X	-1

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

ANALYSIS REQUEST

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

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
3/27/06	330p	Cindy Hurtado	Lisa Hedrick	1621 3/27/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:
Monitoring Well did NOT Recharge
Limited Sample - Do what you can

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

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: SW5-0206 Baseline

Order No.: 0603113

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 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

Hall Environmental Analysis Laboratory

Date: *23-Mar-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW5-0206
Lab Order:	0603113	**Collection Date:**	3/8/2006 1:00:00 PM
Project:	SW5-0206 Baseline	**Date Received:**	3/9/2006
Lab ID:	0603113-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	ND	2.5		µg/L	1	3/14/2006 7:17:38 PM
1-Methylnaphthalene	ND	2.5		µg/L	1	3/14/2006 7:17:38 PM
2-Methylnaphthalene	ND	2.5		µg/L	1	3/14/2006 7:17:38 PM
Acenaphthylene	ND	2.5		µg/L	1	3/14/2006 7:17:38 PM
Acenaphthene	ND	2.5		µg/L	1	3/14/2006 7:17:38 PM
Fluorene	ND	0.80		µg/L	1	3/14/2006 7:17:38 PM
Phenanthrene	ND	0.60		µg/L	1	3/14/2006 7:17:38 PM
Anthracene	ND	0.60		µg/L	1	3/14/2006 7:17:38 PM
Fluoranthene	ND	0.30		µg/L	1	3/14/2006 7:17:38 PM
Pyrene	ND	0.30		µg/L	1	3/14/2006 7:17:38 PM
Benz(a)anthracene	ND	0.020		µg/L	1	3/14/2006 7:17:38 PM
Chrysene	ND	0.20		µg/L	1	3/14/2006 7:17:38 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	3/14/2006 7:17:38 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	3/14/2006 7:17:38 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	3/14/2006 7:17:38 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	3/14/2006 7:17:38 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	3/14/2006 7:17:38 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	3/14/2006 7:17:38 PM
Surr: Benzo(e)pyrene	86.1	54-102		%REC	1	3/14/2006 7:17:38 PM
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Bromide	ND	0.50		mg/L	1	3/9/2006 4:19:42 PM
Chloride	340	5.0		mg/L	50	3/13/2006 2:06:28 PM
Fluoride	0.28	0.10		mg/L	1	3/9/2006 4:19:42 PM
Nitrogen, Nitrate (As N)	ND	0.10		mg/L	1	3/9/2006 4:19:42 PM
Nitrogen, Nitrite (As N)	ND	0.10		mg/L	1	3/9/2006 4:19:42 PM
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	3/9/2006 4:19:42 PM
Sulfate	1400	25		mg/L	50	3/13/2006 2:06:28 PM
EPA METHOD 7470: MERCURY						Analyst: **CMC**
Mercury	ND	0.00020		mg/L	1	3/22/2006
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **CMC**
Arsenic	ND	0.020		mg/L	1	3/13/2006 2:06:12 PM
Barium	0.023	0.0020		mg/L	1	3/13/2006 2:06:12 PM
Cadmium	ND	0.0020		mg/L	1	3/13/2006 2:06:12 PM
Calcium	500	10		mg/L	10	3/13/2006 4:35:56 PM
Chromium	ND	0.0060		mg/L	1	3/13/2006 2:06:12 PM
Copper	ND	0.0060		mg/L	1	3/13/2006 2:06:12 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *23-Mar-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW5-0206
Lab Order:	0603113	**Collection Date:**	3/8/2006 1:00:00 PM
Project:	SW5-0206 Baseline	**Date Received:**	3/9/2006
Lab ID:	0603113-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **CMC**
Iron	ND	0.020		mg/L	1	3/13/2006 2:06:12 PM
Lead	ND	0.0050		mg/L	1	3/13/2006 2:06:12 PM
Magnesium	70	1.0		mg/L	1	3/13/2006 4:21:41 PM
Manganese	2.1	0.0020		mg/L	1	3/13/2006 2:06:12 PM
Potassium	6.5	1.0		mg/L	1	3/13/2006 4:21:41 PM
Selenium	ND	0.050		mg/L	1	3/13/2006 2:06:12 PM
Silver	ND	0.0050		mg/L	1	3/13/2006 3:11:49 PM
Sodium	410	10		mg/L	10	3/13/2006 4:35:56 PM
Uranium	ND	0.10		mg/L	1	3/13/2006 2:06:12 PM
Zinc	0.082	0.0050		mg/L	1	3/13/2006 2:06:12 PM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	3/16/2006 2:06:16 PM
Barium	0.024	0.020		mg/L	1	3/16/2006 2:06:16 PM
Cadmium	ND	0.0020		mg/L	1	3/16/2006 2:06:16 PM
Chromium	ND	0.0060		mg/L	1	3/16/2006 2:06:16 PM
Copper	ND	0.0060		mg/L	1	3/16/2006 2:06:16 PM
Iron	0.95	0.050		mg/L	1	3/16/2006 2:06:16 PM
Lead	ND	0.0050		mg/L	1	3/16/2006 2:06:16 PM
Manganese	2.3	0.0020		mg/L	1	3/16/2006 2:06:16 PM
Selenium	ND	0.050		mg/L	1	3/16/2006 2:06:16 PM
Silver	ND	0.0050		mg/L	1	3/16/2006 2:06:16 PM
Uranium	ND	0.10		mg/L	1	3/16/2006 2:06:16 PM
Zinc	ND	0.050		mg/L	1	3/16/2006 2:06:16 PM
EPA METHOD 8260B: VOLATILES						Analyst: **KTM**
Benzene	ND	1.0		µg/L	1	3/14/2006
Toluene	ND	1.0		µg/L	1	3/14/2006
Ethylbenzene	1.7	1.0		µg/L	1	3/14/2006
Methyl tert-butyl ether (MTBE)	8300	750		µg/L	500	3/15/2006
1,2,4-Trimethylbenzene	5.3	1.0		µg/L	1	3/14/2006
1,3,5-Trimethylbenzene	2.0	1.0		µg/L	1	3/14/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	3/14/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	3/14/2006
Naphthalene	ND	2.0		µg/L	1	3/14/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	3/14/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	3/14/2006
Acetone	ND	10		µg/L	1	3/14/2006
Bromobenzene	ND	1.0		µg/L	1	3/14/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *23-Mar-06*

CLIENT: San Juan Refining
Lab Order: 0603113
Project: SW5-0206 Baseline
Lab ID: 0603113-01

Client Sample ID: SW5-0206
Collection Date: 3/8/2006 1:00:00 PM
Date Received: 3/9/2006
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **KTM**
Bromochloromethane	ND	1.0		µg/L	1	3/14/2006
Bromodichloromethane	ND	1.0		µg/L	1	3/14/2006
Bromoform	ND	1.0		µg/L	1	3/14/2006
Bromomethane	ND	2.0		µg/L	1	3/14/2006
2-Butanone	ND	10		µg/L	1	3/14/2006
Carbon disulfide	ND	10		µg/L	1	3/14/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	3/14/2006
Chlorobenzene	ND	1.0		µg/L	1	3/14/2006
Chloroethane	ND	2.0		µg/L	1	3/14/2006
Chloroform	ND	1.0		µg/L	1	3/14/2006
Chloromethane	ND	1.0		µg/L	1	3/14/2006
2-Chlorotoluene	ND	1.0		µg/L	1	3/14/2006
4-Chlorotoluene	ND	1.0		µg/L	1	3/14/2006
cis-1,2-DCE	ND	1.0		µg/L	1	3/14/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	3/14/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	3/14/2006
Dibromochloromethane	ND	1.0		µg/L	1	3/14/2006
Dibromomethane	ND	2.0		µg/L	1	3/14/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	3/14/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	3/14/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	3/14/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	3/14/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	3/14/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	3/14/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	3/14/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	3/14/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	3/14/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	3/14/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	3/14/2006
2-Hexanone	ND	10		µg/L	1	3/14/2006
Isopropylbenzene	ND	1.0		µg/L	1	3/14/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	3/14/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	3/14/2006
Methylene Chloride	ND	3.0		µg/L	1	3/14/2006
n-Butylbenzene	1.1	1.0		µg/L	1	3/14/2006
n-Propylbenzene	ND	1.0		µg/L	1	3/14/2006
sec-Butylbenzene	ND	2.0		µg/L	1	3/14/2006
Styrene	ND	1.5		µg/L	1	3/14/2006
tert-Butylbenzene	ND	1.0		µg/L	1	3/14/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	3/14/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *23-Mar-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW5-0206
Lab Order:	0603113	**Collection Date:**	3/8/2006 1:00:00 PM
Project:	SW5-0206 Baseline	**Date Received:**	3/9/2006
Lab ID:	0603113-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **KTM**
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	3/14/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	3/14/2006
trans-1,2-DCE	ND	1.0		µg/L	1	3/14/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	3/14/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	3/14/2006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	3/14/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	3/14/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	3/14/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	3/14/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	3/14/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	3/14/2006
Vinyl chloride	ND	1.0		µg/L	1	3/14/2006
Xylenes, Total	11	3.0		µg/L	1	3/14/2006
Surr: 1,2-Dichloroethane-d4	95.6	69.9-130		%REC	1	3/14/2006
Surr: 4-Bromofluorobenzene	96.6	71.2-123		%REC	1	3/14/2006
Surr: Dibromofluoromethane	96.3	57.3-135		%REC	1	3/14/2006
Surr: Toluene-d8	94.3	81.9-122		%REC	1	3/14/2006
EPA METHOD 310.1: ALKALINITY						Analyst: **ks**
Alkalinity, Total (As CaCO3)	450	2.0		mg/L CaCO3	1	3/13/2006
Carbonate	ND	2.0		mg/L CaCO3	1	3/13/2006
Bicarbonate	450	2.0		mg/L CaCO3	1	3/13/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **ks**
Specific Conductance	3800	0.010		µmhos/cm	1	3/15/2006
EPA METHOD 160.1: TDS						Analyst: **ks**
Total Dissolved Solids	3100	50		mg/L	1	3/13/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: 23-Mar-

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18529
Client ID: ZZZZZ	Batch ID: R18529	TestNo: E300		Analysis Date: 3/9/2006	SeqNo: 459151

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Nitrogen, Nitrite (As N)	ND	0.10									
Bromide	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18563
Client ID: ZZZZZ	Batch ID: R18563	TestNo: E300		Analysis Date: 3/13/2006	SeqNo: 460233

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Nitrogen, Nitrite (As N)	ND	0.10									
Bromide	ND	0.10									
Nitrogen, Nitrate (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: LCS ST300-06005	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18529
Client ID: ZZZZZ	Batch ID: R18529	TestNo: E300		Analysis Date: 3/9/2006	SeqNo: 459152

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4737	0.10	0.5	0	94.7	90	110				
Chloride	4.655	0.10	5	0	93.1	90	110				
Nitrogen, Nitrite (As N)	0.9848	0.10	1	0	98.5	90	110				
Bromide	2.410	0.10	2.5	0	96.4	90	110				
Nitrogen, Nitrate (As N)	2.354	0.10	2.5	0	94.1	90	110				

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: LCS ST300-06005	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18529
Client ID: ZZZZZ	Batch ID: R18529	TestNo: E300		Analysis Date: 3/9/2006	SeqNo: 459152

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Phosphorus, Orthophosphate (As P)	4.772	0.50	5	0	95.4	90	110				
Sulfate	9.432	0.50	10	0	94.3	90	110				

Sample ID: LCS ST300-06005	SampType: LCS	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18563
Client ID: ZZZZZ	Batch ID: R18563	TestNo: E300		Analysis Date: 3/13/2006	SeqNo: 460234

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.5012	0.10	0.5	0	100	90	110				
Chloride	4.636	0.10	5	0	92.7	90	110				
Nitrogen, Nitrite (As N)	0.9486	0.10	1	0	94.9	90	110				
Bromide	2.395	0.10	2.5	0	95.8	90	110				
Nitrogen, Nitrate (As N)	2.324	0.10	2.5	0	92.9	90	110				
Phosphorus, Orthophosphate (As P)	4.787	0.50	5	0	95.7	90	110				
Sulfate	9.528	0.50	10	0	95.3	90	110				

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 310.1_W

Sample ID: **MB**	SampType: **MBLK**	TestCode: **310.1_W**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **18558**
Client ID: **ZZZZZ**	Batch ID: **R18558**	TestNo: **E310.1**		Analysis Date: **3/13/2006**	SeqNo: **460063**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.0									
Carbonate	ND	2.0									
Bicarbonate	ND	2.0									

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: MB-9961	SampType: MBLK	TestCode: 8310_W	Units: µg/L	Prep Date: 3/10/2006	RunNo: 18608
Client ID: ZZZZZ	Batch ID: 9961	TestNo: SW8310	(SW3510C)	Analysis Date: 3/14/2006	SeqNo: 461564

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	2.5									
1-Methylnaphthalene	ND	2.5									
2-Methylnaphthalene	ND	2.5									
Acenaphthylene	ND	2.5									
Acenaphthene	ND	2.5									
Fluorene	ND	0.80									
Phenanthrene	ND	0.60									
Anthracene	ND	0.60									
Fluoranthene	ND	0.30									
Pyrene	ND	0.30									
Benz(a)anthracene	ND	0.020									
Chrysene	ND	0.20									
Benzo(b)fluoranthene	ND	0.050									
Benzo(k)fluoranthene	ND	0.020									
Benzo(a)pyrene	ND	0.020									
Dibenz(a,h)anthracene	ND	0.040									
Benzo(g,h,i)perylene	ND	0.030									
Indeno(1,2,3-cd)pyrene	ND	0.080									

Sample ID: LCS-9961	SampType: LCS	TestCode: 8310_W	Units: µg/L	Prep Date: 3/10/2006	RunNo: 18608
Client ID: ZZZZZ	Batch ID: 9961	TestNo: SW8310	(SW3510C)	Analysis Date: 3/14/2006	SeqNo: 461567

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	23.84	2.5	40	0	59.6	40.5	83.1				
1-Methylnaphthalene	23.51	2.5	40.1	0	58.6	42.1	80.8				
2-Methylnaphthalene	22.83	2.5	40	0	57.1	41.4	79.6				
Acenaphthylene	27.85	2.5	40.1	0	69.5	49.6	79.4				
Acenaphthene	25.84	2.5	40	0	64.6	47.3	81.4				
Fluorene	2.820	0.80	4.01	0	70.3	50.1	80.6				
Phenanthrene	1.520	0.60	2.01	0	75.6	54	87.4				

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: LCS-9961	SampType: LCS	TestCode: 8310_W	Units: µg/L	Prep Date: 3/10/2006	RunNo: 18608
Client ID: ZZZZZ	Batch ID: 9961	TestNo: SW8310	(SW3510C)	Analysis Date: 3/14/2006	SeqNo: 461567

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	1.530	0.60	2.01	0	76.1	55.2	85.2				
Fluoranthene	3.220	0.30	4.01	0	80.3	55.7	91.7				
Pyrene	3.180	0.30	4.01	0	79.3	55.7	96.5				
Benz(a)anthracene	0.3100	0.020	0.401	0	77.3	54.2	95.6				
Chrysene	1.650	0.20	2.01	0	82.1	54.9	97.3				
Benzo(b)fluoranthene	0.4100	0.050	0.501	0	81.8	53.8	94.9				
Benzo(k)fluoranthene	0.2000	0.020	0.25	0	80.0	53.8	92.9				
Benzo(a)pyrene	0.2100	0.020	0.251	0	83.7	51.2	98.9				
Dibenz(a,h)anthracene	0.3900	0.040	0.501	0	77.8	52.2	94.7				
Benzo(g,h,i)perylene	0.3700	0.030	0.5	0	74.0	55.5	101				
Indeno(1,2,3-cd)pyrene	0.7650	0.080	1.002	0	76.3	57.4	98.7				

Sample ID: LCSD-9961	SampType: LCSD	TestCode: 8310_W	Units: µg/L	Prep Date: 3/10/2006	RunNo: 18608
Client ID: ZZZZZ	Batch ID: 9961	TestNo: SW8310	(SW3510C)	Analysis Date: 3/14/2006	SeqNo: 461568

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	22.83	2.5	40	0	57.1	40.5	83.1	23.84	4.33	32.1	
1-Methylnaphthalene	22.69	2.5	40.1	0	56.6	42.1	80.8	23.51	3.55	32.7	
2-Methylnaphthalene	22.40	2.5	40	0	56.0	41.4	79.6	22.83	1.90	34	
Acenaphthylene	25.68	2.5	40.1	0	64.0	49.6	79.4	27.85	8.12	38.8	
Acenaphthene	24.25	2.5	40	0	60.6	47.3	81.4	25.84	6.35	38.6	
Fluorene	2.570	0.80	4.01	0	64.1	50.1	80.6	2.82	9.28	39.3	
Phenanthrene	1.410	0.60	2.01	0	70.1	54	87.4	1.52	7.51	25	
Anthracene	1.410	0.60	2.01	0	70.1	55.2	85.2	1.53	8.16	23.9	
Fluoranthene	3.210	0.30	4.01	0	80.0	55.7	91.7	3.22	0.311	15.7	
Pyrene	3.020	0.30	4.01	0	75.3	55.7	96.5	3.18	5.16	15.3	
Benz(a)anthracene	0.3100	0.020	0.401	0	77.3	54.2	95.6	0.31	0	119	
Chrysene	1.610	0.20	2.01	0	80.1	54.9	97.3	1.65	2.45	16.6	
Benzo(b)fluoranthene	0.4000	0.050	0.501	0	79.8	53.8	94.9	0.41	2.47	21.7	
Benzo(k)fluoranthene	0.1900	0.020	0.25	0	76.0	53.8	92.9	0.2	5.13	19.4	

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: **LCSD-9961**	SampType: **LCSD**	TestCode: **8310_W**	Units: **µg/L**	Prep Date: **3/10/2006**	RunNo: **18608**
Client ID: **ZZZZZ**	Batch ID: **9961**	TestNo: **SW8310**	**(SW3510C)**	Analysis Date: **3/14/2006**	SeqNo: **461568**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.1800	0.020	0.251	0	71.7	51.2	98.9	0.21	15.4	16.7	
Dibenz(a,h)anthracene	0.3800	0.040	0.501	0	75.8	52.2	94.7	0.39	2.60	17.3	
Benzo(g,h,i)perylene	0.3600	0.030	0.5	0	72.0	55.5	101	0.37	2.74	118	
Indeno(1,2,3-cd)pyrene	0.7330	0.080	1.002	0	73.2	57.4	98.7	0.765	4.27	17.7	

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Sample ID: MB-10037	SampType: MBLK	TestCode: HG_CTW	Units: mg/L	Prep Date: 3/22/2006	RunNo: 18673
Client ID: ZZZZZ	Batch ID: 10037	TestNo: SW7470	(SW7470)	Analysis Date: 3/22/2006	SeqNo: 463894

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00020									

Sample ID: LCS-10037	SampType: LCS	TestCode: HG_CTW	Units: mg/L	Prep Date: 3/22/2006	RunNo: 18673
Client ID: ZZZZZ	Batch ID: 10037	TestNo: SW7470	(SW7470)	Analysis Date: 3/22/2006	SeqNo: 463895

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004260	0.00020	0.005	0	85.2	80	120				

Sample ID: 0603113-01DMS	SampType: MS	TestCode: HG_CTW	Units: mg/L	Prep Date: 3/22/2006	RunNo: 18673
Client ID: SW5-0206	Batch ID: 10037	TestNo: SW7470	(SW7470)	Analysis Date: 3/22/2006	SeqNo: 463897

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004560	0.00020	0.005	0	91.2	75	125				

Sample ID: 0603113-01DMSD	SampType: MSD	TestCode: HG_CTW	Units: mg/L	Prep Date: 3/22/2006	RunNo: 18673
Client ID: SW5-0206	Batch ID: 10037	TestNo: SW7470	(SW7470)	Analysis Date: 3/22/2006	SeqNo: 463898

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004590	0.00020	0.005	0	91.8	75	125	0.00456	0.656	20	

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18562**
Client ID: **ZZZZZ**	Batch ID: **R-18562**	TestNo: **SW6010A**		Analysis Date: **3/13/2006**	SeqNo: **460208**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Calcium	ND	1.0									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.020									
Lead	ND	0.0050									
Magnesium	ND	1.0									
Manganese	ND	0.0020									
Potassium	ND	1.0									
Selenium	ND	0.020									
Silver	ND	0.0050									
Sodium	ND	1.0									
Uranium	ND	0.10									
Zinc	ND	0.050									

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Sample ID: **LCS**	SampType: **LCS**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18562**
Client ID: **ZZZZZ**	Batch ID: **R-18562**	TestNo: **SW6010A**		Analysis Date: **3/13/2006**	SeqNo: **460209**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4654	0.020	0.5	0	93.1	80	120				
Barium	0.4475	0.020	0.5	0	89.5	80	120				
Cadmium	0.4584	0.0020	0.5	0	91.7	80	120				
Calcium	56.60	1.0	50.5	0	112	80	120				
Chromium	0.4504	0.0060	0.5	0	90.1	80	120				
Copper	0.4538	0.0060	0.5	0	90.8	80	120				
Iron	0.4458	0.020	0.5	0	89.2	80	120				
Lead	0.4354	0.0050	0.5	0	87.1	80	120				
Magnesium	57.02	1.0	50.5	0	113	80	120				

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: **LCS** SampType: **LCS** TestCode: **METALS_DIS** Units: **mg/L** Prep Date: RunNo: **18562**
Client ID: **ZZZZZ** Batch ID: **R-18562** TestNo: **SW6010A** Analysis Date: **3/13/2006** SeqNo: **460209**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Manganese	0.4376	0.0020	0.5	0	87.5	80	120				
Potassium	59.58	1.0	55	0	108	80	120				
Selenium	0.4266	0.020	0.5	0	85.3	80	120				
Silver	0.4520	0.0050	0.5	0	90.4	80	120				
Sodium	60.03	1.0	50.5	0	119	80	120				
Uranium	0.4583	0.10	0.5	0	91.7	80	120				
Zinc	0.4480	0.050	0.5	0	89.6	80	120				

Sample ID: **LCSD** SampType: **LCSD** TestCode: **METALS_DIS** Units: **mg/L** Prep Date: RunNo: **18562**
Client ID: **ZZZZZ** Batch ID: **R-18562** TestNo: **SW6010A** Analysis Date: **3/13/2006** SeqNo: **460210**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.4691	0.020	0.5	0	93.8	80	120	0.4654	0.777	20	
Barium	0.4551	0.020	0.5	0	91.0	80	120	0.4475	1.69	20	
Cadmium	0.4596	0.0020	0.5	0	91.9	80	120	0.4584	0.278	20	
Calcium	56.89	1.0	50.5	0	113	80	120	56.6	0.503	20	
Chromium	0.4511	0.0060	0.5	0	90.2	80	120	0.4504	0.161	20	
Copper	0.4622	0.0060	0.5	0	92.4	80	120	0.4538	1.83	20	
Iron	0.4462	0.020	0.5	0	89.2	80	120	0.4458	0.0920	20	
Lead	0.4407	0.0050	0.5	0	88.1	80	120	0.4354	1.21	20	
Magnesium	57.31	1.0	50.5	0	113	80	120	57.02	0.503	20	
Manganese	0.4461	0.0020	0.5	0	89.2	80	120	0.4376	1.92	20	
Potassium	59.89	1.0	55	0	109	80	120	59.58	0.509	20	
Selenium	0.4307	0.020	0.5	0	86.1	80	120	0.4266	0.968	20	
Silver	0.4491	0.0050	0.5	0	89.8	80	120	0.452	0.645	20	
Sodium	60.51	1.0	50.5	0	120	80	120	60.03	0.796	20	
Uranium	0.4685	0.10	0.5	0	93.7	80	120	0.4583	2.19	20	
Zinc	0.4497	0.050	0.5	0	89.9	80	120	0.448	0.379	20	

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: **MB-9992** SampType: **MBLK** TestCode: **METALS_TO** Units: **mg/L** Prep Date: **3/15/2006** RunNo: **18618**
Client ID: **ZZZZZ** Batch ID: **9992** TestNo: **SW6010A** Analysis Date: **3/16/2006** SeqNo: **462096**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.050									
Lead	ND	0.0050									
Manganese	ND	0.0020									
Selenium	ND	0.050									
Silver	ND	0.0050									
Uranium	ND	0.10									
Zinc	ND	0.050									

Sample ID: **LCS-9992** SampType: **LCS** TestCode: **METALS_TO** Units: **mg/L** Prep Date: **3/15/2006** RunNo: **18618**
Client ID: **ZZZZZ** Batch ID: **9992** TestNo: **SW6010A** Analysis Date: **3/16/2006** SeqNo: **462097**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5466	0.020	0.5	0	109	80	120				
Barium	0.4936	0.020	0.5	0	98.7	80	120				
Cadmium	0.5102	0.0020	0.5	0.0002837	102	80	120				
Chromium	0.4978	0.0060	0.5	0	99.6	80	120				
Copper	0.5046	0.0060	0.5	0.0005861	101	80	120				
Iron	0.4908	0.050	0.5	0.01095	96.0	80	120				
Lead	0.4972	0.0050	0.5	0	99.4	80	120				
Manganese	0.4829	0.0020	0.5	0.0002939	96.5	80	120				
Selenium	0.5095	0.050	0.5	0	102	80	120				
Silver	0.5115	0.0050	0.5	0.0005781	102	80	120				
Uranium	0.4952	0.10	2.5	0	19.8	80	120				S
Zinc	0.5069	0.050	0.5	0.00371	101	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: **LCSD-9992** SampType: **LCSD** TestCode: **METALS_TO** Units: **mg/L** Prep Date: **3/15/2006** RunNo: **18618**
Client ID: **ZZZZZ** Batch ID: **9992** TestNo: **SW6010A** Analysis Date: **3/16/2006** SeqNo: **462098**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5249	0.020	0.5	0	105	80	120	0.5466	4.06	20	
Barium	0.4912	0.020	0.5	0	98.2	80	120	0.4936	0.498	20	
Cadmium	0.5090	0.0020	0.5	0.0002837	102	80	120	0.5102	0.242	20	
Chromium	0.4972	0.0060	0.5	0	99.4	80	120	0.4978	0.113	20	
Copper	0.5017	0.0060	0.5	0.0005861	100	80	120	0.5046	0.580	20	
Iron	0.4779	0.050	0.5	0.01095	93.4	80	120	0.4908	2.67	20	
Lead	0.4987	0.0050	0.5	0	99.7	80	120	0.4972	0.291	20	
Manganese	0.4797	0.0020	0.5	0.0002939	95.9	80	120	0.4829	0.659	20	
Selenium	0.5066	0.050	0.5	0	101	80	120	0.5095	0.580	20	
Silver	0.5091	0.0050	0.5	0.0005781	102	80	120	0.5115	0.471	20	
Uranium	0.4872	0.10	2.5	0	19.5	80	120	0.4952	1.63	20	S
Zinc	0.5052	0.050	0.5	0.00371	100	80	120	0.5069	0.331	20	

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: TDS_W

Sample ID: MB-9969	SampType: MBLK	TestCode: TDS_W	Units: mg/L	Prep Date: 3/13/2006	RunNo: 18572
Client ID: ZZZZZ	Batch ID: 9969	TestNo: E160.1		Analysis Date: 3/13/2006	SeqNo: 460474

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

Sample ID: LCS-9969	SampType: LCS	TestCode: TDS_W	Units: mg/L	Prep Date: 3/13/2006	RunNo: 18572
Client ID: ZZZZZ	Batch ID: 9969	TestNo: E160.1		Analysis Date: 3/13/2006	SeqNo: 460475

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Total Dissolved Solids	1016	50	1000	0	102	80	120				

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Qualifiers:

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

Hall Environmental Analysis Laboratory

Date: 23-Mar-

CLIENT: San Juan Refining
Work Order: 0603113
Project: SW5-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18585
Client ID: ZZZZZ	Batch ID: R18585	TestNo: SW8260B		Analysis Date: 3/15/2006	SeqNo: 460754

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	18.77	1.0	20	0	93.9	79.2	130				
Toluene	18.54	1.0	20	0	92.7	81.5	118				
Chlorobenzene	20.32	1.0	20	0	102	81.2	132				
1,1-Dichloroethene	19.15	1.0	20	0	95.8	65.5	134				
Trichloroethene (TCE)	17.51	1.0	20	0	87.6	67	131				

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18601
Client ID: ZZZZZ	Batch ID: R18601	TestNo: SW8260B		Analysis Date: 3/15/2006	SeqNo: 461132

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	17.89	1.0	20	0	89.5	79.2	130				
Toluene	17.65	1.0	20	0	88.3	81.5	118				
Chlorobenzene	19.61	1.0	20	0	98.0	81.2	132				
1,1-Dichloroethene	14.77	1.0	20	0	73.8	65.5	134				
Trichloroethene (TCE)	17.71	1.0	20	0	88.6	67	131				

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Qualifiers:

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 3/9/2006

Work Order Number 0603113 | Received by AT

Checklist completed by [signature] Signature | 3/9/06 Date

Matrix | Carrier name Client drop-off

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

Container/Temp Blank temperature? 1° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted | Date contacted: | Person contacted

Contacted by: | Regarding

Comments:

Corrective Action

CHAIN-OF-CUSTODY RECORD

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

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

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

Project Name: SW5-0206 Baseline
Project #:
Project Manager:
Sampler: Cindy Hurtado / Shelly Cowden
Sample Temperature:

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
3/08/06	1pm	H2O	SW5-0206	3-VOA			HCL	603113-1
				1-liter			Amber	
				1-250ml		X		
				1-500ml			X	
				1-500ml			H_2SO_4	
				1-500ml				

ANALYSIS REQUEST

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

Date: 3/08/06 Time: 325p Relinquished By: (Signature) Cindy Hurtado
Date: Time: Relinquished By: (Signature)

Received By: (Signature) 3/9/06
Received By: (Signature) 0935

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, April 03, 2006

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

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

RE: SW7-0206 Baseline

Order No.: 0603182

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/15/2006 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

Hall Environmental Analysis Laboratory

Date: *03-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW7-0206
Lab Order:	0603182	**Collection Date:**	3/13/2006 1:25:00 PM
Project:	SW7-0206 Baseline	**Date Received:**	3/15/2006
Lab ID:	0603182-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8310: PAHS						Analyst: **JMP**
Naphthalene	120	12		µg/L	5	3/21/2006 5:56:01 PM
1-Methylnaphthalene	29	2.5		µg/L	1	3/21/2006 3:28:48 PM
2-Methylnaphthalene	50	2.5		µg/L	1	3/21/2006 3:28:48 PM
Acenaphthylene	ND	2.5		µg/L	1	3/21/2006 3:28:48 PM
Acenaphthene	ND	2.5		µg/L	1	3/21/2006 3:28:48 PM
Fluorene	0.59	0.040		µg/L	1	3/21/2006 3:28:48 PM
Phenanthrene	0.90	0.020		µg/L	1	3/21/2006 3:28:48 PM
Anthracene	ND	0.020		µg/L	1	3/21/2006 3:28:48 PM
Fluoranthene	ND	0.30		µg/L	1	3/21/2006 3:28:48 PM
Pyrene	ND	0.30		µg/L	1	3/21/2006 3:28:48 PM
Benz(a)anthracene	ND	0.020		µg/L	1	3/21/2006 3:28:48 PM
Chrysene	ND	0.20		µg/L	1	3/21/2006 3:28:48 PM
Benzo(b)fluoranthene	ND	0.050		µg/L	1	3/21/2006 3:28:48 PM
Benzo(k)fluoranthene	ND	0.020		µg/L	1	3/21/2006 3:28:48 PM
Benzo(a)pyrene	ND	0.020		µg/L	1	3/21/2006 3:28:48 PM
Dibenz(a,h)anthracene	ND	0.040		µg/L	1	3/21/2006 3:28:48 PM
Benzo(g,h,i)perylene	ND	0.030		µg/L	1	3/21/2006 3:28:48 PM
Indeno(1,2,3-cd)pyrene	ND	0.080		µg/L	1	3/21/2006 3:28:48 PM
Surr: Benzo(e)pyrene	62.1	54-102		%REC	1	3/21/2006 3:28:48 PM
EPA METHOD 300.0: ANIONS						Analyst: **MAP**
Bromide	9.1	0.50		mg/L	1	3/16/2006 12:31:00 AM
Chloride	500	2.0		mg/L	20	3/16/2006 12:48:24 AM
Fluoride	ND	0.50		mg/L	5	3/23/2006 6:04:27 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	3/16/2006 1:05:49 AM
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	3/23/2006 6:04:27 PM
Sulfate	2800	25		mg/L	50	3/21/2006 1:35:00 AM
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	3/15/2006 2:57:19 PM
Barium	0.024	0.0020		mg/L	1	3/15/2006 2:57:19 PM
Cadmium	ND	0.0020		mg/L	1	3/15/2006 2:57:19 PM
Calcium	550	10		mg/L	10	3/15/2006 4:21:08 PM
Chromium	ND	0.0060		mg/L	1	3/15/2006 2:57:19 PM
Copper	ND	0.0060		mg/L	1	3/15/2006 2:57:19 PM
Iron	0.069	0.020		mg/L	1	3/15/2006 2:57:19 PM
Lead	0.032	0.0050		mg/L	1	3/15/2006 2:57:19 PM
Magnesium	48	1.0		mg/L	1	3/15/2006 2:57:19 PM
Manganese	2.2	0.0020		mg/L	1	3/15/2006 2:57:19 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *03-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW7-0206
Lab Order:	0603182	**Collection Date:**	3/13/2006 1:25:00 PM
Project:	SW7-0206 Baseline	**Date Received:**	3/15/2006
Lab ID:	0603182-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **NMO**
Potassium	11	1.0		mg/L	1	3/15/2006 2:57:19 PM
Selenium	ND	0.050		mg/L	1	3/15/2006 5:43:47 PM
Silver	ND	0.0050		mg/L	1	3/15/2006 2:57:19 PM
Sodium	1200	20		mg/L	20	3/15/2006 4:24:19 PM
Uranium	ND	0.10		mg/L	1	3/15/2006 2:57:19 PM
Zinc	0.074	0.0050		mg/L	1	3/16/2006 9:02:12 AM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	3/20/2006 5:43:45 PM
Barium	0.056	0.020		mg/L	1	3/20/2006 5:43:45 PM
Cadmium	ND	0.0020		mg/L	1	3/20/2006 5:43:45 PM
Chromium	ND	0.0060		mg/L	1	3/20/2006 5:43:45 PM
Copper	0.018	0.0060		mg/L	1	3/20/2006 5:43:45 PM
Iron	1.3	0.050		mg/L	1	3/21/2006 10:49:31 AM
Lead	0.033	0.0050		mg/L	1	3/20/2006 5:43:45 PM
Manganese	2.5	0.0020		mg/L	1	3/20/2006 5:43:45 PM
Selenium	ND	0.050		mg/L	1	3/20/2006 5:43:45 PM
Silver	ND	0.0050		mg/L	1	4/3/2006 12:32:16 PM
Uranium	ND	0.10		mg/L	1	3/20/2006 5:43:45 PM
Zinc	ND	0.050		mg/L	1	3/20/2006 5:43:45 PM
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
Benzene	5000	100		µg/L	100	3/17/2006
Toluene	ND	100		µg/L	100	3/17/2006
Ethylbenzene	6800	100		µg/L	100	3/17/2006
Methyl tert-butyl ether (MTBE)	240	150		µg/L	100	3/17/2006
1,2,4-Trimethylbenzene	5300	100		µg/L	100	3/17/2006
1,3,5-Trimethylbenzene	1400	100		µg/L	100	3/17/2006
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	3/17/2006
1,2-Dibromoethane (EDB)	ND	100		µg/L	100	3/17/2006
Naphthalene	1400	200		µg/L	100	3/17/2006
1-Methylnaphthalene	ND	400		µg/L	100	3/17/2006
2-Methylnaphthalene	490	400		µg/L	100	3/17/2006
Acetone	ND	1000		µg/L	100	3/17/2006
Bromobenzene	ND	100		µg/L	100	3/17/2006
Bromochloromethane	ND	100		µg/L	100	3/17/2006
Bromodichloromethane	ND	100		µg/L	100	3/17/2006
Bromoform	ND	100		µg/L	100	3/17/2006
Bromomethane	ND	200		µg/L	100	3/17/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *03-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW7-0206
Lab Order:	0603182	**Collection Date:**	3/13/2006 1:25:00 PM
Project:	SW7-0206 Baseline	**Date Received:**	3/15/2006
Lab ID:	0603182-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
2-Butanone	ND	1000		µg/L	100	3/17/2006
Carbon disulfide	ND	1000		µg/L	100	3/17/2006
Carbon Tetrachloride	ND	200		µg/L	100	3/17/2006
Chlorobenzene	ND	100		µg/L	100	3/17/2006
Chloroethane	ND	200		µg/L	100	3/17/2006
Chloroform	ND	100		µg/L	100	3/17/2006
Chloromethane	ND	100		µg/L	100	3/17/2006
2-Chlorotoluene	ND	100		µg/L	100	3/17/2006
4-Chlorotoluene	ND	100		µg/L	100	3/17/2006
cis-1,2-DCE	ND	100		µg/L	100	3/17/2006
cis-1,3-Dichloropropene	ND	100		µg/L	100	3/17/2006
1,2-Dibromo-3-chloropropane	ND	200		µg/L	100	3/17/2006
Dibromochloromethane	ND	100		µg/L	100	3/17/2006
Dibromomethane	ND	200		µg/L	100	3/17/2006
1,2-Dichlorobenzene	ND	100		µg/L	100	3/17/2006
1,3-Dichlorobenzene	ND	100		µg/L	100	3/17/2006
1,4-Dichlorobenzene	ND	100		µg/L	100	3/17/2006
Dichlorodifluoromethane	ND	100		µg/L	100	3/17/2006
1,1-Dichloroethane	ND	200		µg/L	100	3/17/2006
1,1-Dichloroethene	ND	100		µg/L	100	3/17/2006
1,2-Dichloropropane	ND	100		µg/L	100	3/17/2006
1,3-Dichloropropane	ND	100		µg/L	100	3/17/2006
2,2-Dichloropropane	ND	200		µg/L	100	3/17/2006
1,1-Dichloropropene	ND	100		µg/L	100	3/17/2006
Hexachlorobutadiene	ND	200		µg/L	100	3/17/2006
2-Hexanone	ND	1000		µg/L	100	3/17/2006
Isopropylbenzene	340	100		µg/L	100	3/17/2006
4-Isopropyltoluene	ND	100		µg/L	100	3/17/2006
4-Methyl-2-pentanone	ND	1000		µg/L	100	3/17/2006
Methylene Chloride	ND	300		µg/L	100	3/17/2006
n-Butylbenzene	180	100		µg/L	100	3/17/2006
n-Propylbenzene	900	100		µg/L	100	3/17/2006
sec-Butylbenzene	ND	200		µg/L	100	3/17/2006
Styrene	ND	150		µg/L	100	3/17/2006
tert-Butylbenzene	ND	100		µg/L	100	3/17/2006
1,1,1,2-Tetrachloroethane	ND	100		µg/L	100	3/17/2006
1,1,2,2-Tetrachloroethane	ND	100		µg/L	100	3/17/2006
Tetrachloroethene (PCE)	ND	100		µg/L	100	3/17/2006
trans-1,2-DCE	ND	100		µg/L	100	3/17/2006
trans-1,3-Dichloropropene	ND	100		µg/L	100	3/17/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *03-Apr-06*

CLIENT: San Juan Refining
Lab Order: 0603182
Project: SW7-0206 Baseline
Lab ID: 0603182-01

Client Sample ID: SW7-0206
Collection Date: 3/13/2006 1:25:00 PM
Date Received: 3/15/2006
Matrix: AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **BDH**
1,2,3-Trichlorobenzene	ND	100		µg/L	100	3/17/2006
1,2,4-Trichlorobenzene	ND	100		µg/L	100	3/17/2006
1,1,1-Trichloroethane	ND	100		µg/L	100	3/17/2006
1,1,2-Trichloroethane	ND	100		µg/L	100	3/17/2006
Trichloroethene (TCE)	ND	100		µg/L	100	3/17/2006
Trichlorofluoromethane	ND	100		µg/L	100	3/17/2006
1,2,3-Trichloropropane	ND	200		µg/L	100	3/17/2006
Vinyl chloride	ND	100		µg/L	100	3/17/2006
Xylenes, Total	11000	750		µg/L	250	3/20/2006
Surr: 1,2-Dichloroethane-d4	107	69.9-130		%REC	100	3/17/2006
Surr: 4-Bromofluorobenzene	114	71.2-123		%REC	100	3/17/2006
Surr: Dibromofluoromethane	88.5	57.3-135		%REC	100	3/17/2006
Surr: Toluene-d8	116	81.9-122		%REC	100	3/17/2006
EPA METHOD 310.1: ALKALINITY						Analyst: **ks**
Alkalinity, Total (As CaCO3)	420	2.0		mg/L CaCO3	1	3/16/2006
Carbonate	ND	2.0		mg/L CaCO3	1	3/16/2006
Bicarbonate	420	2.0		mg/L CaCO3	1	3/16/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **ks**
Specific Conductance	6800	0.010		µmhos/cm	1	3/17/2006
EPA METHOD 160.1: TDS						Analyst: **ks**
Total Dissolved Solids	5600	50		mg/L	1	3/16/2006

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: 03-Apr-0

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18602
Client ID: ZZZZZ	Batch ID: R18602	TestNo: E300		Analysis Date: 3/15/2006	SeqNo: 461166

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18647
Client ID: ZZZZZ	Batch ID: R18647	TestNo: E300		Analysis Date: 3/20/2006	SeqNo: 462801

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

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Sample ID: MBLK	SampType: MBLK	TestCode: 300_W	Units: mg/L	Prep Date:	RunNo: 18696
Client ID: ZZZZZ	Batch ID: R18696	TestNo: E300		Analysis Date: 3/23/2006	SeqNo: 464423

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	ND	0.10									
Chloride	ND	0.10									
Bromide	ND	0.10									
Nitrate (As N)+Nitrite (As N)	ND	0.10									
Phosphorus, Orthophosphate (As P)	ND	0.50									
Sulfate	ND	0.50									

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 300_W

Sample ID: **LCS ST300-06005** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18602**
Client ID: **ZZZZZ** Batch ID: **R18602** TestNo: **E300** Analysis Date: **3/15/2006** SeqNo: **461167**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4840	0.10	0.5	0	96.8	90	110				
Chloride	4.762	0.10	5	0	95.2	90	110				
Bromide	2.452	0.10	2.5	0	98.1	90	110				
Nitrate (As N)+Nitrite (As N)	3.386	0.10	3.5	0	96.7	90	110				
Phosphorus, Orthophosphate (As P)	4.951	0.50	5	0	99.0	90	110				
Sulfate	9.719	0.50	10	0	97.2	90	110				

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18647**
Client ID: **ZZZZZ** Batch ID: **R18647** TestNo: **E300** Analysis Date: **3/20/2006** SeqNo: **462802**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4911	0.10	0.5	0	98.2	90	110				
Chloride	4.619	0.10	5	0	92.4	90	110				
Bromide	2.431	0.10	2.5	0	97.2	90	110				
Nitrate (As N)+Nitrite (As N)	3.341	0.10	3.5	0	95.5	90	110				
Phosphorus, Orthophosphate (As P)	4.748	0.50	5	0	95.0	90	110				
Sulfate	9.578	0.50	10	0	95.8	90	110				

Sample ID: **LCS ST300-06006** SampType: **LCS** TestCode: **300_W** Units: **mg/L** Prep Date: RunNo: **18696**
Client ID: **ZZZZZ** Batch ID: **R18696** TestNo: **E300** Analysis Date: **3/23/2006** SeqNo: **464424**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Fluoride	0.4753	0.10	0.5	0	95.1	90	110				
Chloride	4.563	0.10	5	0	91.3	90	110				
Bromide	2.383	0.10	2.5	0	95.3	90	110				
Nitrate (As N)+Nitrite (As N)	3.267	0.10	3.5	0	93.3	90	110				
Phosphorus, Orthophosphate (As P)	4.612	0.50	5	0	92.2	90	110				
Sulfate	9.346	0.50	10	0	93.5	90	110				

6/15

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 310.1_W

Sample ID: **MB**	SampType: **MBLK**	TestCode: **310.1_W**	Units: **mg/L CaCO3**	Prep Date:	RunNo: **18609**
Client ID: **ZZZZZ**	Batch ID: **R18609**	TestNo: **E310.1**		Analysis Date: **3/16/2006**	SeqNo: **461591**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Alkalinity, Total (As CaCO3)	ND	2.0									
Carbonate	ND	2.0									
Bicarbonate	ND	2.0									

7/15

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: MB-10007	SampType: MBLK	TestCode: 8310_W	Units: µg/L	Prep Date: 3/17/2006	RunNo: 18664
Client ID: ZZZZZ	Batch ID: 10007	TestNo: SW8310	(SW3510C)	Analysis Date: 3/20/2006	SeqNo: 463491

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	ND	2.5									
1-Methylnaphthalene	ND	2.5									
2-Methylnaphthalene	ND	2.5									
Acenaphthylene	ND	2.5									
Acenaphthene	ND	2.5									
Fluorene	ND	0.040									
Phenanthrene	ND	0.020									
Anthracene	ND	0.020									
Fluoranthene	ND	0.30									
Pyrene	ND	0.30									
Benz(a)anthracene	ND	0.020									
Chrysene	ND	0.20									
Benzo(b)fluoranthene	ND	0.050									
Benzo(k)fluoranthene	ND	0.020									
Benzo(a)pyrene	ND	0.020									
Dibenz(a,h)anthracene	ND	0.040									
Benzo(g,h,i)perylene	ND	0.030									
Indeno(1,2,3-cd)pyrene	ND	0.080									

8/15

Sample ID: LCS-10007	SampType: LCS	TestCode: 8310_W	Units: µg/L	Prep Date: 3/17/2006	RunNo: 18664
Client ID: ZZZZZ	Batch ID: 10007	TestNo: SW8310	(SW3510C)	Analysis Date: 3/20/2006	SeqNo: 463492

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	20.80	2.5	40	0	52.0	40.5	83.1				
1-Methylnaphthalene	21.03	2.5	40.1	0	52.4	42.1	80.8				
2-Methylnaphthalene	20.82	2.5	40	0	52.0	41.4	79.6				
Acenaphthylene	23.50	2.5	40.1	0	58.6	49.6	79.4				
Acenaphthene	22.02	2.5	40	0	55.0	47.3	81.4				
Fluorene	2.310	0.040	4.01	0	57.6	50.1	80.6				
Phenanthrene	1.300	0.020	2.01	0	64.7	54	87.4				

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: LCS-10007	SampType: LCS	TestCode: 8310_W	Units: µg/L	Prep Date: 3/17/2006	RunNo: 18664
Client ID: ZZZZZ	Batch ID: 10007	TestNo: SW8310	(SW3510C)	Analysis Date: 3/20/2006	SeqNo: 463492

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Anthracene	1.300	0.020	2.01	0	64.7	55.2	85.2				
Fluoranthene	2.800	0.30	4.01	0	69.8	55.7	91.7				
Pyrene	2.920	0.30	4.01	0	72.8	55.7	96.5				
Benz(a)anthracene	0.2900	0.020	0.401	0	72.3	54.2	95.6				
Chrysene	1.680	0.20	2.01	0	83.6	54.9	97.3				
Benzo(b)fluoranthene	0.3700	0.050	0.501	0	73.9	53.8	94.9				
Benzo(k)fluoranthene	0.1800	0.020	0.25	0	72.0	53.8	92.9				
Benzo(a)pyrene	0.1700	0.020	0.251	0	67.7	51.2	98.9				
Dibenz(a,h)anthracene	0.3600	0.040	0.501	0	71.9	52.2	94.7				
Benzo(g,h,i)perylene	0.3600	0.030	0.5	0	72.0	55.5	101				
Indeno(1,2,3-cd)pyrene	0.7120	0.080	1.002	0	71.1	57.4	98.7				

Sample ID: LCSD-10007	SampType: LCSD	TestCode: 8310_W	Units: µg/L	Prep Date: 3/17/2006	RunNo: 18664
Client ID: ZZZZZ	Batch ID: 10007	TestNo: SW8310	(SW3510C)	Analysis Date: 3/20/2006	SeqNo: 463493

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Naphthalene	23.33	2.5	40	0	58.3	40.5	83.1	20.8	11.5	32.1	
1-Methylnaphthalene	24.44	2.5	40.1	0	60.9	42.1	80.8	21.03	15.0	32.7	
2-Methylnaphthalene	23.81	2.5	40	0	59.5	41.4	79.6	20.82	13.4	34	
Acenaphthylene	28.32	2.5	40.1	0	70.6	49.6	79.4	28.32	0	38.8	
Acenaphthene	26.80	2.5	40	0	67.0	47.3	81.4	22.02	19.6	38.6	
Fluorene	2.790	0.040	4.01	0	69.6	50.1	80.6	2.31	18.8	39.3	
Phenanthrene	1.480	0.020	2.01	0	73.6	54	87.4	1.3	12.9	25	
Anthracene	1.490	0.020	2.01	0	74.1	55.2	85.2	1.3	13.6	23.9	
Fluoranthene	3.250	0.30	4.01	0	81.0	55.7	91.7	2.8	14.9	15.7	
Pyrene	3.210	0.30	4.01	0	80.0	55.7	96.5	2.92	9.46	15.3	
Benz(a)anthracene	0.3200	0.020	0.401	0	79.8	54.2	95.6	0.29	9.84	119	
Chrysene	1.560	0.20	2.01	0	77.6	54.9	97.3	1.68	7.41	16.6	
Benzo(b)fluoranthene	0.4100	0.050	0.501	0	81.8	53.8	94.9	0.37	10.3	21.7	
Benzo(k)fluoranthene	0.2000	0.020	0.25	0	80.0	53.8	92.9	0.18	10.5	19.4	

9/15

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8310_W

Sample ID: **LCSD-10007**	SampType: **LCSD**	TestCode: **8310_W**	Units: **µg/L**	Prep Date: **3/17/2006**	RunNo: **18664**
Client ID: **ZZZZZ**	Batch ID: **10007**	TestNo: **SW8310**	**(SW3510C)**	Analysis Date: **3/20/2006**	SeqNo: **463493**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(a)pyrene	0.2000	0.020	0.251	0	79.7	51.2	98.9	0.17	16.2	16.7	
Dibenz(a,h)anthracene	0.4100	0.040	0.501	0	81.8	52.2	94.7	0.36	13.0	17.3	
Benzo(g,h,i)perylene	0.4100	0.030	0.5	0	82.0	55.5	101	0.36	13.0	118	
Indeno(1,2,3-cd)pyrene	0.7930	0.080	1.002	0	79.1	57.4	98.7	0.793	0	17.7	

10/15

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18604**
Client ID: **ZZZZZ**	Batch ID: **R18604**	TestNo: **SW6010A**		Analysis Date: **3/15/2006**	SeqNo: **461226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Calcium	ND	1.0									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.020									
Lead	ND	0.0050									
Magnesium	ND	1.0									
Manganese	ND	0.0020									
Potassium	ND	1.0									
Silver	ND	0.0050									
Sodium	ND	1.0									
Uranium	ND	0.10									

11/15

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18604**
Client ID: **ZZZZZ**	Batch ID: **R18604**	TestNo: **SW6010A**		Analysis Date: **3/16/2006**	SeqNo: **461259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.050									

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18603**
Client ID: **ZZZZZ**	Batch ID: **R18603**	TestNo: **SW6010A**		Analysis Date: **3/15/2006**	SeqNo: **461438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.020									

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18604
Client ID: ZZZZZ	Batch ID: R18604	TestNo: SW6010A		Analysis Date: 3/15/2006	SeqNo: 461227

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5588	0.020	0.5	0	112	80	120				
Barium	0.4916	0.020	0.5	0	98.3	80	120				
Cadmium	0.5076	0.0020	0.5	0	102	80	120				
Calcium	59.00	1.0	50.5	0	117	80	120				
Chromium	0.4998	0.0060	0.5	0	100	80	120				
Copper	0.4855	0.0060	0.5	0	97.1	80	120				
Iron	0.4650	0.020	0.5	0	93.0	80	120				
Lead	0.5146	0.0050	0.5	0	103	80	120				
Magnesium	57.65	1.0	50.5	0	114	80	120				
Manganese	0.4545	0.0020	0.5	0	90.9	80	120				
Potassium	60.39	1.0	55	0	110	80	120				
Silver	0.4555	0.0050	0.5	0	91.1	80	120				
Sodium	60.26	1.0	50.5	0	119	80	120				
Uranium	0.4816	0.10	0.5	0	96.3	80	120				

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18604
Client ID: ZZZZZ	Batch ID: R18604	TestNo: SW6010A		Analysis Date: 3/16/2006	SeqNo: 461260

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.4945	0.050	0.5	0	98.9	80	120				

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18603
Client ID: ZZZZZ	Batch ID: R18603	TestNo: SW6010A		Analysis Date: 3/15/2006	SeqNo: 461439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.4743	0.020	0.5	0	94.9	80	120				

12/15

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

Hall Environmental Analysis Laboratory

Date: 03-Apr-0

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18619
Client ID: ZZZZZ	Batch ID: R18619	TestNo: SW8260B		Analysis Date: 3/16/2006	SeqNo: 461972

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.93	1.0	20	0	99.7	79.2	130				
Toluene	20.58	1.0	20	0	103	81.5	118				
Chlorobenzene	20.82	1.0	20	0	104	81.2	132				
1,1-Dichloroethene	18.33	1.0	20	0	91.7	65.5	134				
Trichloroethene (TCE)	18.98	1.0	20	0	94.9	67	131				

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18630
Client ID: ZZZZZ	Batch ID: R18630	TestNo: SW8260B		Analysis Date: 3/17/2006	SeqNo: 462489

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	19.47	1.0	20	0	97.4	79.2	130				
Toluene	19.16	1.0	20	0	95.8	81.5	118				
Chlorobenzene	19.33	1.0	20	0	96.7	81.2	132				
1,1-Dichloroethene	18.00	1.0	20	0	90.0	65.5	134				
Trichloroethene (TCE)	16.99	1.0	20	0	85.0	67	131				

13 / 15

Sample ID: 100ng lcs	SampType: LCS	TestCode: 8260_W	Units: µg/L	Prep Date:	RunNo: 18636
Client ID: ZZZZZ	Batch ID: R18636	TestNo: SW8260B		Analysis Date: 3/20/2006	SeqNo: 462618

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.06	1.0	20	0	110	79.2	130				
Toluene	20.13	1.0	20	0	101	81.5	118				
Chlorobenzene	19.54	1.0	20	0	97.7	81.2	132				
1,1-Dichloroethene	20.91	1.0	20	0	105	65.5	134				
Trichloroethene (TCE)	20.82	1.0	20	0	104	67	131				

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: 8260_W

Sample ID: **100ng lcsd**	SampType: **LCSD**	TestCode: **8260_W**	Units: **µg/L**	Prep Date:				RunNo: **18636**		
Client ID: **ZZZZZ**	Batch ID: **R18636**	TestNo: **SW8260B**		Analysis Date: **3/20/2006**				SeqNo: **462873**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	22.94	1.0	20	0	115	81.4	130	22.06	3.90	11	
Toluene	19.51	1.0	20	0	97.6	65.5	123	20.13	3.12	12.2	
Chlorobenzene	19.87	1.0	20	0	99.4	80.3	134	19.54	1.68	12	
1,1-Dichloroethene	22.80	1.0	20	0	114	65.5	134	20.91	8.68	19.3	
Trichloroethene (TCE)	21.37	1.0	20	0	107	75.8	110	20.82	2.65	15.5	

14/15

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 3/15/2006

Work Order Number 0603182 | Received by AT

Checklist completed by _____ Signature | 3/15/06 Date

Matrix | Carrier name Client drop-off

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

Container/Temp Blank temperature? **2°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

Client: San Juan Refining

Address: #50 Rd 4990
Bloomfield, NM
87413

Phone #: 505-632-4161

Fax #: 505-632-3911

Project Name: ~~[redacted]~~ SW7-0206 Baseline

Project #:

Project Manager: Cindy Hurtado

Sampler: Cindy Hurtado / Shelly Lowden

Sample Temperature: 2

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
3/13/06	~~1125~~ pm	H_2O	SW7-0206	3-VOA			HCL 0603182-1
				1-liter			Amber
				1-500 ml		X	
				1-250 ml		X	
				1-500 ml			
				1-500 ml			H_2SO_4

ANALYSIS REQUEST

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

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
3/14/06	10 AM	Cindy Hurtado	Lisa Hedlund	1155 3/15/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, April 05, 2006

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

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

RE: SW7-0206 Baseline

Order No.: 0603182

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 sample(s) on 3/15/2006 for the analyses presented in the following report.

This report is an addendum to the report dated April 3, 2006. Hg has been added to this report. Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

Hall Environmental Analysis Laboratory

Date: *05-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	SW7-0206
Lab Order:	0603182	**Collection Date:**	3/13/2006 1:25:00 PM
Project:	SW7-0206 Baseline	**Date Received:**	3/15/2006
Lab ID:	0603182-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: **CMC**
Mercury	ND	0.00020		mg/L	1	4/5/2006
EPA METHOD 6010B: DISSOLVED METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	3/15/2006 2:57:19 PM
Barium	0.024	0.0020		mg/L	1	3/15/2006 2:57:19 PM
Cadmium	ND	0.0020		mg/L	1	3/15/2006 2:57:19 PM
Calcium	550	10		mg/L	10	3/15/2006 4:21:08 PM
Chromium	ND	0.0060		mg/L	1	3/15/2006 2:57:19 PM
Copper	ND	0.0060		mg/L	1	3/15/2006 2:57:19 PM
Iron	0.069	0.020		mg/L	1	3/15/2006 2:57:19 PM
Lead	0.032	0.0050		mg/L	1	3/15/2006 2:57:19 PM
Magnesium	48	1.0		mg/L	1	3/15/2006 2:57:19 PM
Manganese	2.2	0.0020		mg/L	1	3/15/2006 2:57:19 PM
Potassium	11	1.0		mg/L	1	3/15/2006 2:57:19 PM
Selenium	ND	0.050		mg/L	1	3/15/2006 5:43:47 PM
Silver	ND	0.0050		mg/L	1	3/15/2006 2:57:19 PM
Sodium	1200	20		mg/L	20	3/15/2006 4:24:19 PM
Uranium	ND	0.10		mg/L	1	3/15/2006 2:57:19 PM
Zinc	0.074	0.0050		mg/L	1	3/16/2006 9:02:12 AM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	3/20/2006 5:43:45 PM
Barium	0.056	0.020		mg/L	1	3/20/2006 5:43:45 PM
Cadmium	ND	0.0020		mg/L	1	3/20/2006 5:43:45 PM
Chromium	ND	0.0060		mg/L	1	3/20/2006 5:43:45 PM
Copper	0.018	0.0060		mg/L	1	3/20/2006 5:43:45 PM
Iron	1.3	0.050		mg/L	1	3/21/2006 10:49:31 AM
Lead	0.033	0.0050		mg/L	1	3/20/2006 5:43:45 PM
Manganese	2.5	0.0020		mg/L	1	3/20/2006 5:43:45 PM
Selenium	ND	0.050		mg/L	1	3/20/2006 5:43:45 PM
Silver	ND	0.0050		mg/L	1	4/3/2006 12:32:16 PM
Uranium	ND	0.10		mg/L	1	3/20/2006 5:43:45 PM
Zinc	ND	0.050		mg/L	1	3/20/2006 5:43:45 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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		

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Sample ID: MB-10119	SampType: MBLK	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/4/2006	RunNo: 18829
Client ID: ZZZZZ	Batch ID: 10119	TestNo: SW7470	(SW7470)	Analysis Date: 4/5/2006	SeqNo: 467172

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00020									

Sample ID: LCS-10119	SampType: LCS	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/4/2006	RunNo: 18829
Client ID: ZZZZZ	Batch ID: 10119	TestNo: SW7470	(SW7470)	Analysis Date: 4/5/2006	SeqNo: 467173

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004770	0.00020	0.005	0	95.4	80	120				

2 / 7

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18604**
Client ID: **ZZZZZ**	Batch ID: **R18604**	TestNo: **SW6010A**		Analysis Date: **3/15/2006**	SeqNo: **461226**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Calcium	ND	1.0									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Iron	ND	0.020									
Lead	ND	0.0050									
Magnesium	ND	1.0									
Manganese	ND	0.0020									
Potassium	ND	1.0									
Silver	ND	0.0050									
Sodium	ND	1.0									
Uranium	ND	0.10									

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18604**
Client ID: **ZZZZZ**	Batch ID: **R18604**	TestNo: **SW6010A**		Analysis Date: **3/16/2006**	SeqNo: **461259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	ND	0.050									

Sample ID: **MB**	SampType: **MBLK**	TestCode: **METALS_DIS**	Units: **mg/L**	Prep Date:	RunNo: **18603**
Client ID: **ZZZZZ**	Batch ID: **R18603**	TestNo: **SW6010A**		Analysis Date: **3/15/2006**	SeqNo: **461438**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	ND	0.020									

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18604
Client ID: ZZZZZ	Batch ID: R18604	TestNo: SW6010A		Analysis Date: 3/15/2006	SeqNo: 461227

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5588	0.020	0.5	0	112	80	120				
Barium	0.4916	0.020	0.5	0	98.3	80	120				
Cadmium	0.5076	0.0020	0.5	0	102	80	120				
Calcium	59.00	1.0	50.5	0	117	80	120				
Chromium	0.4998	0.0060	0.5	0	100	80	120				
Copper	0.4855	0.0060	0.5	0	97.1	80	120				
Iron	0.4650	0.020	0.5	0	93.0	80	120				
Lead	0.5146	0.0050	0.5	0	103	80	120				
Magnesium	57.65	1.0	50.5	0	114	80	120				
Manganese	0.4545	0.0020	0.5	0	90.9	80	120				
Potassium	60.39	1.0	55	0	110	80	120				
Silver	0.4555	0.0050	0.5	0	91.1	80	120				
Sodium	60.26	1.0	50.5	0	119	80	120				
Uranium	0.4816	0.10	0.5	0	96.3	80	120				

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18604
Client ID: ZZZZZ	Batch ID: R18604	TestNo: SW6010A		Analysis Date: 3/16/2006	SeqNo: 461260

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.4945	0.050	0.5	0	98.9	80	120				

Sample ID: LCS	SampType: LCS	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18603
Client ID: ZZZZZ	Batch ID: R18603	TestNo: SW6010A		Analysis Date: 3/15/2006	SeqNo: 461439

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.4743	0.020	0.5	0	94.9	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_DISS

Sample ID: LCSD	SampType: LCSD	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18604
Client ID: ZZZZZ	Batch ID: R18604	TestNo: SW6010A		Analysis Date: 3/15/2006	SeqNo: 461243

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5286	0.020	0.5	0	106	80	120	0.5588	5.56	20	
Barium	0.4674	0.020	0.5	0	93.5	80	120	0.4916	5.06	20	
Cadmium	0.4946	0.0020	0.5	0	98.9	80	120	0.5076	2.61	20	
Calcium	52.94	1.0	50.5	0	105	80	120	59	10.8	20	
Chromium	0.4795	0.0060	0.5	0	95.9	80	120	0.4998	4.16	20	
Copper	0.4521	0.0060	0.5	0	90.4	80	120	0.4855	7.11	20	
Iron	0.4253	0.020	0.5	0	85.1	80	120	0.465	8.90	20	
Lead	0.5027	0.0050	0.5	0	101	80	120	0.5146	2.35	20	
Magnesium	51.76	1.0	50.5	0	102	80	120	57.65	10.8	20	
Manganese	0.4315	0.0020	0.5	0	86.3	80	120	0.4545	5.21	20	
Potassium	54.76	1.0	55	0	99.6	80	120	60.39	9.78	20	
Silver	0.4768	0.0050	0.5	0	95.4	80	120	0.4555	4.57	20	
Sodium	55.31	1.0	50.5	0	110	80	120	60.26	8.56	20	
Uranium	0.5397	0.10	0.5	0	108	80	120	0.4816	11.4	20	

Sample ID: LCSD	SampType: LCSD	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18604
Client ID: ZZZZZ	Batch ID: R18604	TestNo: SW6010A		Analysis Date: 3/16/2006	SeqNo: 461261

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Zinc	0.4949	0.050	0.5	0	99.0	80	120	0.4945	0.0812	20	

Sample ID: LCSD	SampType: LCSD	TestCode: METALS_DIS	Units: mg/L	Prep Date:	RunNo: 18603
Client ID: ZZZZZ	Batch ID: R18603	TestNo: SW6010A		Analysis Date: 3/15/2006	SeqNo: 461440

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Selenium	0.4687	0.020	0.5	0	93.7	80	120	0.4743	1.18	20	

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: MB-10005	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/16/2006	RunNo: 18655
Client ID: ZZZZZ	Batch ID: 10005	TestNo: SW6010A		Analysis Date: 3/20/2006	SeqNo: 463047

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.020									
Barium	ND	0.020									
Cadmium	ND	0.0020									
Chromium	ND	0.0060									
Copper	ND	0.0060									
Lead	ND	0.0050									
Manganese	ND	0.0020									
Selenium	ND	0.050									
Uranium	ND	0.10									
Zinc	ND	0.050									

Sample ID: MB-10005	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/16/2006	RunNo: 18655
Client ID: ZZZZZ	Batch ID: 10005	TestNo: SW6010A		Analysis Date: 3/21/2006	SeqNo: 463319

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Iron	ND	0.050									

Sample ID: MB-10005	SampType: MBLK	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/16/2006	RunNo: 18795
Client ID: ZZZZZ	Batch ID: 10005	TestNo: SW6010A		Analysis Date: 4/3/2006	SeqNo: 466492

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	ND	0.0050									

Sample ID: LCS-10005	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/16/2006	RunNo: 18655
Client ID: ZZZZZ	Batch ID: 10005	TestNo: SW6010A		Analysis Date: 3/20/2006	SeqNo: 463048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	0.5175	0.020	0.5	0	104	80	120				
Barium	0.4893	0.020	0.5	0	97.9	80	120				
Cadmium	0.5030	0.0020	0.5	0	101	80	120				

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

CLIENT: San Juan Refining
Work Order: 0603182
Project: SW7-0206 Baseline

ANALYTICAL QC SUMMARY REPORT

TestCode: METALS_TOTAL

Sample ID: LCS-10005	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/16/2006	RunNo: 18655
Client ID: ZZZZZ	Batch ID: 10005	TestNo: SW6010A		Analysis Date: 3/20/2006	SeqNo: 463048

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium	0.4920	0.0060	0.5	0	98.4	80	120				
Copper	0.5035	0.0060	0.5	0.001678	100	80	120				
Lead	0.4799	0.0050	0.5	0	96.0	80	120				
Manganese	0.4576	0.0020	0.5	0	91.5	80	120				
Selenium	0.4644	0.050	0.5	0	92.9	80	120				
Uranium	0.5610	0.10	2.5	0	22.4	80	120				S
Zinc	0.4921	0.050	0.5	0	98.4	80	120				

Sample ID: LCS-10005	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/16/2006	RunNo: 18655
Client ID: ZZZZZ	Batch ID: 10005	TestNo: SW6010A		Analysis Date: 3/21/2006	SeqNo: 463320

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
on	0.4460	0.050	0.5	0	89.2	80	120				

Sample ID: LCS-10005	SampType: LCS	TestCode: METALS_TO	Units: mg/L	Prep Date: 3/16/2006	RunNo: 18795
Client ID: ZZZZZ	Batch ID: 10005	TestNo: SW6010A		Analysis Date: 4/3/2006	SeqNo: 466493

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver	0.4815	0.0050	0.5	0	96.3	80	120				

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

CHAIN-OF-CUSTODY RECORD

Client: San Juan Refining

Address: #50 Rd 4990
Bloomfield, NM
87413

Phone #: 605-632-4161

Fax #: 505-632-3911

QA / QC Package:
Std ☐ Level 4 ☐

Other:

Project Name: ~~[redacted]~~ SW7-0206 Baseline

Project #:

Project Manager: Cindy Hurtado

Sampler: Cindy Hurtado / Shelly Cowden

Sample Temperature: 2

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
3/13/06	~~12:25~~ pm	H_2O	SW7-0206	3-VOA			HCl	0603182-1
				1-liter			Amber	
				1-500ml		X		
				1-250ml		X		
				1-500ml				
				1-500ml			H_2SO_4	

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
3/14/06	10 AM	Cindy Hurtado	Lisa Hedyke 3/15/06 1155
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

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

ANALYSIS REQUEST

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

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, April 14, 2006

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

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

RE: Phase II-Semi-Annual 2006

Order No.: 0604013

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 12 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 < 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

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT: San Juan Refining
Project: Phase II-Semi-Annual 2006
Lab Order: 0604013

CASE NARRATIVE

Analytical Comments for METHOD 8015DRO_S, SAMPLE 0604065-11A: DNOP not recovered due to dilution

Hall Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW-0+60
Lab Order:	0604013	**Collection Date:**	4/3/2006 12:40:00 PM
Project:	Phase II-Semi-Annual 2006	**Date Received:**	4/4/2006
Lab ID:	0604013-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	10	4/11/2006 6:46:21 PM
Benzene	360	10		µg/L	10	4/11/2006 6:46:21 PM
Toluene	15	10		µg/L	10	4/11/2006 6:46:21 PM
Ethylbenzene	48	10		µg/L	10	4/11/2006 6:46:21 PM
Xylenes, Total	160	30		µg/L	10	4/11/2006 6:46:21 PM
Surr: 4-Bromofluorobenzene	106	82.2-119		%REC	10	4/11/2006 6:46:21 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	CW-1+50
Lab Order:	0604013	Collection Date:	4/3/2006 12:55:00 PM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-02	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	4/11/2006 7:17:30 PM
Benzene	130	20		µg/L	20	4/11/2006 7:17:30 PM
Toluene	24	20		µg/L	20	4/11/2006 7:17:30 PM
Ethylbenzene	120	20		µg/L	20	4/11/2006 7:17:30 PM
Xylenes, Total	1700	60		µg/L	20	4/11/2006 7:17:30 PM
Surr: 4-Bromofluorobenzene	105	82.2-119		%REC	20	4/11/2006 7:17:30 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	CW-3+85
Lab Order:	0604013	Collection Date:	4/3/2006 1:10:00 PM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-03	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	12		µg/L	5	4/11/2006 7:48:35 PM
Benzene	12	5.0		µg/L	5	4/11/2006 7:48:35 PM
Toluene	12	5.0		µg/L	5	4/11/2006 7:48:35 PM
Ethylbenzene	20	5.0		µg/L	5	4/11/2006 7:48:35 PM
Xylenes, Total	220	15		µg/L	5	4/11/2006 7:48:35 PM
Surr: 4-Bromofluorobenzene	108	82.2-119		%REC	5	4/11/2006 7:48:35 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	CW-5+50
Lab Order:	0604013	Collection Date:	4/3/2006 1:20:00 PM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-04	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	87	25		µg/L	10	4/11/2006 8:19:19 PM
Benzene	44	10		µg/L	10	4/11/2006 8:19:19 PM
Toluene	ND	10		µg/L	10	4/11/2006 8:19:19 PM
Ethylbenzene	12	10		µg/L	10	4/11/2006 8:19:19 PM
Xylenes, Total	150	30		µg/L	10	4/11/2006 8:19:19 PM
Surr: 4-Bromofluorobenzene	102	82.2-119		%REC	10	4/11/2006 8:19:19 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	CW-6+70
Lab Order:	0604013	Collection Date:	4/3/2006 1:40:00 PM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-05	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	110	5.0		µg/L	2	4/11/2006 8:51:04 PM
Benzene	19	2.0		µg/L	2	4/11/2006 8:51:04 PM
Toluene	ND	2.0		µg/L	2	4/11/2006 8:51:04 PM
Ethylbenzene	ND	2.0		µg/L	2	4/11/2006 8:51:04 PM
Xylenes, Total	ND	6.0		µg/L	2	4/11/2006 8:51:04 PM
Surr: 4-Bromofluorobenzene	98.5	82.2-119		%REC	2	4/11/2006 8:51:04 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	CW-8+10
Lab Order:	0604013	Collection Date:	4/3/2006 1:55:00 PM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-06	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	91	12		µg/L	5	4/11/2006 9:22:27 PM
Benzene	170	5.0		µg/L	5	4/11/2006 9:22:27 PM
Toluene	ND	5.0		µg/L	5	4/11/2006 9:22:27 PM
Ethylbenzene	9.8	5.0		µg/L	5	4/11/2006 9:22:27 PM
Xylenes, Total	110	15		µg/L	5	4/11/2006 9:22:27 PM
Surr: 4-Bromofluorobenzene	96.4	82.2-119		%REC	5	4/11/2006 9:22:27 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW-11+15
Lab Order:	0604013	**Collection Date:**	4/3/2006 2:15:00 PM
Project:	Phase II-Semi-Annual 2006	**Date Received:**	4/4/2006
Lab ID:	0604013-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	1200	50		µg/L	20	4/11/2006 9:52:52 PM
Benzene	1700	20		µg/L	20	4/11/2006 9:52:52 PM
Toluene	ND	20		µg/L	20	4/11/2006 9:52:52 PM
Ethylbenzene	24	20		µg/L	20	4/11/2006 9:52:52 PM
Xylenes, Total	380	60		µg/L	20	4/11/2006 9:52:52 PM
Surr: 4-Bromofluorobenzene	108	82.2-119		%REC	20	4/11/2006 9:52:52 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	CW-14+10
Lab Order:	0604013	Collection Date:	4/3/2006 2:30:00 PM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-08	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	1200	250		µg/L	100	4/11/2006 10:24:13 PM
Benzene	8800	100		µg/L	100	4/11/2006 10:24:13 PM
Toluene	ND	100		µg/L	100	4/11/2006 10:24:13 PM
Ethylbenzene	1100	100		µg/L	100	4/11/2006 10:24:13 PM
Xylenes, Total	ND	300		µg/L	100	4/11/2006 10:24:13 PM
Surr: 4-Bromofluorobenzene	102	82.2-119		%REC	100	4/11/2006 10:24:13 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	CW-16+60
Lab Order:	0604013	Collection Date:	4/3/2006 2:40:00 PM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-09	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	7600	250		µg/L	100	4/11/2006 11:57:51 PM
Benzene	6300	100		µg/L	100	4/11/2006 11:57:51 PM
Toluene	ND	100		µg/L	100	4/11/2006 11:57:51 PM
Ethylbenzene	3100	100		µg/L	100	4/11/2006 11:57:51 PM
Xylenes, Total	6300	300		µg/L	100	4/11/2006 11:57:51 PM
Surr: 4-Bromofluorobenzene	108	82.2-119		%REC	100	4/11/2006 11:57:51 PM

Qualifiers:			
	*	Value exceeds Maximum Contaminant Level	B Analyte detected in the associated Method Blank
	E	Value above quantitation range	H 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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW-19+50
Lab Order:	0604013	**Collection Date:**	4/3/2006 2:45:00 PM
Project:	Phase II-Semi-Annual 2006	**Date Received:**	4/4/2006
Lab ID:	0604013-10	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	80000	1200		µg/L	500	4/12/2006 1:02:01 AM
Benzene	4900	100		µg/L	100	4/12/2006 12:29:38 AM
Toluene	ND	100		µg/L	100	4/12/2006 12:29:38 AM
Ethylbenzene	1300	100		µg/L	100	4/12/2006 12:29:38 AM
Xylenes, Total	2600	300		µg/L	100	4/12/2006 12:29:38 AM
Surr: 4-Bromofluorobenzene	107	82.2-119		%REC	100	4/12/2006 12:29:38 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *14-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW-22+00
Lab Order:	0604013	**Collection Date:**	4/3/2006 3:00:00 PM
Project:	Phase II-Semi-Annual 2006	**Date Received:**	4/4/2006
Lab ID:	0604013-11	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	6700	250		µg/L	100	4/12/2006 1:34:39 AM
Benzene	7200	100		µg/L	100	4/12/2006 1:34:39 AM
Toluene	ND	100		µg/L	100	4/12/2006 1:34:39 AM
Ethylbenzene	ND	100		µg/L	100	4/12/2006 1:34:39 AM
Xylenes, Total	ND	300		µg/L	100	4/12/2006 1:34:39 AM
Surr: 4-Bromofluorobenzene	99.0	82.2-119		%REC	100	4/12/2006 1:34:39 AM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *27-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	OW-0+60
Lab Order:	0604013	Collection Date:	4/3/2006 11:10:00 AM
Project:	Phase II-Semi-Annual 2006	Date Received:	4/4/2006
Lab ID:	0604013-12	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	110	10		mg/L	10	4/11/2006 9:51:13 AM
Motor Oil Range Organics (MRO)	ND	50		mg/L	10	4/11/2006 9:51:13 AM
Surr: DNOP	86.2	58-140		%REC	10	4/11/2006 9:51:13 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	10	4/12/2006 2:07:43 AM
Benzene	65	10		µg/L	10	4/12/2006 2:07:43 AM
Toluene	33	10		µg/L	10	4/12/2006 2:07:43 AM
Ethylbenzene	340	10		µg/L	10	4/12/2006 2:07:43 AM
Xylenes, Total	1600	30		µg/L	10	4/12/2006 2:07:43 AM
Surr: 4-Bromofluorobenzene	113	82.2-119		%REC	10	4/12/2006 2:07:43 AM

Qualifiers:

- * Value exceeds Maximum Contaminant Level
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- H 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 Environmental Analysis Laboratory

Date: 14-Apr-06

CLIENT: San Juan Refining
Work Order: 0604013
Project: Phase II-Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID: MB-10126	SampType: MBLK	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/6/2006	RunNo: 18854
Client ID: ZZZZZ	Batch ID: 10126	TestNo: SW8015		Analysis Date: 4/7/2006	SeqNo: 468281

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									

Sample ID: LCS-10126	SampType: LCS	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/6/2006	RunNo: 18854
Client ID: ZZZZZ	Batch ID: 10126	TestNo: SW8015		Analysis Date: 4/7/2006	SeqNo: 468282

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.771	1.0	5	0	135	81.2	149				

Sample ID: LCSD-10126	SampType: LCSD	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/6/2006	RunNo: 18854
Client ID: ZZZZZ	Batch ID: 10126	TestNo: SW8015		Analysis Date: 4/7/2006	SeqNo: 468283

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.155	1.0	5	0	143	81.2	149	6.771	5.52	23	

14 / 17

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

CLIENT: San Juan Refining
Work Order: 0604013
Project: Phase II-Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 5ML REAGENT BLA SampType: MBLK TestCode: 8021BTEX_W Units: µg/L Prep Date: RunNo: 18887
Client ID: ZZZZZ Batch ID: R18887 TestNo: SW8021 Analysis Date: 4/10/2006 SeqNo: 468647

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 5ML REAGENT BLA SampType: MBLK TestCode: 8021BTEX_W Units: µg/L Prep Date: RunNo: 18902
Client ID: ZZZZZ Batch ID: R18902 TestNo: SW8021 Analysis Date: 4/11/2006 SeqNo: 469572

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

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Sample ID: 100NG BTEX LCS SampType: LCS TestCode: 8021BTEX_W Units: µg/L Prep Date: RunNo: 18887
Client ID: ZZZZZ Batch ID: R18887 TestNo: SW8021 Analysis Date: 4/10/2006 SeqNo: 468648

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	16.24	2.5	20	0	81.2	64.5	133				
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				
Xylenes, Total	41.64	3.0	40	0	104	83.3	114				

Sample ID: 100NG BTEX LCS SampType: LCS TestCode: 8021BTEX_W Units: µg/L Prep Date: RunNo: 18902
Client ID: ZZZZZ Batch ID: R18902 TestNo: SW8021 Analysis Date: 4/11/2006 SeqNo: 469573

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

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

CLIENT: San Juan Refining
Work Order: 0604013
Project: Phase II-Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18902				
Client ID: ZZZZZ	Batch ID: R18902	TestNo: SW8021		Analysis Date: 4/11/2006		SeqNo: 469573				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	19.34	2.5	20	0	96.7	64.5	133				
Benzene	21.29	1.0	20	0	106	88.5	114				
Toluene	20.86	1.0	20	0	104	87.2	114				
Ethylbenzene	21.21	1.0	20	0	106	88.6	113				
Xylenes, Total	43.80	3.0	40	0.692	108	83.3	114				

Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18887				
Client ID: ZZZZZ	Batch ID: R18887	TestNo: SW8021		Analysis Date: 4/10/2006		SeqNo: 468649				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	14.74	2.5	20	0	73.7	64.5	133	16.24	9.70	28	
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	
Xylenes, Total	42.92	3.0	40	0	107	83.3	114	41.64	3.02	13	

Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18902				
Client ID: ZZZZZ	Batch ID: R18902	TestNo: SW8021		Analysis Date: 4/11/2006		SeqNo: 469574				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.66	2.5	20	0	93.3	64.5	133	19.34	3.55	28	
Benzene	20.70	1.0	20	0	103	88.5	114	21.29	2.82	27	
Toluene	20.78	1.0	20	0	104	87.2	114	20.86	0.384	19	
Ethylbenzene	20.98	1.0	20	0	105	88.6	113	21.21	1.10	10	
Xylenes, Total	43.48	3.0	40	0.692	107	83.3	114	43.8	0.752	13	

16/17

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR — Date and Time Received: 4/4/2006

Work Order Number 0604013 — Received by GLS

Checklist completed by (Signature) [signature] (Date) 4-4-06

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 ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	
Container/Temp Blank temperature?	3°	*4° C ± 2 Acceptable* If given sufficient time to cool.		

COMMENTS:

Client contacted ______ Date contacted: ______ Person contacted ______

Contacted by: ______ Regarding ______

Comments: per CH Sample I D is CW-16 + 60

AT 4/4/06

Corrective Action ______

CHAIN-OF-CUSTODY RECORD

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

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

Project Name: Phase II - Semi-Annual - 2006
Project #:
Project Manager: Cindy Hurtado
Sampler: Cindy Hurtado / Shelly Coubler
Sample Temperature: 3°

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

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative HCl	HEAL No. 0604013	BTEX + MTBE + ~~MTBE~~'s (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (~~Gas~~/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/03/06	1240	H2O	CW-0+60	3-VOA			X	1	X																
	1255		CW 1+50				X	2	X																
	110		CW 3+85				X	3	X																
	120p		CW 5+50				X	4	X																
	140p		CW 6+70				X	5	X																
	155p		CW 8+10				X	6	X																
	215		CW 11+15				X	7	X																
	230		CW 14+10				X	8	X																
	240		CW-16+10				X	9	X																
	245		CW 19+50				X	10	X																
	3pm		CW 22+00				X	11	X																
	1110AM		OW 0+60	4-VOA			X	12	X			X													

Date	Time	Relinquished By: (Signature)	Received By: (Signature)	Remarks:
4/03/06	345pm	Cindy Hurtado		
			4-4-06 925	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, April 17, 2006

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

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

RE: Phase II-Semi Annual 2006

Order No.: 0604058

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 4 sample(s) on 4/7/2006 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

Hall Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW 23+10
Lab Order:	0604058	**Collection Date:**	4/5/2006 10:00:00 AM
Project:	Phase II-Semi Annual 2006	**Date Received:**	4/7/2006
Lab ID:	0604058-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	2900	250		µg/L	100	4/17/2006 1:28:06 PM
Benzene	4200	100		µg/L	100	4/17/2006 1:28:06 PM
Toluene	ND	10		µg/L	10	4/14/2006 8:40:40 PM
Ethylbenzene	ND	10		µg/L	10	4/14/2006 8:40:40 PM
Xylenes, Total	110	30		µg/L	10	4/14/2006 8:40:40 PM
Surr: 4-Bromofluorobenzene	95.1	82.2-119		%REC	10	4/14/2006 8:40:40 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW 23+90
Lab Order:	0604058	**Collection Date:**	4/5/2006 9:45:00 AM
Project:	Phase II-Semi Annual 2006	**Date Received:**	4/7/2006
Lab ID:	0604058-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **BDH**
Methyl tert-butyl ether (MTBE)	940	250		µg/L	100	4/17/2006 1:58:48 PM
Benzene	2900	100		µg/L	100	4/17/2006 1:58:48 PM
Toluene	ND	100		µg/L	100	4/17/2006 1:58:48 PM
Ethylbenzene	110	100		µg/L	100	4/17/2006 1:58:48 PM
Xylenes, Total	ND	300		µg/L	100	4/17/2006 1:58:48 PM
Surr: 4-Bromofluorobenzene	89.6	82.2-119		%REC	100	4/17/2006 1:58:48 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW 25+95
Lab Order:	0604058	**Collection Date:**	4/5/2006 9:15:00 AM
Project:	Phase II-Semi Annual 2006	**Date Received:**	4/7/2006
Lab ID:	0604058-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	5.4	2.5		µg/L	1	4/17/2006 12:57:18 PM
Benzene	ND	1.0		µg/L	1	4/17/2006 12:57:18 PM
Toluene	ND	1.0		µg/L	1	4/17/2006 12:57:18 PM
Ethylbenzene	ND	1.0		µg/L	1	4/17/2006 12:57:18 PM
Xylenes, Total	ND	3.0		µg/L	1	4/17/2006 12:57:18 PM
Surr: 4-Bromofluorobenzene	102	82.2-119		%REC	1	4/17/2006 12:57:18 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	OW 5+50
Lab Order:	0604058	**Collection Date:**	4/6/2006 9:00:00 AM
Project:	Phase II-Semi Annual 2006	**Date Received:**	4/7/2006
Lab ID:	0604058-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	130	10		mg/L	10	4/13/2006 2:15:15 AM
Motor Oil Range Organics (MRO)	ND	50		mg/L	10	4/13/2006 2:15:15 AM
Surr: DNOP	99.3	58-140		%REC	10	4/13/2006 2:15:15 AM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	ND	25		µg/L	10	4/14/2006 5:14:58 PM
Benzene	15	10		µg/L	10	4/14/2006 5:14:58 PM
Toluene	14	10		µg/L	10	4/14/2006 5:14:58 PM
Ethylbenzene	89	10		µg/L	10	4/14/2006 5:14:58 PM
Xylenes, Total	970	30		µg/L	10	4/14/2006 5:14:58 PM
Surr: 4-Bromofluorobenzene	109	82.2-119		%REC	10	4/14/2006 5:14:58 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT: San Juan Refining
Work Order: 0604058
Project: Phase II-Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID: MB-10154	SampType: MBLK	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18888
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/11/2006	SeqNo: 468734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									

Sample ID: LCS-10154	SampType: LCS	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18888
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/11/2006	SeqNo: 468947

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.983	1.0	5	0	99.7	81.2	149				

Sample ID: LCSD-10154	SampType: LCSD	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18922
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/14/2006	SeqNo: 470075

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.200	1.0	5	0	144	81.2	149	4.983	36.4	23	R

5 / 8

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0604058
Project: Phase II-Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 5ML RB	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18940
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/14/2006	SeqNo: 470575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 5ML RB 041706	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18945
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006	SeqNo: 470688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 100NG LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18940
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/15/2006	SeqNo: 470576

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	15.36	2.5	20	0	76.8	64.5	133				
Benzene	20.61	1.0	20	0	103	88.5	114				
Toluene	20.97	1.0	20	0	105	87.2	114				
Ethylbenzene	20.34	1.0	20	0	102	88.6	113				
Xylenes, Total	41.18	3.0	40	0	103	83.3	114				

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18945
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006	SeqNo: 470689

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

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

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CLIENT: San Juan Refining
Work Order: 0604058
Project: Phase II-Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18945
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006	SeqNo: 470689

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.65	2.5	20	0	108	64.5	133				
Benzene	21.40	1.0	20	0	107	88.5	114				
Toluene	22.33	1.0	20	0	112	87.2	114				
Ethylbenzene	22.57	1.0	20	0	113	88.6	113				
Xylenes, Total	46.82	3.0	40	0	117	83.3	114				S

Sample ID: 100NG LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18940
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/15/2006	SeqNo: 470577

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	15.62	2.5	20	0	78.1	64.5	133	15.36	1.67	28	
Benzene	20.70	1.0	20	0	103	88.5	114	20.61	0.416	27	
Toluene	21.80	1.0	20	0	109	87.2	114	20.97	3.87	19	
Ethylbenzene	20.98	1.0	20	0	105	88.6	113	20.34	3.10	10	
Xylenes, Total	42.75	3.0	40	0	107	83.3	114	41.18	3.74	13	

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

...all Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 4/7/2006

Work Order Number 0604058 | Received by GLS

Checklist completed by D/Schlupp (Signature) 4-7-06 (Date)

Matrix | Carrier name UPS

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

Container/Temp Blank temperature? 1° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: Per. Cindy Hurtado confirmed tests for sample 0604058-4 as 8021 BTEX+MTBE, 8015 DRO. GS 4-7-06

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

Client: San Juan Refining
Address: #50 ROAD 4990
Bloomfield, NM. 87413
Phone #: 505-632-4161
Fax #: 505-632-3911

Project Name: Phase II-Semiannual-2006
Project #:
Project Manager: Cindy Hurtado
Sampler: Cindy Hurtado / Shelly Cowboy
Sample Temperature: 6°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative HCl	HEAL No. 0604058	BTEX + MTBE + [illegible] (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B [illegible] DRO GRO	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/05/06	10:00	H_2O	CW 23+10	3-VOA			✓	1	X		X														
	9:45	✓	CW 23+90	✓			✓	2	X		X														
	9:15	✓	CW 25+95	✓			✓	3	X		X														
4/06/06	9Am	H_2O	OW 5+50	3-VOA			X	4	X		X														

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	
4/06/06	10Am	Cindy Hurtado	[signature]	4-7-06 915
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, April 17, 2006

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

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

RE: Phase II Semi-Annual 2006

Order No.: 0604042

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 6 sample(s) on 4/6/2006 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

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
Project: Phase II Semi-Annual 2006
Lab Order: 0604042

CASE NARRATIVE

"S" flags denote that the surrogate was not recoverable due to sample dilution or matrix interferences.

Hall Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	OW 11+15
Lab Order:	0604042	**Collection Date:**	4/4/2006 8:30:00 AM
Project:	Phase II Semi-Annual 2006	**Date Received:**	4/6/2006
Lab ID:	0604042-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	15	1.0		mg/L	1	4/11/2006 2:49:38 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 2:49:38 PM
Surr: DNOP	130	58-140		%REC	1	4/11/2006 2:49:38 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	1600	50		µg/L	20	4/14/2006 5:45:48 PM
Benzene	230	20		µg/L	20	4/14/2006 5:45:48 PM
Toluene	ND	20		µg/L	20	4/14/2006 5:45:48 PM
Ethylbenzene	ND	20		µg/L	20	4/14/2006 5:45:48 PM
Xylenes, Total	ND	60		µg/L	20	4/14/2006 5:45:48 PM
Surr: 4-Bromofluorobenzene	95.8	82.2-119		%REC	20	4/14/2006 5:45:48 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	OW 19+50
Lab Order:	0604042	**Collection Date:**	4/4/2006 8:40:00 AM
Project:	Phase II Semi-Annual 2006	**Date Received:**	4/6/2006
Lab ID:	0604042-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	3.4	1.0		mg/L	1	4/11/2006 3:23:14 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 3:23:14 PM
Surr: DNOP	79.7	58-140		%REC	1	4/11/2006 3:23:14 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	180	2.5		µg/L	1	4/14/2006 6:14:02 PM
Benzene	3.5	1.0		µg/L	1	4/14/2006 6:14:02 PM
Toluene	ND	1.0		µg/L	1	4/14/2006 6:14:02 PM
Ethylbenzene	12	1.0		µg/L	1	4/14/2006 6:14:02 PM
Xylenes, Total	77	3.0		µg/L	1	4/14/2006 6:14:02 PM
Surr: 4-Bromofluorobenzene	97.2	82.2-119		%REC	1	4/14/2006 6:14:02 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	OW 22+00
Lab Order:	0604042	**Collection Date:**	4/4/2006 2:10:00 PM
Project:	Phase II Semi-Annual 2006	**Date Received:**	4/6/2006
Lab ID:	0604042-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	13	1.0		mg/L	1	4/11/2006 3:56:51 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 3:56:51 PM
Surr: DNOP	76.5	58-140		%REC	1	4/11/2006 3:56:51 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	3900	50		µg/L	20	4/17/2006 12:14:41 PM
Benzene	ND	1.0		µg/L	1	4/14/2006 6:42:12 PM
Toluene	ND	1.0		µg/L	1	4/14/2006 6:42:12 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2006 6:42:12 PM
Xylenes, Total	ND	3.0		µg/L	1	4/14/2006 6:42:12 PM
Surr: 4-Bromofluorobenzene	106	82.2-119		%REC	1	4/14/2006 6:42:12 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	OW 23+10
Lab Order:	0604042	**Collection Date:**	4/4/2006 2:30:00 PM
Project:	Phase II Semi-Annual 2006	**Date Received:**	4/6/2006
Lab ID:	0604042-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	20	1.0		mg/L	1	4/11/2006 4:30:31 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 4:30:31 PM
Surr: DNOP	96.7	58-140		%REC	1	4/11/2006 4:30:31 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	310	25		µg/L	10	4/14/2006 7:12:54 PM
Benzene	26	10		µg/L	10	4/14/2006 7:12:54 PM
Toluene	12	10		µg/L	10	4/14/2006 7:12:54 PM
Ethylbenzene	18	10		µg/L	10	4/14/2006 7:12:54 PM
Xylenes, Total	180	30		µg/L	10	4/14/2006 7:12:54 PM
Surr: 4-Bromofluorobenzene	107	82.2-119		%REC	10	4/14/2006 7:12:54 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	OW 23+90
Lab Order:	0604042	**Collection Date:**	4/4/2006 3:30:00 PM
Project:	Phase II Semi-Annual 2006	**Date Received:**	4/6/2006
Lab ID:	0604042-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	24	1.0		mg/L	1	4/11/2006 5:04:10 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 5:04:10 PM
Surr: DNOP	95.5	58-140		%REC	1	4/11/2006 5:04:10 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	34	2.5		µg/L	1	4/14/2006 7:41:12 PM
Benzene	12	1.0		µg/L	1	4/14/2006 7:41:12 PM
Toluene	3.2	1.0		µg/L	1	4/14/2006 7:41:12 PM
Ethylbenzene	14	1.0		µg/L	1	4/14/2006 7:41:12 PM
Xylenes, Total	29	3.0		µg/L	1	4/14/2006 7:41:12 PM
Surr: 4-Bromofluorobenzene	132	82.2-119	S	%REC	1	4/14/2006 7:41:12 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	OW 25+70
Lab Order:	0604042	**Collection Date:**	4/4/2006 3:00:00 PM
Project:	Phase II Semi-Annual 2006	**Date Received:**	4/6/2006
Lab ID:	0604042-06	**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	4/11/2006 5:38:02 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 5:38:02 PM
Surr: DNOP	95.3	58-140		%REC	1	4/11/2006 5:38:02 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	4/14/2006 8:09:32 PM
Benzene	ND	1.0		µg/L	1	4/14/2006 8:09:32 PM
Toluene	ND	1.0		µg/L	1	4/14/2006 8:09:32 PM
Ethylbenzene	ND	1.0		µg/L	1	4/14/2006 8:09:32 PM
Xylenes, Total	ND	3.0		µg/L	1	4/14/2006 8:09:32 PM
Surr: 4-Bromofluorobenzene	93.9	82.2-119		%REC	1	4/14/2006 8:09:32 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT: San Juan Refining
Work Order: 0604042
Project: Phase II Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID: MB-10154	SampType: MBLK	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18888
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/11/2006	SeqNo: 468734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									

Sample ID: LCS-10154	SampType: LCS	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18888
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/11/2006	SeqNo: 468947

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.983	1.0	5	0	99.7	81.2	149				

Sample ID: LCSD-10154	SampType: LCSD	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18922
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/14/2006	SeqNo: 470075

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.200	1.0	5	0	144	81.2	149	4.983	36.4	23	R

8/12

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0604042
Project: Phase II Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18887
Client ID: ZZZZZ	Batch ID: R18887	TestNo: SW8021		Analysis Date: 4/10/2006	SeqNo: 468647

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 5ML RB	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18940
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/14/2006	SeqNo: 470575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 5ML RB 041706	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18945
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006	SeqNo: 470688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18887
Client ID: ZZZZZ	Batch ID: R18887	TestNo: SW8021		Analysis Date: 4/10/2006	SeqNo: 468648

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

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

CLIENT: San Juan Refining
Work Order: 0604042
Project: Phase II Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18887				
Client ID: ZZZZZ	Batch ID: R18887	TestNo: SW8021		Analysis Date: 4/10/2006		SeqNo: 468648				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	16.24	2.5	20	0	81.2	64.5	133				
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				
Xylenes, Total	41.64	3.0	40	0	104	83.3	114				

Sample ID: 100NG LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18940				
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/15/2006		SeqNo: 470576				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	15.36	2.5	20	0	76.8	64.5	133				
Benzene	20.61	1.0	20	0	103	88.5	114				
Toluene	20.97	1.0	20	0	105	87.2	114				
Ethylbenzene	20.34	1.0	20	0	102	88.6	113				
Xylenes, Total	41.18	3.0	40	0	103	83.3	114				

10/12

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18945				
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006		SeqNo: 470689				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.65	2.5	20	0	108	64.5	133				
Benzene	21.40	1.0	20	0	107	88.5	114				
Toluene	22.33	1.0	20	0	112	87.2	114				
Ethylbenzene	22.57	1.0	20	0	113	88.6	113				
Xylenes, Total	46.82	3.0	40	0	117	83.3	114				S

Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18887				
Client ID: ZZZZZ	Batch ID: R18887	TestNo: SW8021		Analysis Date: 4/10/2006		SeqNo: 468649				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

CLIENT: San Juan Refining
Work Order: 0604042
Project: Phase II Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18887				
Client ID: ZZZZZ	Batch ID: R18887	TestNo: SW8021		Analysis Date: 4/10/2006		SeqNo: 468649				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	14.74	2.5	20	0	73.7	64.5	133	16.24	9.70	28	
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	
Xylenes, Total	42.92	3.0	40	0	107	83.3	114	41.64	3.02	13	

Sample ID: 100NG LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:		RunNo: 18940				
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/15/2006		SeqNo: 470577				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	15.62	2.5	20	0	78.1	64.5	133	15.36	1.67	28	
Benzene	20.70	1.0	20	0	103	88.5	114	20.61	0.416	27	
Toluene	21.80	1.0	20	0	109	87.2	114	20.97	3.87	19	
Ethylbenzene	20.98	1.0	20	0	105	88.6	113	20.34	3.10	10	
Xylenes, Total	42.75	3.0	40	0	107	83.3	114	41.18	3.74	13	

11/12

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 4/6/2006

Work Order Number 0604042 | Received by AT

Checklist completed by _____ 4/6/06
Signature | Date

Matrix | Carrier name UPS

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

Container/Temp Blank temperature? 2° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

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

Project Name: Phase II - Semi Annual - 2006
Project #:
Project Manager: Cindy Hurtado
Sampler: Cindy Hurtado / Shelly Cowden
Sample Temperature: 2

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: HCl	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/4/06	830A	H_2O	OW 11+95	4-VOA				0604042-1	X		X														
	840A		OW 19+50					-2	X		X														
	210pm		OW 22+00					-3	X		X														
	230pm		OW 23+10					-4	X		X														
	330pm		OW 23+90					-5	X		X														
	3pm		OW 25+70					-6	X		X														

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
4/5/06	930A	Cindy Hurtado	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature) 4/6/06 1040

Remarks:

ANALYSIS REQUEST

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, April 17, 2006

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

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

RE: Phase II - Semi-Annual 2006

Order No.: 0604095

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 1 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 ■ Fax 505.345.4107
www.hallenvironmental.com

Hall Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	CW - 0 + 60
Lab Order:	0604095	**Collection Date:**	4/10/2006 9:35:00 AM
Project:	Phase II - Semi-Annual 2006	**Date Received:**	4/12/2006
Lab ID:	0604095-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	4/13/2006

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *17-Apr-06*

CLIENT: San Juan Refining
Work Order: 0604095
Project: Phase II - Semi-Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: HG_CTW

Sample ID: MB-10166	SampType: MBLK	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/13/2006	RunNo: 18921
Client ID: ZZZZZ	Batch ID: 10166	TestNo: SW7470	(SW7470)	Analysis Date: 4/13/2006	SeqNo: 469924

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.00020									

Sample ID: LCS-10166	SampType: LCS	TestCode: HG_CTW	Units: mg/L	Prep Date: 4/13/2006	RunNo: 18921
Client ID: ZZZZZ	Batch ID: 10166	TestNo: SW7470	(SW7470)	Analysis Date: 4/13/2006	SeqNo: 469925

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.004752	0.00020	0.005	0.0000783	93.5	80	120				

2 / 3

Qualifiers:

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 4/12/2006

Work Order Number 0604095 | Received by LMM

Checklist completed by Lisa Hallstad (Signature) 4/12/06 (Date)

Matrix | Carrier name UPS

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

Container/Temp Blank temperature? 2° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

QA/QC Package:
Std ☐ Level 4 ☐
Other:

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

Client: San Juan Refining

Address: #50 Rd 4990
Bloomfield, NM
87413

Phone #: 505-632-4161

Fax #: 505-632-3911

Project Name: Phase II-Semi-Annual 2006

Project #:

Project Manager:

Sampler: Cindy Hurtado/Shelly Cowden

Sample Temperature: 2

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
4/10/06	935A	H_2O	CW-0+60	1-500ml		X	0604595 -1

ANALYSIS REQUEST

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

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
4/11/06	930Am	Cindy Hurtado	Rise Heelan 0923 4/12/06
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, May 04, 2006

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

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

RE: Semi-Annual - 2006

Order No.: 0604154

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 4 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

Hall Environmental Analysis Laboratory

Date: *04-May-06*

CLIENT: San Juan Refining
Project: Semi-Annual - 2006
Lab Order: 0604154

CASE NARRATIVE

EPA Method 8015 Diesel:

MW#11 was analyzed for diesel twice within holding time however the surrogate recoveries were poor and the sample formed a heavy emulsion. The sample was extracted a third time, at a x10 dilution, 2 days past the EPA 7 day holding time. The surrogates were acceptable on the third extraction.

Hall Environmental Analysis Laboratory

Date: *04-May-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	MW #11
Lab Order:	0604154	**Collection Date:**	4/17/2006 9:40:00 AM
Project:	Semi-Annual - 2006	**Date Received:**	4/18/2006
Lab ID:	0604154-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	35	10	H	mg/L	1	5/4/2006 11:11:11 AM
Motor Oil Range Organics (MRO)	ND	50	H	mg/L	1	5/4/2006 11:11:11 AM
Surr: DNOP	130	58-140	H	%REC	1	5/4/2006 11:11:11 AM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	120		µg/L	50	4/21/2006 6:16:51 PM
Benzene	3200	50		µg/L	50	4/21/2006 6:16:51 PM
Toluene	ND	50		µg/L	50	4/21/2006 6:16:51 PM
Ethylbenzene	ND	50		µg/L	50	4/21/2006 6:16:51 PM
Xylenes, Total	230	150		µg/L	50	4/21/2006 6:16:51 PM
Surr: 4-Bromofluorobenzene	102	82.2-119		%REC	50	4/21/2006 6:16:51 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *04-May-06*

CLIENT: San Juan Refining
Work Order: 0604154
Project: Semi-Annual - 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID: MB-10270	SampType: MBLK	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/26/2006	RunNo: 19081
Client ID: ZZZZZ	Batch ID: 10270	TestNo: SW8015		Analysis Date: 4/27/2006	SeqNo: 474478

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									

Sample ID: LCS-10270	SampType: LCS	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/26/2006	RunNo: 19081
Client ID: ZZZZZ	Batch ID: 10270	TestNo: SW8015		Analysis Date: 4/27/2006	SeqNo: 474479

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	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	SampType: LCSD	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/26/2006	RunNo: 19081
Client ID: ZZZZZ	Batch ID: 10270	TestNo: SW8015		Analysis Date: 4/27/2006	SeqNo: 474481

Analyte	Result	PQL	SPK value	SPK Ref Val	%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	

6/10

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0604154
Project: Semi-Annual - 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006	SeqNo: 472742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 5ML RB-II	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/22/2006	SeqNo: 472803

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

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Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19029
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/24/2006	SeqNo: 473100

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006	SeqNo: 472743

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

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

CLIENT: San Juan Refining

Work Order: 0604154

Project: Semi-Annual - 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006	SeqNo: 472743

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.90	2.5	20	0	94.5	64.5	133				
Benzene	20.49	1.0	20	0	102	88.5	114				
Toluene	20.65	1.0	20	0	103	87.2	114				
Ethylbenzene	20.53	1.0	20	0	103	88.6	113				
Xylenes, Total	42.11	3.0	40	0	105	83.3	114				

Sample ID: 100NG BTEX LCS-II	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/22/2006	SeqNo: 472804

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	20.50	2.5	20	0	102	64.5	133				
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				

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Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19029
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/25/2006	SeqNo: 473101

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.33	2.5	20	0	107	51.2	138				
Benzene	22.07	1.0	20	0	110	85	115				
Toluene	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: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19029
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/25/2006	SeqNo: 473102

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

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0604154
Project: Semi-Annual - 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19029
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/25/2006	SeqNo: 473102

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.02	2.5	20	0	105	51.2	138	21.33	1.45	28	
Benzene	21.13	1.0	20	0	106	85	115	22.07	4.37	27	
Toluene	21.83	1.0	20	0	109	85	118	22.68	3.81	19	
Ethylbenzene	20.68	1.0	20	0	103	85	116	22.07	6.50	10	
Xylenes, Total	43.04	3.0	40	0	108	85	119	46.39	7.50	13	

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 4/18/2006

Work Order Number 0604154 | Received by LMM

Checklist completed by Lisa Hederkorn 4/18/06
Signature | Date

Matrix | Carrier name UPS

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

Container/Temp Blank temperature? 1° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

Client: San Juan Refining

Address: #50 Rd 4990
Bloomfield, NM
87413

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

Project Name: Semi-Annual - 2006

Project #:

Project Manager: Cindy Hurtado

Sampler: Cindy Hurtado / Shelly Cowden

Sample Temperature: 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 REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative HCl	HEAL No. 2604154	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/17/06	940A	H_2O	MW #11	4-VOA			X	-1	X		X														
/	1115	/	MW #30	3-VOA			X	-2	X																
	145		RW #14	/			X	-3	X																
	3pm		RW #3				X	-4	X																

Date: 4/17/06 Time: 330PM Relinquished By: (Signature) Cindy Hurtado
Received By: (Signature) Lisa Hall 0913 4/18/06

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

Remarks:

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, April 18, 2006

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

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

RE: Semi Annual 2006

Order No.: 0604056

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/7/2006 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

Hall Environmental Analysis Laboratory

Date: *18-Apr-06*

CLIENT: San Juan Refining
Project: Semi Annual 2006
Lab Order: 0604056

CASE NARRATIVE

Analytical Comments for METHOD 8015DRO_S, SAMPLE 0604065-11A: DNOP not recovered due to dilution

Hall Environmental Analysis Laboratory

Date: *18-Apr-06*

CLIENT:	San Juan Refining	Client Sample ID:	MW#12
Lab Order:	0604056	Collection Date:	4/5/2006 10:25:00 AM
Project:	Semi Annual 2006	Date Received:	4/7/2006
Lab ID:	0604056-01	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	4/11/2006 6:11:53 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 6:11:53 PM
Surr: DNOP	111	58-140		%REC	1	4/11/2006 6:11:53 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	4/17/2006 2:27:03 PM
Benzene	1.0	1.0		µg/L	1	4/17/2006 2:27:03 PM
Toluene	ND	1.0		µg/L	1	4/17/2006 2:27:03 PM
Ethylbenzene	ND	1.0		µg/L	1	4/17/2006 2:27:03 PM
Xylenes, Total	ND	3.0		µg/L	1	4/17/2006 2:27:03 PM
Surr: 4-Bromofluorobenzene	93.3	82.2-119		%REC	1	4/17/2006 2:27:03 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *18-Apr-06*

CLIENT:	San Juan Refining	**Client Sample ID:**	MW#38
Lab Order:	0604056	**Collection Date:**	4/6/2006 8:15:00 AM
Project:	Semi Annual 2006	**Date Received:**	4/7/2006
Lab ID:	0604056-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	2.8	1.0		mg/L	1	4/11/2006 7:19:16 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/11/2006 7:19:16 PM
Surr: DNOP	119	58-140		%REC	1	4/11/2006 7:19:16 PM
EPA METHOD 8021B: VOLATILES						Analyst: BDH
Methyl tert-butyl ether (MTBE)	4.5	2.5		µg/L	1	4/17/2006 4:19:16 PM
Benzene	ND	1.0		µg/L	1	4/17/2006 4:19:16 PM
Toluene	2.9	1.0		µg/L	1	4/17/2006 4:19:16 PM
Ethylbenzene	ND	1.0		µg/L	1	4/17/2006 4:19:16 PM
Xylenes, Total	ND	3.0		µg/L	1	4/17/2006 4:19:16 PM
Surr: 4-Bromofluorobenzene	94.0	82.2-119		%REC	1	4/17/2006 4:19:16 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: *18-Apr-06*

CLIENT: San Juan Refining
Work Order: 0604056
Project: Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID: MB-10154	SampType: MBLK	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18888
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/11/2006	SeqNo: 468734

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									

Sample ID: LCS-10154	SampType: LCS	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18888
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/11/2006	SeqNo: 468947

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	4.983	1.0	5	0	99.7	81.2	149				

Sample ID: LCSD-10154	SampType: LCSD	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/11/2006	RunNo: 18922
Client ID: ZZZZZ	Batch ID: 10154	TestNo: SW8015		Analysis Date: 4/14/2006	SeqNo: 470075

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	7.200	1.0	5	0	144	81.2	149	4.983	36.4	23	R

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Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0604056
Project: Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 5ML RB	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18940
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/14/2006	SeqNo: 470575

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 5ML RB 041706	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18945
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006	SeqNo: 470688

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

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Sample ID: 100NG LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18940
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/15/2006	SeqNo: 470576

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	15.36	2.5	20	0	76.8	64.5	133				
Benzene	20.61	1.0	20	0	103	88.5	114				
Toluene	20.97	1.0	20	0	105	87.2	114				
Ethylbenzene	20.34	1.0	20	0	102	88.6	113				
Xylenes, Total	41.18	3.0	40	0	103	83.3	114				

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 18945
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006	SeqNo: 470689

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

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

CLIENT: San Juan Refining
Work Order: 0604056
Project: Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:			RunNo: 18945			
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/17/2006			SeqNo: 470689			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.65	2.5	20	0	108	64.5	133				
Benzene	21.40	1.0	20	0	107	88.5	114				
Toluene	22.33	1.0	20	0	112	87.2	114				
Ethylbenzene	22.57	1.0	20	0	113	88.6	113				
Xylenes, Total	46.82	3.0	40	0	117	83.3	114				S

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:			RunNo: 18945			
Client ID: ZZZZZ	Batch ID: R18945	TestNo: SW8021		Analysis Date: 4/18/2006			SeqNo: 471167			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	15.99	2.5	20	0	79.9	64.5	133				
Benzene	21.75	1.0	20	0	109	88.5	114				
Toluene	22.33	1.0	20	0	112	87.2	114				
Ethylbenzene	22.35	1.0	20	0	112	88.6	113				
Xylenes, Total	45.41	3.0	40	0	114	83.3	114				

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Sample ID: 100NG LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:			RunNo: 18940			
Client ID: ZZZZZ	Batch ID: R18940	TestNo: SW8021		Analysis Date: 4/15/2006			SeqNo: 470577			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	15.62	2.5	20	0	78.1	64.5	133	15.36	1.67	28	
Benzene	20.70	1.0	20	0	103	88.5	114	20.61	0.416	27	
Toluene	21.80	1.0	20	0	109	87.2	114	20.97	3.87	19	
Ethylbenzene	20.98	1.0	20	0	105	88.6	113	20.34	3.10	10	
Xylenes, Total	42.75	3.0	40	0	107	83.3	114	41.18	3.74	13	

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 4/7/2006

Work Order Number 0604056 | Received by GLS

Checklist completed by [signature] Signature | 4-7-06 Date

Matrix | Carrier name UPS

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

Container/Temp Blank temperature? 1° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: Sample 0604056-6 "MW #36" one VOA was broken upon arrival GS 4-7-06

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

Client: San Juan Refining

Project Name: Semi-Annual 2006

Address: #50 Rd 4990 Bloomfield, NM 87413

Project #:

Project Manager: Cindy Hurtado

Phone #: 505-632-4161

Sampler: Cindy Hurtado / Shelly Goulden

Fax #: 505-632-3911

Sample Temperature: 1.0

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: HCL	HEAL No. 0604056	BTEX + MTBE + ~~TMB's~~ (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas / Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/05/06	1025A	H_2O	MW #12	4-VOA				-1	X		X														
"	1255P	"	MW #34	3-VOA				2	X																
"	120P	"	MW #35	3-VOA				3	X																
"	150P	"	MW #37	3-VOA				4	X																
4/06/06	815A	~~H_2O~~	MW #38	3-VOA			X	5	X		X*														
"	835A	H_2O	MW #36	3-VOA			X	6	X																
"	930A	H_2O	MW #32	3-VOA			X	7	X																

ANALYSIS REQUEST

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
4/06/06	10AM	Cindy Hurtado	4-7-06 915
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: per Cindy add DRO to MW#38 of 4/10

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, April 25, 2006

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

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

RE: Semi Annual 2006

Order No.: 0604108

Dear Cindy Hurtado:

Hall Environmental Analysis Laboratory received 7 sample(s) on 4/13/2006 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

Hall Environmental Analysis Laboratory

Date: 25-Apr-06

CLIENT:	San Juan Refining	Client Sample ID:	MW #39
Lab Order:	0604108	Collection Date:	4/11/2006 11:00:00 AM
Project:	Semi Annual 2006	Date Received:	4/13/2006
Lab ID:	0604108-02	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	2.6	1.0		mg/L	1	4/18/2006 3:23:08 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	4/18/2006 3:23:08 PM
Surr: DNOP	109	58-140		%REC	1	4/18/2006 3:23:08 PM
EPA METHOD 8021B: VOLATILES						Analyst: NSB
Methyl tert-butyl ether (MTBE)	ND	50		µg/L	20	4/24/2006 12:10:39 PM
Benzene	280	20		µg/L	20	4/24/2006 12:10:39 PM
Toluene	50	20		µg/L	20	4/24/2006 12:10:39 PM
Ethylbenzene	900	20		µg/L	20	4/24/2006 12:10:39 PM
Xylenes, Total	890	60		µg/L	20	4/24/2006 12:10:39 PM
Surr: 4-Bromofluorobenzene	116	85-115	S	%REC	20	4/24/2006 12:10:39 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	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 Environmental Analysis Laboratory

Date: 25-Apr-06

CLIENT: San Juan Refining
Work Order: 0604108
Project: Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8015DRO_W

Sample ID: MB-10192	SampType: MBLK	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/18/2006	RunNo: 18955
Client ID: ZZZZZ	Batch ID: 10192	TestNo: SW8015		Analysis Date: 4/18/2006	SeqNo: 471338

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	1.0									
Motor Oil Range Organics (MRO)	ND	5.0									

Sample ID: LCS-10192	SampType: LCS	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/18/2006	RunNo: 18955
Client ID: ZZZZZ	Batch ID: 10192	TestNo: SW8015		Analysis Date: 4/18/2006	SeqNo: 471339

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	5.600	1.0	5	0	112	81.2	149				

Sample ID: LCSD-10192	SampType: LCSD	TestCode: 8015DRO_W	Units: mg/L	Prep Date: 4/18/2006	RunNo: 18955
Client ID: ZZZZZ	Batch ID: 10192	TestNo: SW8015		Analysis Date: 4/18/2006	SeqNo: 471340

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	6.282	1.0	5	0	126	81.2	149	5.6	11.5	23	

8 / 12

Qualifiers:

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

CLIENT: San Juan Refining
Work Order: 0604108
Project: Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006	SeqNo: 472742

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 5ML RB-II	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/22/2006	SeqNo: 472803

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

9/12

Sample ID: 5ML REAGENT BLA	SampType: MBLK	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19029
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/24/2006	SeqNo: 473100

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	2.5									
Benzene	ND	1.0									
Toluene	ND	1.0									
Ethylbenzene	ND	1.0									
Xylenes, Total	ND	3.0									

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006	SeqNo: 472743

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

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

CLIENT: San Juan Refining
Work Order: 0604108
Project: Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:			RunNo: 19011			
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006			SeqNo: 472743			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	18.90	2.5	20	0	94.5	64.5	133				
Benzene	20.49	1.0	20	0	102	88.5	114				
Toluene	20.65	1.0	20	0	103	87.2	114				
Ethylbenzene	20.53	1.0	20	0	103	88.6	113				
Xylenes, Total	42.11	3.0	40	0	105	83.3	114				

Sample ID: 100NG BTEX LCS-II	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:			RunNo: 19011			
Client ID: ZZZZZ	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/22/2006			SeqNo: 472804			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	20.50	2.5	20	0	102	64.5	133				
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				

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Sample ID: 100NG BTEX LCS	SampType: LCS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:			RunNo: 19029			
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/25/2006			SeqNo: 473101			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.33	2.5	20	0	107	51.2	138				
Benzene	22.07	1.0	20	0	110	85	115				
Toluene	22.68	1.0	20	0	113	85	116				
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: 8021BTEX_W	Units: µg/L	Prep Date:			RunNo: 19029			
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/25/2006			SeqNo: 473102			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

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

CLIENT: San Juan Refining
Work Order: 0604108
Project: Semi Annual 2006

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021BTEX_W

Sample ID: 100NG BTEX LCSD	SampType: LCSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19029
Client ID: ZZZZZ	Batch ID: R19029	TestNo: SW8021		Analysis Date: 4/25/2006	SeqNo: 473102

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.02	2.5	20	0	105	51.2	138	21.33	1.45	28	
Benzene	21.13	1.0	20	0	106	85	115	22.07	4.37	27	
Toluene	21.83	1.0	20	0	109	85	118	22.68	3.81	19	
Ethylbenzene	20.68	1.0	20	0	103	85	116	22.07	6.50	10	
Xylenes, Total	43.04	3.0	40	0	108	85	119	46.39	7.50	13	

Sample ID: 0604108-06A MS	SampType: MS	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: MW #3	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006	SeqNo: 472765

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	21.19	2.5	20	0	106	64.5	133				
Benzene	20.22	1.0	20	0.782	97.2	88.5	114				
Toluene	20.72	1.0	20	0.604	101	87.2	114				
Ethylbenzene	20.45	1.0	20	0	102	88.6	113				
Xylenes, Total	42.20	3.0	40	0.98	103	83.3	114				

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Sample ID: 0604108-06A MSD	SampType: MSD	TestCode: 8021BTEX_W	Units: µg/L	Prep Date:	RunNo: 19011
Client ID: MW #3	Batch ID: R19011	TestNo: SW8021		Analysis Date: 4/21/2006	SeqNo: 472766

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	22.06	2.5	20	0	110	64.5	133	21.19	3.99	28	
Benzene	21.81	1.0	20	0.782	105	88.5	114	20.22	7.56	27	
Toluene	22.32	1.0	20	0.604	109	87.2	114	20.72	7.47	19	
Ethylbenzene	22.18	1.0	20	0	111	88.6	113	20.45	8.10	10	
Xylenes, Total	45.50	3.0	40	0.98	111	83.3	114	42.2	7.52	13	

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

Hall Environmental Analysis Laboratory

Sample Receipt Checklist

Client Name SJR | Date and Time Received: 4/13/2006

Work Order Number 0604108 | Received by AT

Checklist completed by _____ Signature _____ Date 4/13/06

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 ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐		
Samples in proper container/bottle?	Yes ☑	No ☐		
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☐	No ☑		
All samples received within holding time?	Yes ☐	No ☑		
Water - VOA vials have zero headspace?	No VOA vials submitted ☐	Yes ☑	No ☐	
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑	

Container/Temp Blank temperature? 2° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

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

Project Name: Semi-Annual 2006
Project #:
Project Manager: Cindy Hurtado
Sampler: Cindy Hurtado / Shelly Cowden
Sample Temperature: 2

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative: $HgCl_2$	Preservative: HNO_3	Preservative: HCl	HEAL No.	BTEX + MTBE + ~~TMB~~'s (8021)	BTEX + MTBE + TPH (Gasoline Only)	TPH Method 8015B (Gas / Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	EDC (Method 8021)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
4/11/06	1015A	H_2O	MW #26	3-VOA			X	0604408-1	X																
"	11A	"	MW #39	4-VOA			X	-2	X		X	X													
4/12/06	945A	H_2O	MW #8	3-VOA			X	-3	X																
	1PM		MW #13	3-VOA			X	-4	X																
	120pm		MW #31	3-VOA			X	-5	X																
	150pm		MW #3	3-VOA			X	-6	X																
	215pm		MW #7	3-VOA			X	-7	X																

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	Remarks:
4/12/06	3pm	Cindy Hurtado	4/13/06 0930	
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	