GW - ____32____

MONITORING REPORTS

DATE:

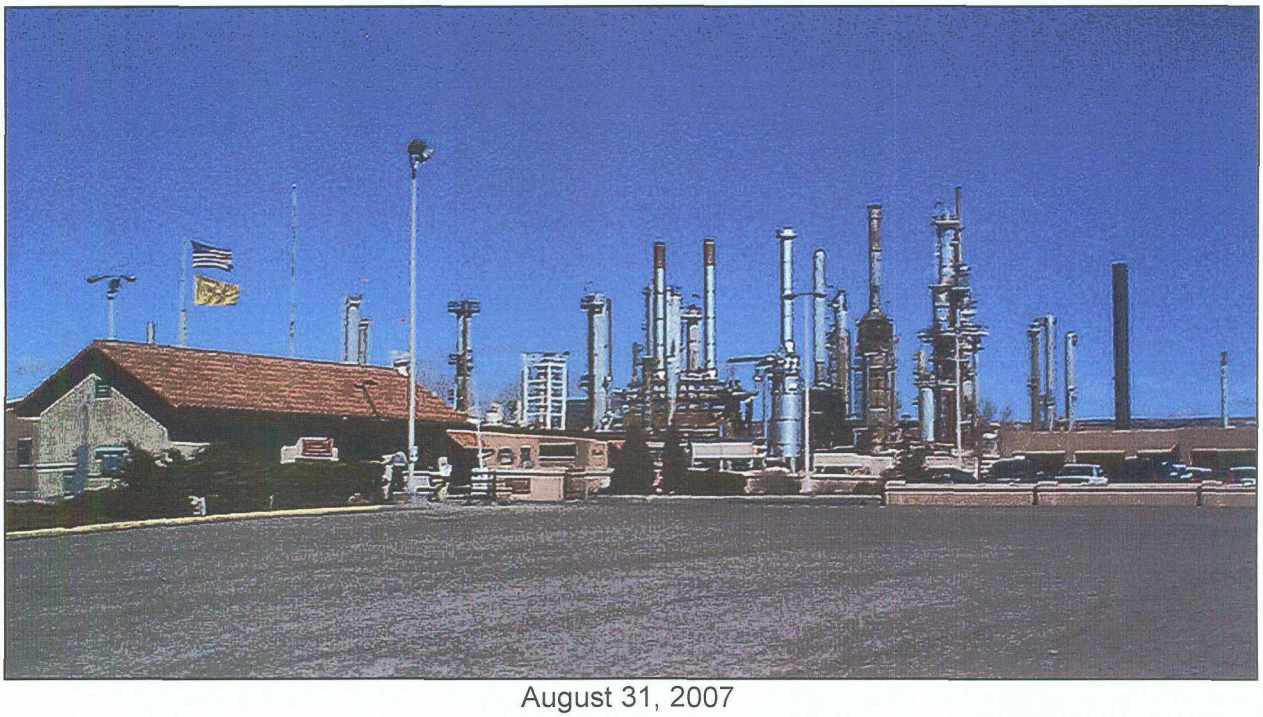
2006 – Present (1/3)

OIL CONSERVATION DIVISION 2006 ANNUAL GROUNDWATER REPORT (AND OCD ADDENDUM)

Binder 1: Annual Groundwater Report

Giant Refining Company - Gallup Refinery

McKinley County, New Mexico



August 31, 2007

EPA ID No. NMD000333211

Discharge Permit No. GW-032

Prepared By : Jim Lieb, Environmental Engineer, Giant Refining – Gallup Refinery

Signature: _____, Date: 8/30/07

Certified By: Ed Rios, General Manager, Giant Refining – Gallup Refinery

Signature: _____, Date: 8-31-07

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    g. Summary and Copies of EPA/NMED/RCRA Activity

Executive Summary

The purpose of groundwater sampling performed in 2006 at Gallup Refinery is to determine whether contamination resulting from refinery related activities has entered groundwater at the facility. Twenty monitoring wells are distributed within the boundaries of the refinery and 9 monitoring wells are located along the perimeter of the lagoons and ponds. The ground water monitoring is conducted at the Gallup Refinery located approximately 17 miles east of Gallup and approximately 1 mile north of Interstate I-40 at Exit 39. The facility is owned and operated by Giant Refining, Inc. with headquarters in El Paso, Texas. U.S. EPA permit ID No. NMD000333211 pertains to the facility.

The monitoring in 2006 has shown that although contamination has entered the shallow perched groundwater at one location (OW-14), the contamination is limited in extent and has not migrated to the wells that were placed nearby OW-14 (OW-12, OW-13, OW-29, and OW-30). The monitoring performed in 2006 has shown that, at the OW-14 location where contamination exists, the contamination has remained relatively constant in concentration in comparison to sampling conducted in past years and the concentrations have not appreciably increased.

Monitoring of well GWM-1 in 2005 has shown benzene in concentrations (June 2005 = 0.010 mg/l and September 2005 = 0.081 mg/l) exceeding the NM Water Quality Control Commission standard (0.01 mg/l) and the U.S. EPA MCL (0.005 mg/l). Giant conducted annual sampling of GWM-1 on August 4, 2006. The benzene concentration in this sample was 0.012 mg/l.

Elevated levels of fluoride and total dissolved solids (TDS) have shown up in some of the boundary wells in 2006, 2005 and 2004.

The Ciniza Refinery is now to be known as the *Gallup* Refinery.

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I. Annual Groundwater Report (Binder 1)

Section 1 Introduction

1.1 Facility Description

This annual groundwater report pertains to the Giant Refining Company refinery located at Exit 39 on Interstate I-40. This refinery is known as the Gallup Refinery and is located at Jamestown New Mexico, approximately 17 miles east of Gallup. Figure 1 shows the location of the Gallup Refinery.

The owner is:

	Giant Refining, Inc. 23733 North Scottsdale Road Scottsdale, AZ 85255	(parent corporation)
Operator:	Giant Refining Company Route 3, Box 7 Gallup, New Mexico 87301	(postal address)
	Giant Refining Company I-40, Exit 39 Jamestown, New Mexico 87347	(physical address)

SIC code 2911 (petroleum refining) pertains to the Gallup Refinery.

The following permits pertain to the Gallup Refinery:

- U.S. EPA ID Number NMD000333211
- OCD Discharge Permit No. GW-032

The facility status is corrective action/compliance. Annual and quarterly groundwater sampling is conducted at the facility to evaluate present contamination.

The refinery is situated on an 810 acre irregular shaped tract of land that is substantially located within the lower one quarter of Section 28 and throughout Section 33 of Township 15 North, Range 15 West of the New Mexico Prime Meridian. A small component of the property lies within the northeastern one quarter of Section 4 of Township 14 North, Range 15 West. Figure 2 is a topographic map showing the general layout of the refinery in comparison to the local topography.

1.2 Background Information

The Gallup Refinery is located within a rural and sparsely populated section of McKinley County in Giant New Mexico. The setting is a high desert plain on the Giant slope of the continental divide. The nearest population centers are the Pilot (formerly Giant) Travel Center refueling plaza, the Interstate 40 highway corridor, and a small cluster of residential homes located on the south side of Interstate 40 approximately 2 miles southwest of the refinery (Jamestown). The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. Except for Gallup, McKinley County is predominantly rural, as are the adjoining portions of neighboring counties.

The refinery primarily receives crude oil via two 6 inch diameter pipelines; Bisti Pipeline comes down from the Four Corners Area and enters the refinery property from the north and Hospah Pipeline comes in from the northeast and is an interconnection with a main interstate pipeline. In addition, the refinery also receives natural gasoline feedstocks via a 4-inch diameter pipeline that comes in from the west along the Interstate 40 corridor from the Conoco gas plant. These feedstocks are then stored in tanks until refined into products. The refinery has an overall capacity to process up to 32,000 barrels per day of crude oil and natural gasoline feedstocks.

The refinery incorporates various processing units that convert crude oil and natural gasoline into finished products. These units are briefly described as follows.

- The crude distillation unit separates crude oil into various fractions; including gas, naphtha, light oil, heavy oil, and residual.
- The fluidized catalytic cracking unit (FCCU) breaks up (cracks) long-chain hydrocarbon molecules into smaller molecules, and essentially converts heavier oils into naphtha and lighter oils.
- The alkylation unit combines specific types of hydrocarbon molecules into a high octane gasoline blending component.
- The reforming unit combines low octane naphtha molecules to form high octane naphtha.
- The hydrotreating unit removes undesirable sulfur and nitrogen compounds from intermediate feedstocks, and also saturates the feedstocks with hydrogen.
- The isomerization unit converts low octane hydrocarbon molecules into high octane molecules.
- The treater units remove impurities from various intermediate and blending feedstocks in order to produce finished products that comply with sales specifications.

- The sulfur recovery unit converts and recovers various sulfur compounds from other processing units and then produces a solid elemental sulfur byproduct.

As a result of these processing steps, the refinery produces a wide range of petroleum products including propane, butane, unleaded gasoline, diesel, kerosene, and residual fuel.
In addition to the aforementioned processing units, various other equipment and systems support the operation of the refinery and are briefly described as follows.

Storage tanks are used throughout the refinery to hold and store crude oil, natural gasoline, intermediate feedstocks, finished products, chemicals, and water. These tanks are all located aboveground and range in size from 80,000 barrels to less than a 1,000 barrels. A grouping of tanks is commonly referred to as a "tank farm" such as the hot oil "tank farm".

Pumps, valves, and piping systems are used throughout the refinery to transfer various liquids among storage tanks and processing units.

A railroad spur track and a railcar loading rack are used to transfer feed-stocks and products from refinery storage tanks into and out of railcars.

Several tank truck loading racks are used at the refinery to load out finished products and also may receive crude oil, other feedstocks, additives, and chemicals.

A pipeline from the refinery carries diesel fuel to the Pilot (formerly Giant) Travel Center. Gasoline is delivered to the Pilot Center via tanker truck.

A firefighting training facility is used to conduct employee firefighting training. Waste water from the facility, when training is conducted, is pumped into a tank which is then pumped out by a vac truck. The vac truck pumps the oily water into a process sewer leading to the New API Separator (NAPIS).

The process wastewater system is a network of curbing, paving, catch basins, and underground piping that collects waste water effluent from various processing areas within the refinery and then conveys this wastewater to the new API separator. A separate storm water collection system routes storm water to the old API separator (OAPIS). Water from the OAPIS is pumped to the NAPIS for processing and benzene stripping.

The NAPIS is a two compartment oil water separator. Oil is separated from water based on the principle that, given a quiet surface, oil will float to the water surface where it can be skimmed off. The skimmed slop oil is passed to a collection chamber where it is pumped back into the refinery process. The clarified water is piped to the top of dual stripping columns where benzene is removed. The stripped water flows into the first aeration lagoon. Sludge sinks to the bottom of the separator which is periodically vacuumed out by a vac truck and disposed as hazardous waste at an approved landfill.

At the stripping columns, ambient air is blown upwards through the falling cascade of clarified wastewater as it passes through distillation column packing. Countercurrent desorption of

benzene from the water occurs due to the high volume of air passing over the relatively large surface area provided by the packing. The desorbed benzene is absorbed into the air stream and vented to the atmosphere. Effluent from the stripper columns gravity flows through piping into the first aeration lagoon.

At the aeration basins, the treated wastewater is mixed with air in order to oxidize any remaining organic constituents and increase the dissolved oxygen concentration available in the water for growth of bacteria and other microbial organisms. The microbes degrade hydrocarbons into carbon dioxide and water. Three 15-hp mechanical aerators provide aeration in the first aeration lagoon with two 15-hp aerators providing aeration in the second lagoon. Effluent from the second aeration lagoon flows onward into the first of several evaporation ponds of various sizes.

At the evaporation ponds, wastewater is converted into vapor via solar and mechanical wind-effect evaporation. No wastewater is discharged from the refinery to surface waters of the state because all of the waste water evaporates. Therefore, the refinery is not required to have a NPDES discharge permit for discharge of treated process water. However, the Gallup refinery does have a NPDES permit for storm water discharge.

The storm water system is a network of valves, gates, berms, embankments, culverts, trenches, ditches, natural arroyos, and retention ponds that collect, convey, control, treat, and release storm water that falls within or passes through refinery property. Storm water discharge from the refinery is very infrequent due to the arid desert-like nature of the surrounding geographical area. The Gallup Refinery maintains a storm water pollution prevention plan (SWPPP) that includes Best Management Practices (BMPs) for effective storm water pollution prevention. The refinery has recently constructed several new berms in the "grassy area" and improved outfalls (installed barrier dams equipped with gate valves) to minimize the possibility of contaminated runoff leaving the refinery property.

1.3 Site Characteristics

The Gallup Refinery is located within a rural and sparsely populated section of McKinley County. It is situated in the high desert plain on the Giant flank of the continental divide approximately 17 miles east of Gallup. The surrounding land is comprised primarily of public lands and is used for cattle and sheep grazing at a density of less than six cattle or 30 sheep per section. Surface vegetation consists of native xerophytic vegetation including grasses, shrubs, small junipers, and some prickly pear cacti. Average rainfall is less than 7 inches per year.

Local topography consists of a gradually inclined down-slope from high ground in the southeast to a lowland fluvial plain in the northwest. The highest point on refinery property is located at the southeast corner boundary (elevation approximately 7,040 feet) and the lowest point is located at the northwest corner boundary (elevation approximately 6,860 feet). The refinery processing facility is located on a flat man-made terrace at an elevation of approximately 6,950 feet.

Surface water in this region consists of the man-made evaporation ponds and aeration basins located within the refinery, a cattle watering pond (Jon Myer's Pond) located east of the refinery, two small unnamed spring fed ponds located south of the refinery, and the South Fork of the Puerco River and its tributary arroyos. The various ponds and basins typically contain water consistently throughout the year. The South Fork of the Puerco River and its tributaries are intermittent and generally contain water only during, and immediately after, the occurrence of precipitation.

The 810 acre refinery property site is located on a layered geologic formation. Surface soils generally consist of fluvial and alluvial deposits; primarily clay and silt with minor inter-bedded sand layers. Below this surface layer is the Chinle Formation, which consists of very low permeability claystones and siltstones that comprise the shales of this formation. As such, the Chinle Formation effectively serves as an aquiclude. Inter-bedded within the Chinle Formation is the Sonsela Sandstone bed, which represents the uppermost potential aquifer in the region.

The Sonsela Sandstone bed lies within and parallels the dip of the Chinle Formation. As such, its high point is located southeast of the refinery and it slopes downward to the northwest as it passes under the refinery. Due to the confinement of the Chinle Formation aquiclude, the Sonsela Sandstone bed acts as a water-bearing reservoir and is artesian at its lower extremis. Artesian conditions exist throughout the central and Giant portions of the refinery property.

Groundwater flow within the Chinle Formation is extremely slow and typically averages less than 10^{-10} centimeters per second (less than 0.01 feet per year). Groundwater flow within the surface soil layer above the Chinle Formation is highly variable due to the presence of complex and irregular stratiography; including sand stringers, cobble beds, and dense clay layers. As such, hydraulic conductivity may range from less than 10^{-2} centimeters per second in the gravelly sands immediately overlying the Chinle Formation up to 10^{-8} centimeters per second in the clay soil layers located near the surface.

Shallow groundwater located under refinery property generally flows along the upper contact of the Chinle Formation. The prevailing flow direction is from the southeast and toward the northwest; however, a subsurface ridge has been identified and is thought to deflect some flow in a northeasterly direction in the vicinity of the refinery tank farm.

2. Scope of Activities

The annual monitoring of the ground water monitoring wells was conducted in August, October and December 2006. The following table shows the dates of sampling and the parameters of analysis:

Well	Date Sampled	Parameters of Analysis
OW-11	10-26-06	General Chem/VOCs/SVOCs/BTEX/MTBE and RCRA 8 Metals
OW-12	10-27-06	BTEX and MTBE
OW-13	10-27-06	BTEX and MTBE
OW-14	10-29-06 and 12-28-06	BTEX and MTBE
OW-29	10-27-06	BTEX and MTBE
OW-30	10-27-06	BTEX and MTBE
BW-1A	Dry	
BW-1B	Not enough to sample (<1 foot)	
BW-1C	10-28-06	General Chem/VOCs/SVOCs/BTEX/MTBE and RCRA 8 Metals
BW-2A	10-28-06	General Chem/VOCs/SVOCs/BTEX/MTBE and RCRA 8 Metals
BW-2B	10-28-06	General Chem/VOCs/SVOCs/BTEX/MTBE/RCRA 8 Metals (Selenium on 7-19-06)
BW-2C	10-28-06	General Chem/VOCs/SVOCs/BTEX/MTBE/RCRA 8 Metals
BW-3A	Dry	
BW-3B	10-29-06	General Chem/VOCs/SVOCs/BTEX/MTBE/RCRA 8 Metals
BW-3C	10-29-06	General Chem/VOCs/SVOCs/BTEX/MTBE/RCRA 8 Metals
GWM-1	8-2-06	General Chem/VOCs/SVOCs/BTEX/MTBE/RCRA 8 Metals
GWM-2	Dry	
GWM-3	Dry	
MW-1	10-26-06	DRO/GRO/General Chem/VOCs/SVOCs/RCRA 8 Metals
MW-4	Not required to be sampled in 2006	
MW-5	Not required to be sampled in	

	2006	
SMW-2	Not required to be sampled in 2006	
SMW-4	Not required to be sampled in 2006	
PW-3	10-27-06	General Chem/nitrates/ VOCs/SVOCs/ and RCRA 8 Metals*
RW-1	3-16, 6-6, 7-31, and 12-21-06	Measure product layer thickness
RW-2	No product present	Measure product layer thickness
RW-5	3-16, 6-1, 7-26, and 10-16-06	Measure product layer thickness
RW-6	3-17, 6-7, 7-26, and 10-16-06	Measure product layer thickness
*Cyanide was specified to be analyzed on the C-O-C but lab did not perform the analysis.		

The results of the annual sampling event are summarized in tables provided in Section 4 (Groundwater Monitoring Events).

Quarterly visual checks for artesian flow conditions at OW-1 and level measurements at OW-10 were conducted on 3-9-06, 6-27-06, 7-26-06, and 10-13-06. Checks for water in GWM-1, GWM-2, and GWM-3 were conducted on 1-18-06, 3-9-06, 5-26-06, 7-26-06, and 10-13-06. The visual checks are documented on the forms provided in Section 8 - Well Inspection Logs.

The following table summarizes all the currently active monitoring wells and sampling frequencies:

The observation, measurement, sampling frequency, and type of analysis are as follows.

Well ID	Frequency	Measurement[4] / Analysis
OW-1	Quarterly	Visual check for artesian flow conditions
OW-10	Quarterly	Level measurement of the Sonsela Aquifer water table
GWM-1	Quarterly Annual	Q: Check for indication of aeration basin leakage. A: General chemistry /VOC/SVOC/BTEX/MTBE/RCRA 8 metals
GWM-2	Quarterly	Check for indication of aeration basin leakage.
GWM-3	Quarterly	Check for indication of aeration basin leakage.
OW-11	Annual	General chemistry/VOC/SVOC /BTEX/MTBE/ RCRA 8 metals
OW-12	Annual	BTEX / MTBE
OW-13[2]	Annual	BTEX / MTBE
OW-14	SemiAnnual	BTEX / MTBE
OW-29	Annual	BTEX / MTBE

Well ID	Frequency	Measurement[4] / Analysis
OW-30	Annual	BTEX / MTBE
BW-1-A[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
BW-1-B[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE /RCRA 8 metals
BW-1-C[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
BW-2-A[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
BW-2-B[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
BW-2-C[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
BW-3-A[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
BW-3-B[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
BW-3-C[3]	Annual	General chemistry / VOC / SVOC / BTEX / MTBE / RCRA 8 metals
MW-1	Annual	General chemistry / RCRA list constituents[5]
MW-4	Annual in 05,07,09	General chemistry / RCRA list constituents[5] Modified Skinner List and organics
MW-5	Annual in 05,07,09	General chemistry / RCRA list constituents[5] Modified Skinner List and organics
SMW-2	Annual in 05,07,09	General chemistry / RCRA list constituents[5] Modified Skinner List and organics
SMW-4	Annual in 05,07,09	General chemistry / RCRA list constituents[5] Modified Skinner List and organics
RW-1	Annual	Measurement of product layer thickness, if present
RW-2	Annual	Measurement of product layer thickness, if present
RW-5	Annual	Measurement of product layer thickness, if present
RW-6	Annual	Measurement of product layer thickness, if present
PW-2 (Process)	2008, then every 3 yrs thereafter	SVOCs, VOCs, Heavy Metals, Cyanide, Nitrates
PW-3 (Drinking/ Process)	Every 3 yrs starting with 2006	SVOCs, VOCs, Heavy Metals, Cyanide, Nitrates

Well ID	Frequency	Measurement[4] / Analysis
PW-4 (Process)	Every 3 yrs starting with 2004	SVOCs, VOCs, Heavy Metals, Cyanide, Nitrates
Pond 1 Inlet (EP1-IN)	Semi-Annual	BTEX, SVOCs, RCRA 8 metals
Pilot Wastewater	Quarterly	TCLP (EPA Method 1311 and BOD)

[1] This is the new well installed down gradient of the aeration basins.

[2] When OW-14 is cleaned up, then monitoring of OW-13 shall be discontinued.

[3] These are the new wells installed at the northwest corner boundary of the refinery. BW-1-A, BW-1-B, and BW-3-A were dry at the time of drilling.

[4] To the extent practicable, water table depth shall be measured at each well annually.

[5] Frequency of sampling shall be per RCRA post closure schedule.

In addition to groundwater monitoring, surface water monitoring shall also be conducted as follows.

- On an annual basis, a grab sample of the inlet water to Pond #2 shall be collected and analyzed for BOD, COD, TDS, BTEX, and MTBE.

On an annual basis, a grab sample of evaporation pond water shall be collected and analyzed for general chemistry parameters. The evaporation pond selected for sampling shall be the pond, considered by refinery personnel, to most likely contain the highest salinity or TDS. In addition, the selected pond shall be alternated from year-to-year in order to provide a broader indication of analysis.

Groundwater Monitoring Well Installations in 2006

No monitoring wells were installed in 2006.

Two new shallow ground water monitoring wells were installed in the early fall of 2005 near GWM-1 which is located at the south west corner of evaporation pond 1. GWM-2 was placed at the northwest corner of evaporation pond 2 and GWM-3 was placed at the northwest corner of evaporation pond 1. GWM-1, GWM-2, and GWM-3 were placed to determine whether any leakage from the lagoons and or evaporation ponds is occurring. GWM-2 is screened at 18.95 feet and GWM-3 is screened at 17.95 feet.

Ground water remediation activities are conducted at the Gallup refinery including the pumping of 24.4 gallons of product from recovery well No.1 (RW-1) in 2006.

Old API Oil Water Separator

The old API Separator (OAPIS) was removed from service on October 6, 2004 and the start up of the new API Separator (NAPIS) occurred on the same date. Work to remove the OAPIS from service as an oil water separator was described in the 2004 report. Once the OAPIS was removed from oil/water separator service, its use as a storm water catch basin commenced. Beginning in early 2005, Giant began pumping accumulated storm water from the OAPIS into the NAPIS so that the water would undergo treatment in the benzene stripping columns.

Perimeter Search

Giant conducts a perimeter search of the refinery property on a bimonthly basis starting in December 2004. The inspection focuses on hydrocarbon staining or any release that could result in contamination leaving the property boundary. Giant has prepared an inspection checklist to be completed and signed by the environmental employee conducting the inspection. Completed inspection sheets are maintained onsite.

3. Regulatory Criteria

No site-specific groundwater risk based screening levels have been established for the Gallup refinery so the criteria that Gallup groundwater samples are compared with are the New Mexico Water Quality Control Commission Standards 20.6.2.3103 and the U. S. EPA's National Primary Drinking Water Quality Standards (MCLs) and the NMED total petroleum hydrocarbon (TPH) screening guidelines. Tables comparing the results of sampling with the standards are provided in Section 4.

MCL's

EPA National Primary Drinking Water Standards

	Contaminant	MCL or TT[1] (mg/L)[2]	Potential health effects from exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal
OC	Acrylamide	TT[8]	Nervous system or blood problems;	Added to water during sewage/wastewater increased risk of cancer treatment	zero
OC	Alachlor	0.002	Eye, liver, kidney or spleen problems; anemia; increased risk of cancer	Runoff from herbicide used on row crops	zero
R	Alpha particles	15 picocuries per Liter (pCi/L)	Increased risk of cancer	Erosion of natural deposits of certain minerals that are radioactive and may emit a form of radiation known as alpha radiation	zero
IOC	Antimony	0.006	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	0.006
IOC	Arsenic	0.010 as of 1/23/06	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer	Erosion of natural deposits; runoff from orchards, runoff from glass & electronics production wastes	0
IOC	Asbestos (fibers >10 micrometers)	7 million fibers per Liter (MFL)	Increased risk of developing benign intestinal polyps	Decay of asbestos cement in water mains; erosion of natural deposits	7 MFL
OC	Atrazine	0.003	Cardiovascular system or reproductive problems	Runoff from herbicide used on row crops	0.003
IOC	Barium	2	Increase in blood pressure	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	2
OC	Benzene	0.005	Anemia; decrease in blood platelets; increased risk of cancer	Discharge from factories; leaching from gas storage tanks and landfills	zero
OC	Benzo(a)pyrene (PAHs)	0.0002	Reproductive difficulties; increased risk of cancer	Leaching from linings of water storage tanks and distribution lines	zero
IOC	Beryllium	0.004	Intestinal lesions	Discharge from metal refineries and coal-burning factories; discharge from electrical, aerospace, and defense industries	0.004
R	Beta particles and photon emitters	4 millirems per year	Increased risk of cancer	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation	zero
DBP	Bromate	0.010	Increased risk of cancer	Byproduct of drinking water disinfection	zero
IOC	Cadmium	0.005	Kidney damage	Corrosion of galvanized pipes; erosion of natural deposits; discharge from metal refineries; runoff from waste batteries and paints	0.005
OC	Carbofuran	0.04	Problems with blood, nervous system, or reproductive system	Leaching of soil fumigant used on rice and alfalfa	0.04
OC	Carbon tetrachloride	0.005	Liver problems; increased risk of cancer	Discharge from chemical plants and other industrial activities	zero
D	Chloramines (as Cl_2)	MRDL=4.01	Eye/nose irritation; stomach discomfort, anemia	Water additive used to control microbes	MRDLG=41

LEGEND

D Dinsinfectant
DBP Disinfection Byproduct
IOC Inorganic Chemical
M Microorganism
OC Organic Chemical
R Radionuclides

	Contaminant	MCL or TT[1] (mg/L)[2]	Potential health effects from exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal
OC	Chlordane	0.002	Liver or nervous system problems; increased risk of cancer	Residue of banned termiticide	zero
D	Chlorine (as Cl_2)	MRDL=4.0[1]	Eye/nose irritation; stomach discomfort	Water additive used to control microbes	MRDLG=4[1]
D	Chlorine dioxide (as ClO_2)	MRDL=0.8[1]	Anemia; infants & young children: nervous system effects	Water additive used to control microbes	MRDLG=0.8[1]
DBP	Chlorite	1.0	Anemia; infants & young children: nervous system effects	Byproduct of drinking water disinfection	0.8
OC	Chlorobenzene	0.1	Liver or kidney problems	Discharge from chemical and agricultural chemical factories	0.1
IOC	Chromium (total)	0.1	Allergic dermatitis	Discharge from steel and pulp mills; erosion of natural deposits	0.1
IOC	Copper	TT[7]; Action Level = 1.3	Short term exposure: Gastrointestinal distress. Long term exposure: Liver or kidney damage. People with Wilson's Disease should consult their personal doctor if the amount of copper in their water exceeds the action level	Corrosion of household plumbing systems; erosion of natural deposits	1.3
M	*Cryptosporidium*	TT[3]	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	zero
IOC	Cyanide (as free cyanide)	0.2	Nerve damage or thyroid problems	Discharge from steel/metal factories; discharge from plastic and fertilizer factories	0.2
OC	2,4-D	0.07	Kidney, liver, or adrenal gland problems	Runoff from herbicide used on row crops	0.07
OC	Dalapon	0.2	Minor kidney changes	Runoff from herbicide used on rights of way	0.2
OC	1,2-Dibromo-3-chloropropane (DBCP)	0.0002	Reproductive difficulties; increased risk of cancer	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	zero
OC	o-Dichlorobenzene	0.6	Liver, kidney, or circulatory system problems	Discharge from industrial chemical factories	0.6
OC	p-Dichlorobenzene	0.075	Anemia; liver, kidney or spleen damage; changes in blood	Discharge from industrial chemical factories	0.075
OC	1,2-Dichloroethane	0.005	Increased risk of cancer	Discharge from industrial chemical factories	zero
OC	1,1-Dichloroethylene	0.007	Liver problems	Discharge from industrial chemical factories	0.007
OC	cis-1,2-Dichloroethylene	0.07	Liver problems	Discharge from industrial chemical factories	0.07
OC	trans-1,2-Dichloroethylene	0.1	Liver problems	Discharge from industrial chemical factories	0.1
OC	Dichloromethane	0.005	Liver problems; increased risk of cancer	Discharge from drug and chemical factories	zero
OC	1,2-Dichloropropane	0.005	Increased risk of cancer	Discharge from industrial chemical factories	zero
OC	Di(2-ethylhexyl) adipate	0.4	Weight loss, live problems, or possible reproductive difficulties	Discharge from chemical factories	0.4
OC	Di(2-ethylhexyl) phthalate	0.006	Reproductive difficulties; liver problems; increased risk of cancer	Discharge from rubber and chemical factories	zero
OC	Dinoseb	0.007	Reproductive difficulties	Runoff from herbicide used on soybeans and vegetables	0.007
OC	Dioxin (2,3,7,8-TCDD)	0.00000003	Reproductive difficulties; increased risk of cancer	Emissions from waste incineration and other combustion; discharge from chemical factories	zero
OC	Diquat	0.02	Cataracts	Runoff from herbicide use	0.02
OC	Endothall	0.1	Stomach and intestinal problems	Runoff from herbicide use	0.1

LEGEND

D Disinfectant

DBP Disinfection Byproduct

IOC Inorganic Chemical

M Microorganism

OC Organic Chemical

R Radionuclides

	Contaminant	MCL or TT1 (mg/L)2	Potential health effects from exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal
OC	Endrin	0.002	Liver problems	Residue of banned insecticide	0.002
OC	Epichlorohydrin	TT8	Increased cancer risk, and over a long period of time, stomach problems	Discharge from industrial chemical factories; an impurity of some water treatment chemicals	zero
OC	Ethylbenzene	0.7	Liver or kidneys problems	Discharge from petroleum refineries	0.7
OC	Ethylene dibromide	0.00005	Problems with liver, stomach, reproductive system, or kidneys; increased risk of cancer	Discharge from petroleum refineries	zero
IOC	Fluoride	4.0	Bone disease (pain and tenderness of the bones); Children may get mottled teeth	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories	4.0
M	*Giardia lamblia*	TT3	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	zero
OC	Glyphosate	0.7	Kidney problems; reproductive difficulties	Runoff from herbicide use	0.7
DBP	Haloacetic acids (HAA5)	0.060	Increased risk of cancer	Byproduct of drinking water disinfection	n/a6
OC	Heptachlor	0.0004	Liver damage; increased risk of cancer	Residue of banned termiticide	zero
OC	Heptachlor epoxide	0.0002	Liver damage; increased risk of cancer	Breakdown of heptachlor	zero
M	Heterotrophic plate count (HPC)	TT3	HPC has no health effects; it is an analytic method used to measure the variety of bacteria that are common in water. The lower the concentration of bacteria in drinking water, the better maintained the water system is.	HPC measures a range of bacteria that are naturally present in the environment	n/a
OC	Hexachlorobenzene	0.001	Liver or kidney problems; reproductive difficulties; increased risk of cancer	Discharge from metal refineries and agricultural chemical factories	zero
OC	Hexachlorocyclopentadiene	0.05	Kidney or stomach problems	Discharge from chemical factories	0.05
IOC	Lead	TT7; Action Level = 0.015	Infants and children: Delays in physical or mental development; children could show slight deficits in attention span and learning abilities; Adults: Kidney problems; high blood pressure	Corrosion of household plumbing systems; erosion of natural deposits	zero
M	*Legionella*	TT3	Legionnaire's Disease, a type of pneumonia	Found naturally in water; multiplies in heating systems	zero
OC	Lindane	0.0002	Liver or kidney problems	Runoff/leaching from insecticide used on cattle, lumber, gardens	0.0002
IOC	Mercury (inorganic)	0.002	Kidney damage	Erosion of natural deposits; discharge from refineries and factories; runoff from landfills and croplands	0.002
OC	Methoxychlor	0.04	Reproductive difficulties	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock	0.04
IOC	Nitrate (measured as Nitrogen)	10	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	10
IOC	Nitrite (measured as Nitrogen)	1	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	1

LEGEND

D Disinfectant
DBP Disinfection Byproduct
IOC Inorganic Chemical
M Microorganism
OC Organic Chemical
R Radionuclides

	Contaminant	MCL or TT[1] (mg/L)[2]	Potential health effects from exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal
OC	Oxamyl (Vydate)	0.2	Slight nervous system effects	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes	0.2
OC	Pentachlorophenol	0.001	Liver or kidney problems; increased cancer risk	Discharge from wood preserving factories	zero
OC	Picloram	0.5	Liver problems	Herbicide runoff	0.5
OC	Polychlorinated biphenyls (PCBs)	0.0005	Skin changes; thymus gland problems; immune deficiencies; reproductive or nervous system difficulties; increased risk of cancer	Runoff from landfills; discharge of waste chemicals	zero
R	Radium 226 and Radium 228 (combined)	5 pCi/L	Increased risk of cancer	Erosion of natural deposits	zero
IOC	Selenium	0.05	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	Discharge from petroleum refineries; erosion of natural deposits; discharge from mines	0.05
OC	Simazine	0.004	Problems with blood	Herbicide runoff	0.004
OC	Styrene	0.1	Liver, kidney, or circulatory system problems	Discharge from rubber and plastic factories; leaching from landfills	0.1
OC	Tetrachloroethylene	0.005	Liver problems; increased risk of cancer	Discharge from factories and dry cleaners	zero
IOC	Thallium	0.002	Hair loss; changes in blood; kidney, intestine, or liver problems	Leaching from ore-processing sites; discharge from electronics, glass, and drug factories	0.0005
OC	Toluene	1	Nervous system, kidney, or liver problems	Discharge from petroleum factories	1
M	Total Coliforms (including fecal coliform and *E. coli*)	5.0%[4]	Not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present[5]	Coliforms are naturally present in the environment as well as feces; fecal coliforms and *E. coli* only come from human and animal fecal waste.	zero
DBP	Total Trihalomethanes (TTHMs)	0.10 0.080 after 12/31/03	Liver, kidney or central nervous system problems; increased risk of cancer	Byproduct of drinking water disinfection	n/a[6]
OC	Toxaphene	0.003	Kidney, liver, or thyroid problems; increased risk of cancer	Runoff/leaching from insecticide used on cotton and cattle	zero
OC	2,4,5-TP (Silvex)	0.05	Liver problems	Residue of banned herbicide	0.05
OC	1,2,4-Trichlorobenzene	0.07	Changes in adrenal glands	Discharge from textile finishing factories	0.07
OC	1,1,1-Trichloroethane	0.2	Liver, nervous system, or circulatory problems	Discharge from metal degreasing sites and other factories	0.20
OC	1,1,2-Trichloroethane	0.005	Liver, kidney, or immune system problems	Discharge from industrial chemical factories	0.003
OC	Trichloroethylene	0.005	Liver problems; increased risk of cancer	Discharge from metal degreasing sites and other factories	zero
M	Turbidity	TT[3]	Turbidity is a measure of the cloudiness of water. It is used to indicate water quality and filtration effectiveness (e.g., whether disease-causing organisms are present). Higher turbidity levels are often associated with higher levels of disease-causing micro-organisms such as viruses, parasites and some bacteria. These organisms can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.	Soil runoff	n/a
R	Uranium	30 ug/L as of 12/08/03	Increased risk of cancer, kidney toxicity	Erosion of natural deposits	zero

LEGEND

D Dinsinfectant

DBP Disinfection Byproduct

IOC Inorganic Chemical

M Microorganism

OC Organic Chemical

R Radionuclides

	Contaminant	MCL or TT[1] (mg/L)[2]	Potential health effects from exposure above the MCL	Common sources of contaminant in drinking water	Public Health Goal
OC	Vinyl chloride	0.002	Increased risk of cancer	Leaching from PVC pipes; discharge from plastic factories	zero
M	Viruses (enteric)	TT3	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	zero
OC	Xylenes (total)	10	Nervous system damage	Discharge from petroleum factories; discharge from chemical factories	10

NOTES

1 Definitions

- Maximum Contaminant Level Goal (MCLG)—The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.
- Maximum Contaminant Level (MCL)—The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.
- Maximum Residual Disinfectant Level Goal (MRDLG)—The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Maximum Residual Disinfectant Level (MRDL)—The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- Treatment Technique (TT)—A required process intended to reduce the level of a contaminant in drinking water.

2 Units are in milligrams per liter (mg/L) unless otherwise noted. Milligrams per liter are equivalent to parts per million (ppm).

3 EPA's surface water treatment rules require systems using surface water or ground water under the direct influence of surface water to (1) disinfect their water, and (2) filter their water or meet criteria for avoiding filtration so that the following contaminants are controlled at the following levels:

- *Cryptosporidium* (as of 1/1/02 for systems serving >10,000 and 1/14/05 for systems serving <10,000) 99% removal.
- *Giardia lamblia*: 99.9% removal/inactivation
- Viruses: 99.99% removal/inactivation
- *Legionella*: No limit, but EPA believes that if *Giardia* and viruses are removed/inactivated, *Legionella* will also be controlled.
- Turbidity: At no time can turbidity (cloudiness of water) go above 5 nephelolometric turbidity units (NTU); systems that filter must ensure that the turbidity go no higher than 1 NTU (0.5 NTU for conventional or direct filtration) in at least 95% of the daily samples in any month. As of January 1, 2002, for systems servicing >10,000, and January 14, 2005, for systems servicing <10,000, turbidity may never exceed 1 NTU, and must not exceed 0.3 NTU in 95% of daily samples in any month.
- HPC: No more than 500 bacterial colonies per milliliter
- Long Term 1 Enhanced Surface Water Treatment (Effective Date: January 14, 2005); Surface water systems or (GWUDI) systems serving fewer than 10,000 people must comply with the applicable Long Term 1 Enhanced Surface Water Treatment Rule provisions (e.g. turbidity standards, individual filter monitoring, *Cryptosporidium* removal requirements, updated watershed control requirements for unfiltered systems).
- Filter Backwash Recycling: The Filter Backwash Recycling Rule requires systems that recycle to return specific recycle flows through all processes of the system's existing conventional or direct filtration system or at an alternate location approved by the state.

4 No more than 5.0% samples total coliform-positive in a month. (For water systems that collect fewer than 40 routine samples per month, no more than one sample can be total coliform-positive per month.) Every sample that has total coliform must be analyzed for either fecal coliforms or *E. coli* if two consecutive TC-positive samples, and one is also positive for *E. coli* fecal coliforms, system has an acute MCL violation.

5 Fecal coliform and *E. coli* are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Disease-causing microbes (pathogens) in these wastes can cause diarrhea, cramps, nausea, headaches, or other symptoms. These pathogens may pose a special health risk for infants, young children, and people with severely compromised immune systems.

6 Although there is no collective MCLG for this contaminant group, there are individual MCLGs for some of the individual contaminants:

- Haloacetic acids: dichloroacetic acid (zero); trichloroacetic acid (0.3 mg/L)
- Trihalomethanes: bromodichloromethane (zero); bromoform (zero); dibromochloromethane (0.06 mg/L)

7 Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps. For copper, the action level is 1.3 mg/L, and for lead is 0.015 mg/L.

8 Each water system must certify, in writing, to the state (using third-party or manufacturers certification) that when it uses acrylamide and/or epichlorohydrin to treat water, the combination (or product) of dose and monomer level does not exceed the levels specified, as follows: Acrylamide = 0.05% dosed at 1 mg/L (or equivalent); Epichlorohydrin = 0.01% dosed at 20 mg/L (or equivalent).

LEGEND

D Dinsinfectant
IOC Inorganic Chemical
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M Microorganism
R Radionuclides

National Secondary Drinking Water Standards

National Secondary Drinking Water Standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. EPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards.

Contaminant	Secondary Standard
Aluminum	0.05 to 0.2 mg/L
Chloride	250 mg/L
Color	15 (color units)
Copper	1.0 mg/L
Corrosivity	noncorrosive
Fluoride	2.0 mg/L
Foaming Agents	0.5 mg/L
Iron	0.3 mg/L
Manganese	0.05 mg/L
Odor	3 threshold odor number
pH	6.5-8.5
Silver	0.10 mg/L
Sulfate	250 mg/L
Total Dissolved Solids	500 mg/L
Zinc	5 mg/L

Office of Water (4606M)
EPA 816-F-03-016
www.epa.gov/safewater
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C. The standards are not intended as maximum ranges and concentrations for use, and nothing herein contained shall be construed as limiting the use of waters containing higher ranges and concentrations.
[2-18-77; 20.6.2.3101 NMAC - Rn, 20 NMAC 6.2.III.3101, 1-15-01]

20.6.2.3102: [RESERVED]
[12-1-95; 20.6.2.3102 NMAC - Rn, 20 NMAC 6.2.III.3102, 1-15-01]

20.6.2.3103 STANDARDS FOR GROUND WATER OF 10,000 mg/l TDS CONCENTRATION OR LESS: The following standards are the allowable pH range and the maximum allowable concentration in ground water for the contaminants specified unless the existing condition exceeds the standard or unless otherwise provided in Subsection D of Section 20.6.2.3109 NMAC. Regardless of whether there is one contaminant or more than one contaminant present in ground water, when an existing pH or concentration of any water contaminant exceeds the standard specified in Subsection A, B, or C of this section, the existing pH or concentration shall be the allowable limit, provided that the discharge at such concentrations will not result in concentrations at any place of withdrawal for present or reasonably foreseeable future use in excess of the standards of this section. These standards shall apply to the dissolved portion of the contaminants specified with a definition of dissolved being that given in the publication "*methods for chemical analysis of water and waste of the U.S. environmental protection agency*," with the exception that standards for mercury, organic compounds and non-aqueous phase liquids shall apply to the total unfiltered concentrations of the contaminants.

A. **Human Health Standards**-Ground water shall meet the standards of Subsection A and B of this section unless otherwise provided. If more than one water contaminant affecting human health is present, the toxic pollutant criteria as set forth in the definition of toxic pollutant in Section 20.6.2.1101 NMAC for the combination of contaminants, or the Human Health Standard of Subsection A of Section 20.6.2.3103 NMAC for each contaminant shall apply, whichever is more stringent. Non-aqueous phase liquid shall not be present floating atop of or immersed within ground water, as can be reasonably measured.

(1) Arsenic (As).....0.1 mg/l
(2) Barium (Ba).....1.0 mg/l
(3) Cadmium (Cd).....0.01 mg/l
(4) Chromium (Cr).....0.05 mg/l
(5) Cyanide (CN).....0.2 mg/l
(6) Fluoride (F).....1.6 mg/l
(7) Lead (Pb).....0.05 mg/l
(8) Total Mercury (Hg).....0.002 mg/l
(9) Nitrate (NO_3 as N).....10.0 mg/l
(10) Selenium (Se).....0.05 mg/l
(11) Silver (Ag).....0.05 mg/l
(12) Uranium (U).....0.03 mg/l
(13) Radioactivity: Combined Radium-226 & Radium-228.....30 pCi/l
(14) Benzene.....0.01 mg/l
(15) Polychlorinated biphenyls (PCB's).....0.001 mg/l
(16) Toluene.....0.75 mg/l
(17) Carbon Tetrachloride.....0.01 mg/l
(18) 1,2-dichloroethane (EDC).....0.01 mg/l
(19) 1,1-dichloroethylene (1,1-DCE).....0.005 mg/l
(20) 1,1,2,2-tetrachloroethylene (PCE).....0.02 mg/l
(21) 1,1,2-trichloroethylene (TCE).....0.1 mg/l
(22) ethylbenzene.....0.75 mg/l
(23) total xylenes.....0.62 mg/l
(24) methylene chloride.....0.1 mg/l
(25) chloroform.....0.1 mg/l
(26) 1,1-dichloroethane.....0.025 mg/l
(27) ethylene dibromide (EDB).....0.0001 mg/l
(28) 1,1,1-trichloroethane.....0.06 mg/l
(29) 1,1,2-trichloroethane.....0.01 mg/l
(30) 1,1,2,2-tetrachloroethane.....0.01 mg/l
(31) vinyl chloride.....0.001 mg/l

(32) PAHs: total naphthalene plus monomethylnaphthalenes.....0.03 mg/l
(33) benzo-a-pyrene.....0.0007 mg/l

B. **Other Standards for Domestic Water Supply**

(1) Chloride (Cl) .....250.0 mg/l
(2) Copper (Cu) .....1.0 mg/l
(3) Iron (Fe) .....1.0 mg/l
(4) Manganese (Mn) .....0.2 mg/l
(6) Phenols.....0.005 mg/l
(7) Sulfate (SO_4) .....600.0 mg/l
(8) Total Dissolved Solids (TDS) .....1000.0 mg/l
(9) Zinc (Zn) .....10.0 mg/l
(10) pH.....between 6 and 9

C. **Standards for Irrigation Use - Ground water shall meet the standards of Subsection A, B, and C of this section unless otherwise provided.**

(1) Aluminum (Al).....5.0 mg/l
(2) Boron (B) .....0.75 mg/l
(3) Cobalt (Co) .....0.05 mg/l
(4) Molybdenum (Mo) .....1.0 mg/l
(5) Nickel (Ni) .....0.2 mg/l

[2-18-77, 1-29-82, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMAC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-04]

[Note: For purposes of application of the amended numeric uranium standard to past and current water discharges (as of 9-26-04), the new standard will not become effective until June 1, 2007. For any new water discharges, the uranium standard is effective 9-26-04.]

20.6.2.3104 DISCHARGE PERMIT REQUIRED: Unless otherwise provided by this Part, no person shall cause or allow effluent or leachate to discharge so that it may move directly of indirectly into ground water unless he is discharging pursuant to a discharge permit issued by the secretary. When a permit has been issued, discharges must be consistent with the terms and conditions of the permit. In the event of a transfer of the ownership, control, or possession of a facility for which a discharge permit is in effect, the transferee shall have authority to discharge under such permit, provided that the transferee has complied with Section 20.6.2.3111 NMAC, regarding transfers. [2-18-77, 12-24-87, 12-1-95; Rn & A, 20.6.2.3104 NMAC - 20 NMAC 6.2.III.3104, 1-15-01; A, 12-1-01]

20.6.2.3105 EXEMPTIONS FROM DISCHARGE PERMIT REQUIREMENT: Sections 20.6.2.3104 and 20.6.2.3106 NMAC do not apply to the following:

A. Effluent or leachate which conforms to all the listed numerical standards of Section 20.6.2.3103 NMAC and has a total nitrogen concentration of 10 mg/l or less, and does not contain any toxic pollutant. To determine conformance, samples may be taken by the agency before the effluent or leachate is discharged so that it may move directly or indirectly into ground water; provided that if the discharge is by seepage through non-natural or altered natural materials, the agency may take samples of the solution before or after seepage. If for any reason the agency does not have access to obtain the appropriate samples, this exemption shall not apply;

B. Effluent which is discharged from a sewerage system used only for disposal of household and other domestic waste which is designed to receive and which receives 2,000 gallons or less of liquid waste per day;

C. Water used for irrigated agriculture, for watering of lawns, trees, gardens or shrubs, or for irrigation for a period not to exceed five years for the revegetation of any disturbed land area, unless that water is received directly from any sewerage system;

D. Discharges resulting from the transport or storage of water diverted, provided that the water diverted has not had added to it after the point of diversion any effluent received from a sewerage system, that the source of the water diverted was not mine workings, and that the secretary has not determined that a hazard to public health may result;

E. Effluent which is discharged to a watercourse which is naturally perennial; discharges to dry arroyos and ephemeral streams are not exempt from the discharge permit requirement, except as otherwise provided in this section;

F. Those constituents which are subject to effective and enforceable effluent limitations in a National Pollutant Discharge Elimination System (NPDES) permit, where discharge onto or below the surface of the ground so that water contaminants may move directly or indirectly into ground water occurs downstream from the outfall

In some instances, it may be practical to assess areas of soil contamination that are the result of releases of petroleum products such as jet fuel and diesel, using total petroleum hydrocarbon (TPH) analyses. TPH results may be used to delineate the extent of petroleum-related contamination at these sites and ascertain if the residual level of petroleum products in soil represents an unacceptable risk to future users of the site. Petroleum hydrocarbons represent complex mixtures of compounds, some of which are regulated constituents and some compounds that are not regulated. In addition, the amount and types of the constituent compounds in a petroleum hydrocarbon release differ widely depending on what type of product was spilled and how the spill has weathered. This variability makes it difficult to determine the toxicity of weathered petroleum products in soil solely from TPH results; however, these results can be used to approximate risk in some cases, depending upon the nature of the petroleum product, the release scenario, how well the site has been characterized, and anticipated potential future land uses. In some cases, site clean up cannot be based solely on results of TPH sampling. The New Mexico Environment Department (NMED) will make these determinations on a case by case basis. If NMED determines that additional data are necessary, these TPH guidelines must be used in conjunction with the screening guidelines for individual petroleum-related contaminants in Table 3 and other contaminants, as applicable.

The screening levels for each petroleum carbon range from the Massachusetts Department of Environmental Protection (MADEP) Volatile Petroleum Hydrocarbons/Extractable Petroleum Hydrocarbons (VPH/EPH) approach and the percent composition table below were used to generate screening levels corresponding to total TPH. Except for waste oil, the information in the compositional assumptions table was obtained from the Massachusetts Department of Environmental Protection guidance document *Implementation of the MADEP VPH/EPH Approach* (October 31, 2002). TPH toxicity was based only on the weighted sum of the toxicity of the hydrocarbon fractions listed in Table 1.

Table 1. TPH Compositional Assumptions in Soil

Petroleum Product	C11-C22 Aromatics	C9-C18 Aliphatics	C19-C36 Aliphatics
Diesel #2/ new crankcase oil	60%	40%	0%
#3 and #6 Fuel Oil	70%	30%	0%
Kerosene and jet fuel	30%	70%	0%
Mineral oil dielectric fluid	20%	40%	40%
Unknown oil[a]	100%	0%	0%
Waste Oil[b]	0%	0%	100%

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

A TPH screening guideline was calculated for each of the types of petroleum product based on the assumed composition from Table 1 for petroleum products and the direct soil standards incorporating ceiling concentrations given in the MADEP VPH/EPH Excel spreadsheet for each of the carbon fractions. Groundwater concentrations are based on the weighted sum of the noncarcinogenic toxicity of the petroleum fractions.

Method 1 from the MADEP VPH/EPH document was applied, which represents generic cleanup standards for soil and groundwater. Method 1 applies if contamination exists in only soil and groundwater. The MADEP VPH/EPH further divides groundwater into standards. Standard GW-1 applies when groundwater may be used for drinking water purposes. GW-1 standards are based upon ingestion and use of groundwater as a potable water supply. The TPH screening guidelines for sites with potable groundwater are presented in Table 2a.

Table 2a. TPH Screening Guidelines for Potable Groundwater (GW-1)

TPH			Concentration in Groundwater (mg/L)
Petroleum Product	Residential Direct Exposure (mg/kg)	Industrial Direct Exposure (mg/kg)	
Diesel #2/crankcase oil	520	1120	1.72
#3 and #6 Fuel Oil	440	890	1.34
Kerosene and jet fuel	760	1810	2.86
Mineral oil dielectric fluid	1440	3040	3.64
Unknown oil [a]	200	200	0.2
Waste Oil [b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

The second standard is GW-2, which is applicable for sites where the depth to groundwater is less than 15 feet from the ground surface and within 30 feet of an occupied structure. The structure may be either residential or industrial. GW-2 standards are based upon "inhalation exposures that could occur to occupants of the building impacted by volatile compounds, which partition from the groundwater" (MADEP 2001). The GW-2 screening guidelines ONLY apply for the evaluation of inhalation exposures. If potential ingestion or contact with contaminated soil and/or

groundwater could occur, then the screening guidelines provided in Table 2.a should be applied. Table 2.b lists the TPH screening guidelines for the inhalation scenario.

Table 2b. TPH Screening Guidelines – Vapor Migration and Inhalation of Groundwater (GW-2)

TPH			Concentration in Groundwater (mg/L)
Petroleum Product	**Residential Direct Exposure (mg/kg)**	**Industrial Direct Exposure (mg/kg)**	
Diesel #2/crankcase oil	880	2200	30.4
#3 and #6 Fuel Oil	860	2150	35.3
Kerosene and jet fuel	940	2350	15.7
Mineral oil dielectric fluid	1560	3400	10.4
Unknown oil [a]	800	2000	50.0
Waste Oil [b]	2500	5000	Petroleum-Related Contaminants
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants

[a] Sites with oil from unknown sources must be tested for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and polychlorinated biphenyls (PCBs) to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

[b] Compositional assumption for waste oil developed by NMED is based on review of chromatographs of several types of waste oil. Sites with waste oil must be tested for VOCs, SVOCs, metals, and PCBs to determine if other potentially toxic constituents are present. The TPH guidelines in Table 2 are not designed to be protective of exposure to these constituents therefore they must be tested for, and compared to, their individual NMED soil screening guidelines.

Mineral oil based hydraulic fluids can be evaluated for petroleum fraction toxicity using the screening guidelines from Tables 2a and 2b specified for waste oil, because this type of hydraulic fluid is composed of approximately the same range of carbon fractions as waste oil. However, these hydraulic fluids often contain proprietary additives that may be significantly more toxic than the oil itself; these additives must be considered on a site- and product-specific basis (see ATSDR hydraulic fluids profile reference). **Use of alternate screening guideline values requires prior written approval from the New Mexico Environment Department.** TPH screening guidelines in Tables 2a and 2b must be used in conjunction with the screening levels for petroleum-related contaminants given in Table 3 because the TPH screening levels are NOT designed to be protective of exposure to these individual petroleum-related contaminants. Table 3 petroleum-related contaminants screening levels are based on the New Mexico Environment Department soil screening levels (SSLs) released in February 2004.

The list of petroleum-related contaminants does not include polyaromatic hydrocarbons (PAHs) with individual screening levels that would exceed the total TPH screening levels (acenaphthene, anthracene, flouranthene, flourene, and pyrene). In addition, these TPH screening guidelines are based solely on human health, not ecological risk considerations, protection of surface water, or

potential indoor air impacts from soil vapors. Potential soil vapor impacts to structures or utilities are not addressed by these guidelines. Site-specific investigations for potential soil vapor impacts to structures or utilities must be done to assure that screenings are consistently protective of human health, welfare or use of the property. NMED believes that use of these screening guidelines will allow more efficient screenings of petroleum release sites at sites while protecting human health and the environment. Copies of the references cited below are available on the MADEP website at http://www.state.ma.us/dep/bwsc/vph_eph.htm and the NMED website at http://www.nmenv.state.nm.us/HWB/guidance.html.

Table 3. Petroleum-Related Contaminants Screening Guidelines

Petroleum-Related Contaminants	Values for Direct Exposure to Soil		NMED DAF [a] 20 GW protection (mg/kg in soil)	NMED DAF [b] 1 GW protection (mg/kg in soil)
	NMED residential SSL (mg/kg)	NMED Industrial SSL (mg/kg)		
Benzene	2.70E+01	7.36E+01	2.83E-02	1.41E-03
Toluene	2.48E+02	2.48E+02	6.80E+00	3.40E-01
Ethyl benzene	1.06E+04	2.54E+04	1.05E+01	5.25E-01
Xylene [c]	1.32E+02	1.32E+02	1.01E+01	5.07E-01
Naphthalene	7.19E+01	9.83E+01	3.93E-01	1.97E-02
2-methyl naphthalene	1.00E+03 [d]	2.50E+03 [d]	--- [d]	--- [d]
Benzo(a)anthracene	6.21E+00	2.34E+01	1.10E+00	5.49E-02
Benzo(b)fluoranthene	6.21E+00	2.34E+01	3.40E+00	1.7E-01
Benzo(k)fluoranthene	6.21E+01	2.34E+02	3.40E+01	1.70E+00
Benzo(a)pyrene	6.21E-01	2.34E+00	6.12E+00	3.06E-01
Chrysene	6.21E+02	2.34E+03	1.10E+02	5.49E+00
Dibenz(a,h) anthracene	6.21E-01	2.34E+00	1.05E+00	5.24E-02
Indeno(1,2,3-c,d) pyrene	6.21E+00	2.34E+01	9.58E+00	4.79E-01

[a] DAF – Dilution Attenuation Factor
[b] For contaminated soil in contact with groundwater
[c] Based upon total xylenes
[d] No NMED value available, value taken from MADEP 2002

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1997. Toxicological Profile for Hydraulic fluids.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 1994. "Background Documentation for the Development of the MCP Numerical Standards."

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2002. "Characterizing Risks Posed by Petroleum Contaminated Sites: Implementation of the MADEP VPH/EPH Approach," Policy, October 31, 2002.

Massachusetts Department of Environmental Protection, Bureau of Waste Site Cleanup and Office of Research and Standards. 2003. "Updated Petroleum Hydrocarbon Fraction Toxicity Values for the VPH/EPH/APH Methodology." November 2003.

New Mexico Environment Department, Hazardous Waste Bureau and Groundwater Quality Bureau Voluntary Remediation Program. 2004. "Technical Background Document for Development of Soil Screening Levels." February 2004. Revision 2.0.

4. Groundwater Monitoring Results

Results of the annual groundwater sampling are summarized in tables presented in this section.

Benzene in the two samples taken from Well OW-14 in 2006 were less than the NMWQS.

No semi-volatile compounds were detected in any of the ground water samples except there was a single hit of 2, 4-Dimethylphenol (85 ug/l) in GWM-1 in the sample taken on 8-2-06.

Elevated levels of fluoride and total dissolved solids (TDS) have shown up in some of the boundary wells in 2006, 2005 and 2004. Chloride was detected in elevated concentration in GWM-1 in 2006 at 3,700 mg/l (2,000 mg/l in 2005).

Arsenic showed up in the August 2006 analysis of water from GMW-1 at 0.077 mg/l which exceeds the NMWQS of 0.050 mg/l.

Selenium showed up in boundary well 2B in August 2004 at 0.069 mg/l which is greater than the WQCC standard of 0.05 mg/l however sampling results in 2006 showed less than 0.05 mg/l of selenium.

POTABLE WELLS #2, #3, AND #4								
	mg/L	DATE SAMPLED	PW Well #2	PW Well #4	PW Well #3	WQCC 20 NMAC 6.2.3103	MCL'S	EPA sug. for MTBE
	Benzene	27-Oct-06			<0.001			
		Not sampled in 2005*				0.01	0.005	
		04-Aug-04		<0.001				
		09-Dec-04	<0.001					
	Toluene	27-Oct-06			<0.001			
		Not sampled in 2005*				0.75	1	
		04-Aug-04		<0.001				
		09-Dec-04	<0.001					
	EthylBen	27-Oct-06			<0.001			
		Not sampled in 2005*				0.75	0.7	
		04-Aug-04		<0.001				
		09-Dec-04	<0.001					
	Xylene	27-Oct-06			<0.001			
		Not sampled in 2005*				0.62	10	
		04-Aug-04		<0.001				
		19-Nov-04	0.005					
		27-Oct-06			<0.001			
		Not sampled in 2005*						

*The potable water supply wells were not required to be sampled in 2005.

INFLUENT TO EVAPORATION POND 1						
	mg/L	DATE SAMPLED	EP1 INFLUENT	WQCC 20 NMAC 6.2.3103	MCL'S	EPA sug. for MTBE
EPA METHOD 8260B VOLATILES	Benzene	March 30, 2006	0.210	0.01	0.005	
		October 30, 2006	<0.010			
	Ethyl Benzene	March 30, 2006	0.060	0.75	0.7	
		October 30, 2006	<0.010			
	MTBE	March 30, 2006	<0.075			0.2
		October 30, 2006	<0.015			
	Toluene	March 30, 2006	0.440	0.75	1	
		October 30, 2006	<0.010			
	Xylenes	March 30, 2006	0.430	0.62	10	
		October 30, 2006	0.062			
	1-Methylnaphthalene	March 30, 2006	0.410			
		October 30, 2006	0.440			
	2-Methylnaphthalene	March 30, 2006	0.620	0.03		
		October 30, 2006	0.550			
	1,2,4-trimethylbenzene	March 30, 2006	0.170			
		October 30, 2006	0.110			
	2-butanone	March 30, 2006	0.820			
		October 30, 2006	0.110			
	Naphthalene	March 30, 2006	0.200			
		October 30, 2006	0.054			
EPA METHOD 6010B METALS	Hg	March 30, 2006	0.0017	0.002	0.002	
		October 30, 2006	0.0011			
	Ba	March 30, 2006	0.22		2	
		October 30, 2006	0.16			
	Cr	March 30, 2006	0.010		0.1	
		October 30, 2006	0.011			
	Pb	March 30, 2006	0.011		0.015	
		October 30, 2006	0.018			

	Se	March 30, 2006	<0.050	0.2**		
		October 30, 2006	<0.050			
	Ag	March 30, 2006	<0.0050	10.0*		
		October 30, 2006	<0.0050			

Groundwater standards from NMAC are human health based standards except as indicated below:
*Standard for domestic water supply.
**Standard for irrigation use.

VOLATILES 8021B

	mg/L	DATE SAMPLED	OW #12	OW 13	OW 14	OW 29	OW 30	POND #2	GWM 1*	WQCC 20 NMAC 6.2.3103	EPA MCLs	EPA Sug. # MTBE
EPA METHOD 8021B VOLATILES	Benzene	28-Dec-06			0.0042					0.01	0.005	
		27-Oct-06	<0.001	<0.001	0.0034	<0.001	<0.001	<0.010	0.012			
		27-Sep-05	<0.0005	<0.0005	0.017	<0.0005	<0.0005		0.081			
		28-Jun-05							0.010			
		15-Feb-05							0.005			
		08-Dec-04	<0.0005	<0.0005		<0.0005	<0.0005					
		09-Dec-04			0.23				0.0044			
	Toluene	28-Dec-06			<0.001					0.75	1	
		27-Oct-06	<0.001	<0.001	<0.001	<0.001	<0.001	0.022	<0.010			
		27-Sep-05	<0.0005	<0.0005	0.0022	<0.0005	<0.0005		0.0046			
		28-Jun-05							<.0025			
		15-Feb-05							0.0024			
		08-Dec-04	<0.0005	<0.0005	0.0025	<0.0005	<0.0005		0.0032			
	EthylBen	28-Dec-06			0.0025					0.75	0.7	
		27-Oct-06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010			
		27-Sep-05	<0.0005	<0.0005	0.0023	<0.0005	<0.0005		0.0028			
		28-Jun-05							0.0035			
		15-Feb-05							0.0026			
		08-Dec-04	<0.0005	<0.0005	0.0029	<0.0005	<0.0005		0.0021			
	Xylene	28-Dec-06			<0.003					0.62	10	
		27-Oct-06	<0.003	<0.003	<0.003	<0.003	<0.003	0.045	<0.030			
		27-Sep-05	<0.0005	<0.0005	0.0014	<0.0005	<0.0005		0.010			
		28-Jun-05							0.041			
		15-Feb-05							0.031			
		08-Dec-04	<0.0005	<0.0005	0.003	<0.0005	<0.0005		0.0024			
	MTBE	28-Dec-06			0.180							
		27-Oct-06	<0.0025	<0.0025	0.016	<0.0025	0.018	<0.0025	0.160			
		27-Sep-05	<0.0025	<0.0025	0.077	<0.0025	<0.0025		0.170			
		08-Dec-04	<0.0025	<0.0025	0.065	<0.0025	<0.0025		0.048			0.2

*GWM-1 was sampled on August 8, 2006.

VOLATILES 8260B

	mg/L	DATE SAMPLED	OW 11**	BW 1A	BW 1B	BW 2A	BW 2B	BW 3B	BW 3B	BW 1C	BW 2C	BW 3C	WQCC 20 NMAC 6.2.3103	MCL'S	EPA sug f MTB
EPA METHOD 8260B VOLATILES	Benzene	28/29-Oct-06	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001	0.01	0.005	
		17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
		08-Dec-04	<0.001	DRY	DRY			DRY							
		04-Aug-04		DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	0.0052			
	Toluene	28/29-Oct-06	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001	0.75	1	
		17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
		08-Dec-04	<0.001	DRY	DRY			DRY							
		04-Aug-04		DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	0.001			
	EthylBen	28/29-Oct-06	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001	0.75	0.7	
		17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
		08-Dec-04	<0.001	DRY	DRY			DRY							
		04-Aug-04		DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	<0.001			
	Xylene	28/29-Oct-06	<0.003	DRY	DRY	<0.003	<0.003	DRY	<0.003	<0.003	<0.003	<0.003	0.62	10	
		17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
		08-Dec-04	<0.001	DRY	DRY			DRY							
		04-Aug-04		DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	0.0015			
	MTBE	28/29-Oct-06	<0.0015	DRY	DRY	<0.0015	<0.0015	DRY	<0.0015	<0.0015	<0.0015	<0.0015			
		17/20-Oct-05	<0.001	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
		08-Dec-04	<0.001	DRY	DRY			DRY							
		04-Aug-04		DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	0.001			0.2

**OW-11 was sampled in 2006 on October 26, 2006.

VOLATILES 8260B										
	mg/L	DATE SAMPLED	MW-1	MW-4	MW-5	SMW-2	SMW-4	WQCC 20 NMAC 6.2.3103	MCLs	USEPA Suggested MTBE
EPA METHOD 8260B VOLATILES	Benzene	26-Oct-06	<0.001					0.01	0.005	
		12-Oct-05	<0.001	<0.001	<0.001	<0.001	<0.001			
	Toluene	26-Oct-06	<0.001					0.75	1	
		12-Oct-05	<0.001	<0.001	<0.001	<0.001	<0.001			
	EthylBen	26-Oct-06	<0.001					0.75	0.7	
		12-Oct-05	<0.001	<0.001	<0.001	<0.001	<0.001			
	Xylene	26-Oct-06	<0.003					0.62	10	
		29-Sep-05	<0.001	<0.001	<0.001	<0.001	<0.001			
	MTBE	26-Oct-06	<0.0015							0.20
		29-Sep-05	<0.001	<0.001	<0.001	0.0083	<0.001			

Note: Wells MW-4, MW-5, SMW-2, and SMW-4 were not required to be sampled in 2006.

TPH, METALS, AND GENERAL CHEMISTRY										
	mg/L	DATE SAMPLED	GW M-1	MW-1	MW-4*	MW-5*	SMW-2*	SMW-4*	WQCC 20 NMAC 6.2.3103	MCLs
EPA Method 8015B	DRO	October 26, 2006		<1.0						
	MRO	October 26, 2006		<5.0						
	GRO	October 26, 2006		<0.05						
EPA Method 300.0	Fluoride	October 26, 2006	2.0	0.84					1.6	4.0
	Chloride	October 26, 2006	3,700	46					250**	
	Phosphorus	October 26, 2006	<2.5	<0.5						
	Sulfate	October 26, 2006	120	150					600**	
	Nitrogen-Nitrate+Nitrite	October 26, 2006	<2.0	<0.5					10 nitrate	10 nitrate 1 nitrite
EPA 245.1	Hg	October 26, 2006	<0.0002	<0.0002					0.002	0.002
EPA Method 6010	Total Recoverable Metals									
	Ar	October 26, 2006	0.077	<0.020					0.1	0.010
	Ba	October 26, 2006	0.53	<0.020					1.0	2
	Ca	October 26, 2006	380	23						
	Cd	October 26, 2006	<0.002	<0.002					0.01	0.005
	Co	2006							0.05***	
	Cr	October 26, 2006	<0.006	<0.006					0.05	0.1
	K	October 26, 2006	4.2	<1.0						
	Pb	October 26, 2006	<0.005	<0.005					0.05	0.015
	Mg	October 26, 2006	93	<1.0						
	Na	October 26, 2006	1,400	280						
	Ni	2006							0.2***	
	Se	October 26, 2006	<0.05	<0.05					0.05	0.05
	Ag	October 26, 2006	<0.005	<0.005					0.05	
	Va	2006								
	Zn	2006								
EPA Method 15.1	pH	October 26, 2006	6.87	8.98					6<pH<9	

*Wells MW-4, MW-5, SMW-2, and SMW-4 were not required to be sampled in 2006.
Groundwater standards from NMAC are human health based standards except as indicated below:
**Standard for domestic water supply.
***Standard for irrigation use.
GWM-1 was sampled on August 2, 2006.

GENERAL CHEMISTRY																
EPA Method 300.0	mg/L	DATE SAMPLED	OW 11**	BW 1A	BW 1B	BW 2A	BW 2B	BW 3A	BW 3B	BW 1C	BW 2C	BW 3C	POND #7	WELL #3	WQCC 20 NMAC 6.2.3103	MCL'S
	Fluoride	Oct-06	2.5	DRY	DRY	1.3	1.9	DRY	1.7	2.7	2.4	1.9	31	0.19		
		17/20-Oct-05	2.3	DRY	DRY	1.1	1.7	DRY	1.4	2.2	1.5	1.6			1.6	4
		08-Dec-04	2.3	DRY	DRY											
		04-Aug-04		DRY	DRY	1.2	1.7	DRY	1.4	2	2.2	0.95		0.21		
	Chloride	Oct-06	86	DRY	DRY	39	31	DRY	33	36	42	38	42,000	14		
		17/20-Oct-05	87	DRY	DRY	39	29	DRY	34	34	42	37			250	250
		08-Dec-04	80	DRY	DRY											
		04-Aug-04		DRY	DRY	40	32	DRY	35	38	46	25				
	Nitrogen-Nitrite	Oct-06	<.50	DRY	DRY	<0.50	<0.50	DRY	<0.50	<0.50	<0.50	<0.50	<0.10	<0.50		
		17/20-Oct-05	<0.1	DRY	DRY	<0.50	<0.50	DRY	<0.10	<0.50	<0.50	<0.10				1
		08-Dec-04	<.50	DRY	DRY											
		04-Aug-04		DRY	DRY	<0.10	<0.10	DRY	<0.10	<0.10	<0.10	<0.10				
		09-Dec-04														
	Bromide	28-Oct-06		DRY	DRY											
		17/20-Oct-05		DRY	DRY											
		08-Dec-04	<0.10	DRY	DRY											
		04-Aug-04		DRY	DRY	0.4	1.3	DRY	0.49	0.32	0.78	1.2				
	Nitrogen-Nitrate	Oct-06	<.50	DRY	DRY	<0.50	<0.50	DRY	<0.50	<0.50	<0.50	<0.50	<0.10	<0.50		
		17/20-Oct-05	0.72	DRY	DRY	<0.50	<0.50	DRY	<0.10	<0.50	<0.50	<0.10				
		08-Dec-04	<0.50	DRY	DRY										10	
		04-Aug-04		DRY	DRY	<0.10	<0.10	DRY	<0.10	<0.10	<0.10	<0.10		0.12		
		09-Dec-04														
	P	Oct-06	<.50	DRY	DRY	0.64	<0.50	DRY	1.1	<0.50	<0.50	<0.50	<0.50	<0.50		
		17/20-Oct-05	<0.50	DRY	DRY	0.59	0.64	DRY	1.0	<0.50	<0.50	<0.50				
		08-Dec-04	<0.50	DRY	DRY											
		04-Aug-04		DRY	DRY	0.57	<0.50	DRY	1.2	<0.50	<0.50	<0.50				
		09-Dec-04														

	GENERAL CHEMISTRY															
	mg/L	DATE SAMPLED	OW 11**	BW 1A	BW 1B	BW 2A	BW 2B	BW 3A	BW 3B	BW 1C	BW 2C	BW 3C	POND #7	WELL #3	WQCC 20 NMAC 6.2.3103	MCL'S
	Sulfate	28-Oct-06	1100	DRY	DRY	7.5	140	DRY	53	250	270	280	7,000	490		
		17/20-Oct-05	990	DRY	DRY	6.9	130	DRY	56	240	270	350			600	
		08-Dec-04	1100	DRY	DRY											
		04-Aug-04		DRY	DRY	9.6	140	DRY	63	210	230	440				
		09-Dec-04														
EPA METHOD 160.1	TDS	31-Oct-06		DRY	DRY											
		17/20-Oct-05		DRY	DRY										1000	500
		08-Dec-04	1900	DRY	DRY											
		04-Aug-04		DRY	DRY	1100	1500	DRY	1000	970	970	940	3800			
	pH	Oct-06	8.40	DRY	DRY	8.27	8.10	DRY	8.12	8.39	8.52	8.39	7.46	7.89		
		29-Sep-05	8.44	DRY	DRY										6.5 - 8.5	Between 6 and 9
		08-Dec-04	8.48	DRY	DRY											
		04-Aug-04		DRY	DRY	8.4	8.35	DRY	8.5	**9.36**	8.84	8.87				
	SP COND	Oct-06	3100	DRY	DRY	1400	2400	DRY	1500	1400	1300	1400	150000	1200		
		17-Oct-05		DRY	DRY	1400	2500	DRY	1600	1400	1500	1400				
		04-Aug-04		DRY	DRY	1447	2280	DRY	1534	1280	1401	1380				
	Temp (°F)		56	DRY	DRY	56	56	56		57	56	56				
	Depth to water (ft)		21.10	DRY	DRY	31.98	27.78	32.75		7.55	20.26	8.40				

**OW-11 was sampled on September 29, 2005.

Wells 2 and 4 were not required to be sampled in 2006, hence they are not listed on the table.

DISSOLVED METALS

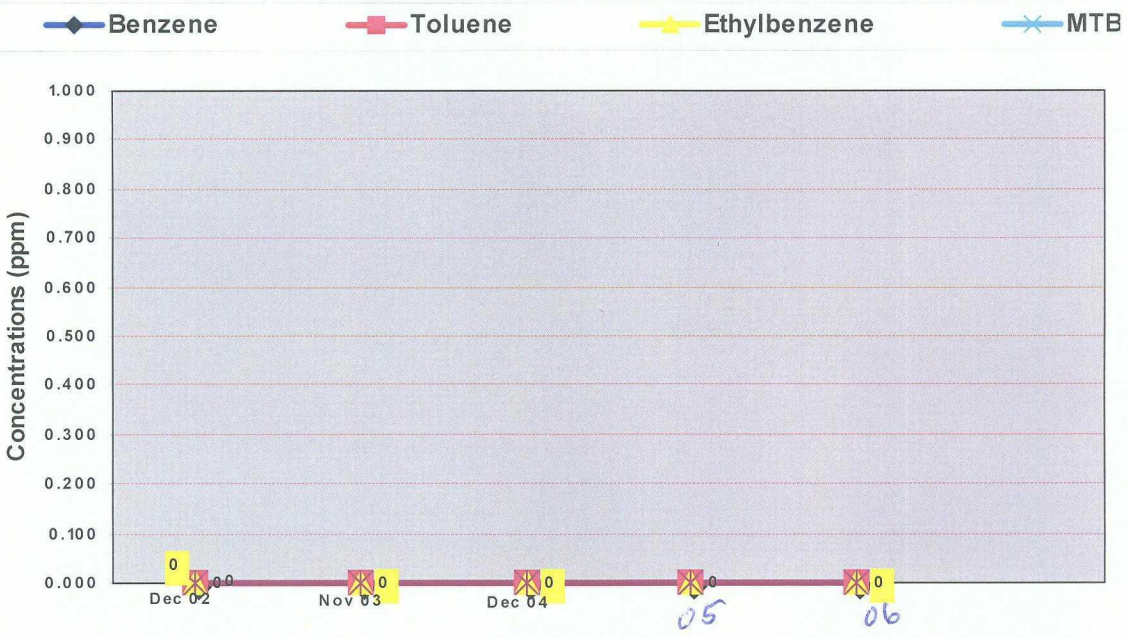
mg/L	DATE SAMPLED	OW 11	BW 1A	BW 1B	BW 2A	BW 2B	BW 3A	BW 3B	BW 1C	BW 2C	BW 3C	POND #7	WELL #3	WQCC 20 NMAC	MCL'S
Arsenic	28-Oct-06	<0.020	DRY	DRY	<0.020	<0.020	DRY	0.021	<0.020	<0.020	<0.020		<0.020	0.1	0.01
	29-Sep-05	<0.020													
	08-Dec-04	<0.020													
	04-Aug-04		DRY	DRY	<0.020	<0.020	DRY	<0.020	<0.020	<0.020	<0.020				
	19-Nov-04											<0.020			
Barium	28-Oct-06	<0.020	DRY	DRY	0.15	0.071	DRY	0.11	<0.020	0.031	0.029		<0.020	1.0	2
	29-Sep-05	<0.020													
	08-Dec-04	<0.020													
	04-Aug-04		DRY	DRY	0.12	<0.0020	DRY	0.13	<0.0020	0.047	0.051				
	19-Nov-04											0.14			
Cadmium	28-Oct-06	0.0020	DRY	DRY	<0.002	<0.002	DRY	<0.002	<0.002	<0.002	<0.002		<0.002	0.01	0.005
	29-Sep-05	0.0020													
	08-Dec-04	0.0020													
	04-Aug-04		DRY	DRY	<0.002	<0.0020	DRY	<0.0020	<0.0020	<0.0020	<0.0020				
	19-Nov-04											<0.0020			
Calcium	28-Oct-06	12	DRY	DRY	9.7	20	DRY	9.0	3.4	5.8	6.0		190		
	17-Oct-05	10			10	23	DRY	9.9	3.1	140	6.1				
	08-Dec-04	9.6													
	04-Aug-04		DRY	DRY	6.7	14	DRY	11	3.8	5.6	45				
Cr	28-Oct-06	<0.0060	DRY	DRY	<0.0060	<0.0060	DRY	<0.0060	0.011	<0.0060	<0.0060			0.05	0.1
	29-Sep-05	<0.0060													
	08-Dec-04	<0.0060													
	04-Aug-04		DRY	DRY	<0.0060	<0.0060	DRY	<0.0060	<0.0060	<0.0060	<0.0060				
	19-Nov-04											0.012			
Lead	28-Oct-06	<0.0050	DRY	DRY	<0.0050	<0.0050	DRY	<0.0050	<0.0050	0.0054	<0.0050		<0.006	0.05	0.015
	29-Sep-05	<0.0050													
	08-Dec-04	<0.0050													
	04-Aug-04		DRY	DRY	0.0059	0.0064	DRY	0.006	<0.0050	<0.0050	<0.0050				
	19-Nov-04											0.0075			
Mercury	28-Oct-06	<0.0002	DRY	DRY	<0.00020	<0.00020	DRY	<0.00020	<0.00020	<0.00020	<0.00020		<0.00020	0.002	0.002

DISSOLVED METALS															
[illegible]/L	DATE SAMPLED	OW 11	BW 1A	BW 1B	BW 2A	BW 2B	BW 3A	BW 3B	BW 1C	BW 2C	BW 3C	POND #7	WELL #3	WQCC 20 NMAC	MCL's
	28-Oct-06	1.4			3.5	3.8	DRY	2.7	<1.0	<1.0			43		
	17-Oct-05	1.2			3.6	3.9	DRY	2.9	<1.0	7.7	1.1				
Mg	08-Dec-04	1.1													
	04-Aug-04		DRY	DRY	2.5	3.2	DRY	3.1	<1.0	1.5	9.8				
	19-Nov-04														
	28-Oct-06	1.6	DRY	DRY	<1.0	1.6	DRY	<1.0	<1.0	<1.0	<1.0		1.1		
	17-Oct-05	1.7			1.1	2.1	DRY	1.4	1.5	2.5	1.8				
K	08-Dec-04	1.9													
	04-Aug-04		DRY	DRY	<1.0	4.7	DRY	1.3	2	2	5.3				
	28-Oct-06	<0.050	DRY	DRY	<0.050	<0.050	DRY	<0.050	<0.050	<0.050	<0.050		<0.05		
	29-Sep-05	<0.050													
	08-Dec-04	0.005													
Se	04-Aug-04		DRY	DRY	<0.050	0.069	DRY	<0.050	<0.050	<0.050	<0.050			0.05	0.05
	19-Nov-04											<0.050			
	09-Dec-04														
	28-Oct-06	<0.0050	DRY	DRY	<0.0050	<0.005	DRY	<0.005	<0.005	<0.005	<0.005		<0.005		
	29-Sep-05	<0.0050													
	08-Dec-04	<0.0050													
Silver	04-Aug-04		DRY	DRY	<0.0050	<0.0050	DRY	<0.0050	DRY	DRY	<0.0050	<0.005	DRY	0.05	0.10
	19-Nov-04											<0.0050			
	09-Dec-04														
	29-Sep-05	620											28		
	08-Dec-04	620													
Sodium	04-Aug-04		DRY	DRY	220	540	DRY	340	200	300	230				
	19-Nov-04														
	09-Dec-04														
	29-Sep-05														
	08-Dec-04														
Uranium	04-Aug-04		DRY	DRY	<0.10	<0.10	DRY	<0.10	<0.10	<0.10	<0.10			0.03	0.030
	09-Dec-04														

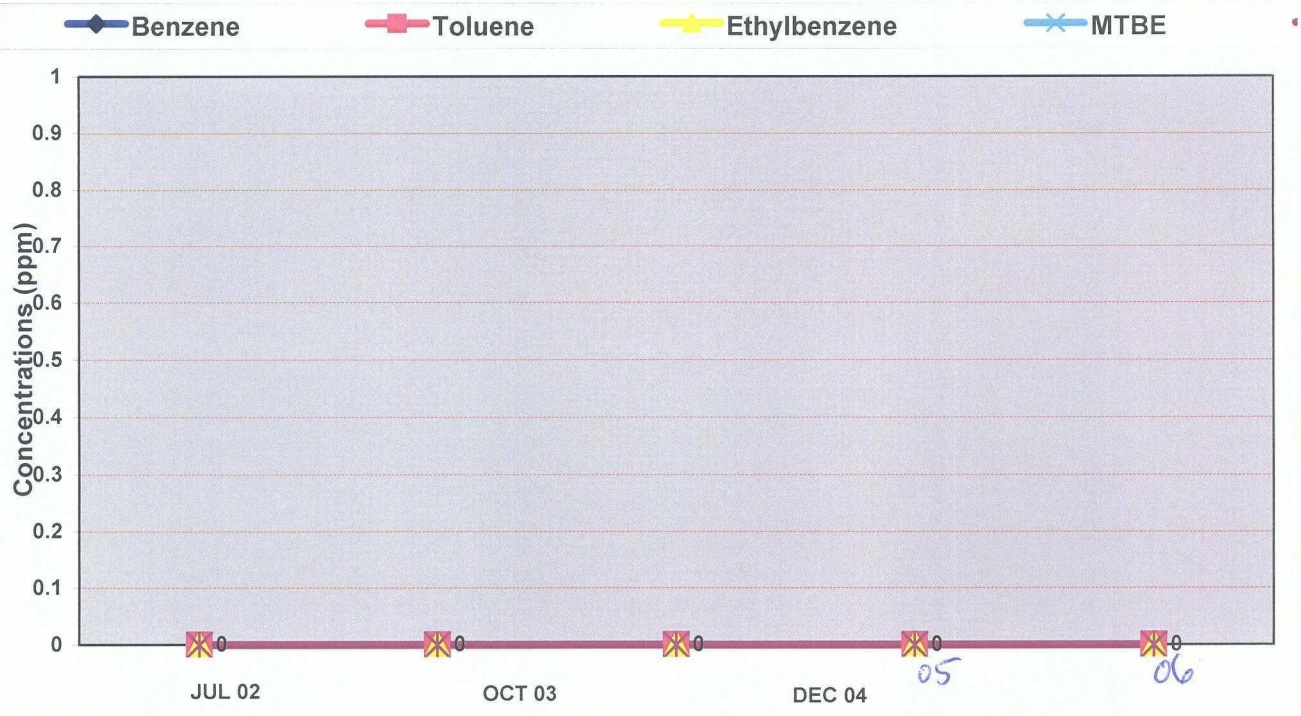
BOD - PILOT TRAVEL CENTER AND TRUCK STOP

	Date of Analysis	BOD Results (mg/l)	Detection Limit (mg/l)
EPA 405.1	3-30-06	886	2
	6-9-06	472	2

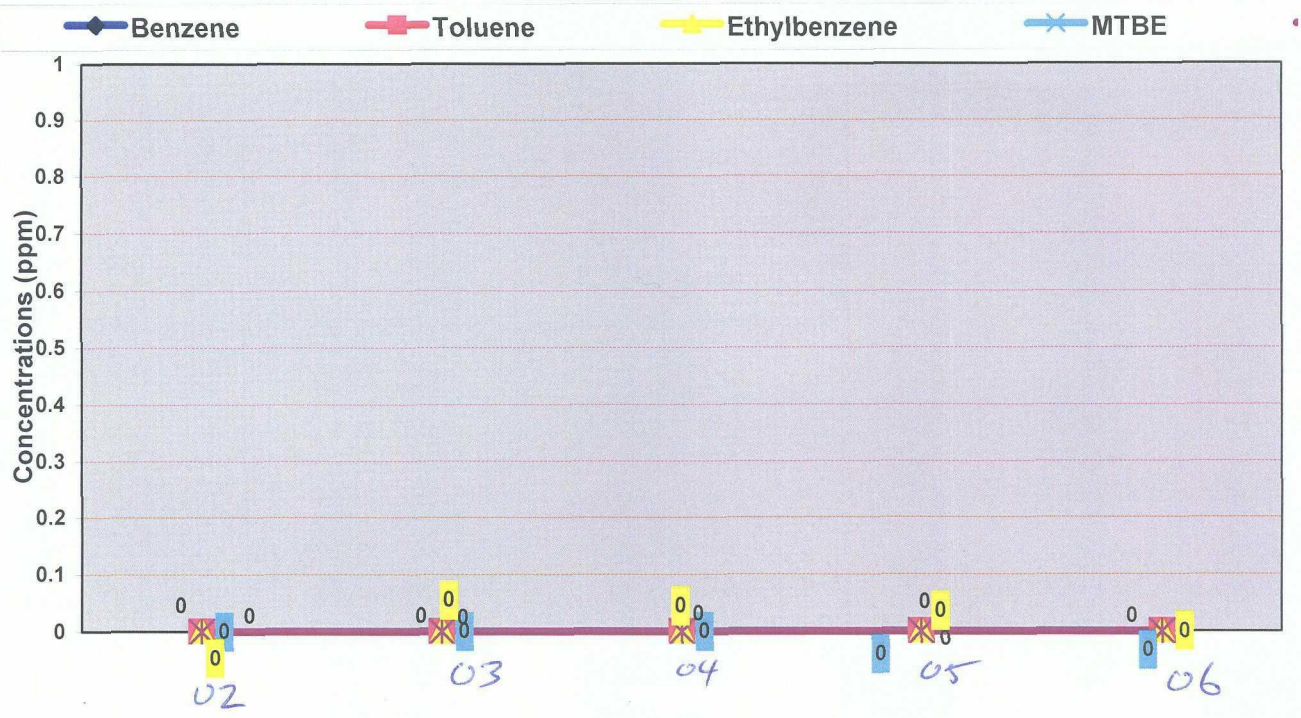
OW-11


Benzene
Toluene
Ethylbenzene
MTB
Concentrations (ppm)
1.000
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
Dec 02
Nov 03
Dec 04
05
06

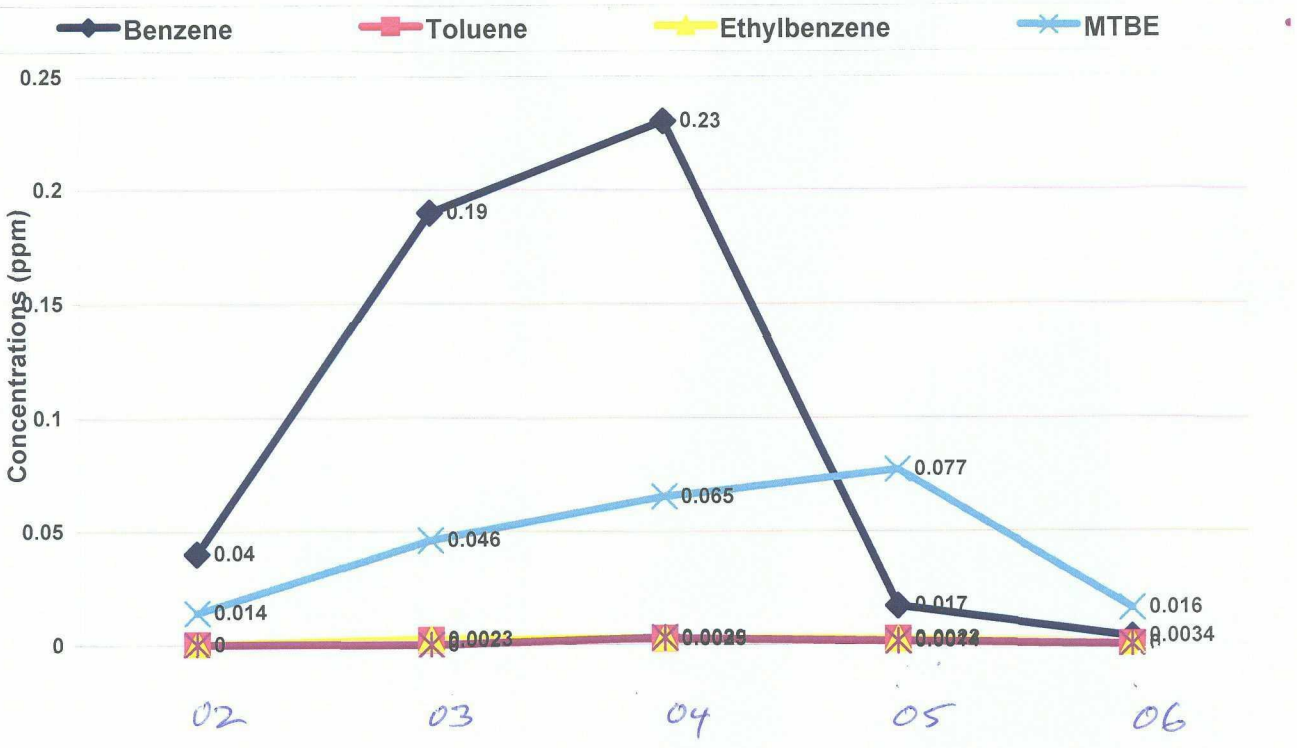
OW-12


Benzene
Toluene
Ethylbenzene
MTBE
Concentrations (ppm)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
0
0
0
0
JUL 02
OCT 03
DEC 04
05
06

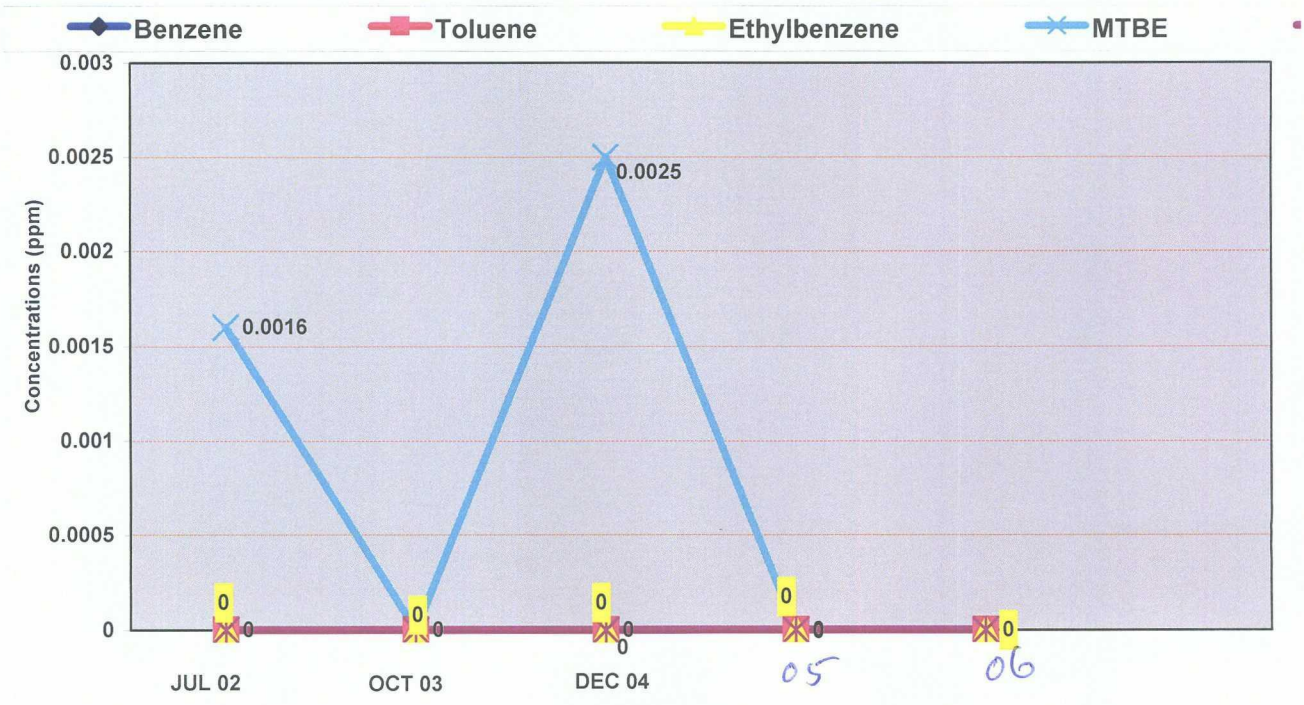
OW-13


Benzene
Toluene
Ethylbenzene
MTBE
Concentrations (ppm)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
02
03
04
05
06

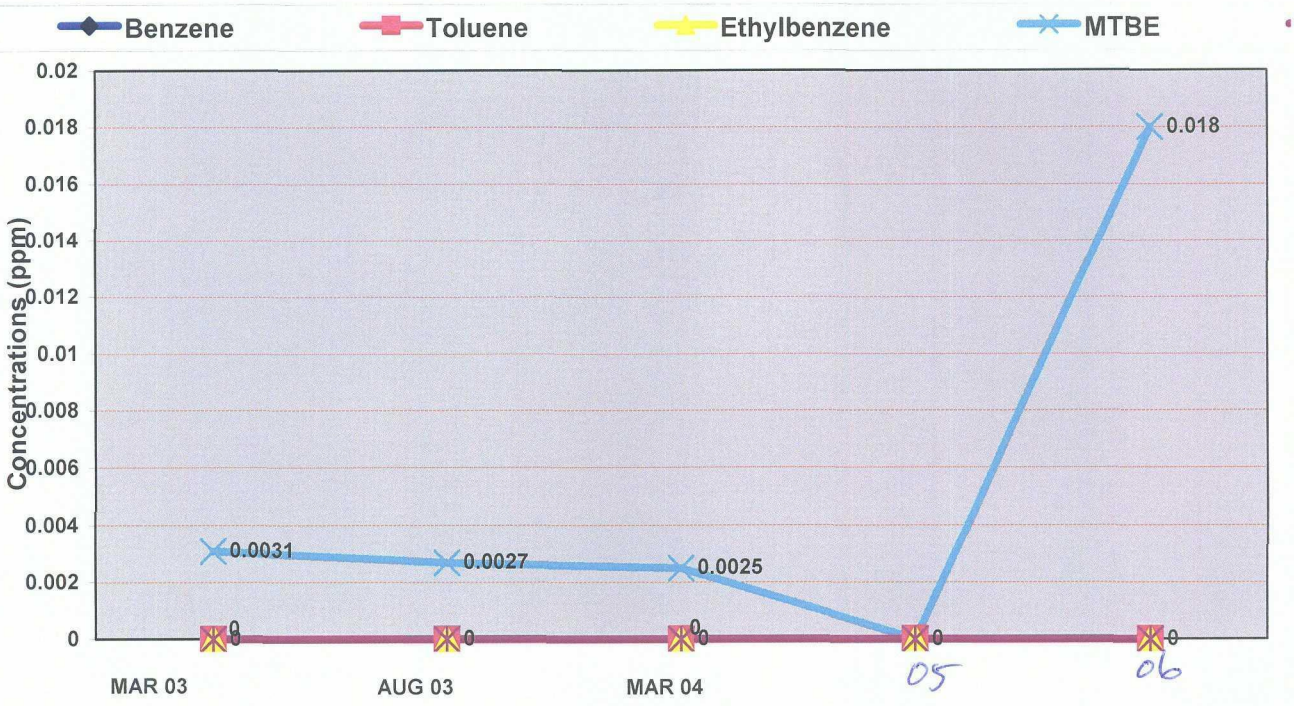
OW-14


Benzene
Toluene
Ethylbenzene
MTBE
0.25
0.2
0.15
0.1
0.05
0
Concentrations (ppm)
0.23
0.19
0.04
0.077
0.065
0.046
0.014
0.016
0.017
0.0034
0.0023
0
02
03
04
05
06

OW-29


Benzene
Toluene
Ethylbenzene
MTBE
0.003
0.0025
0.002
0.0015
0.001
0.0005
0
Concentrations (ppm)
0.0016
0.0025
0
JUL 02
OCT 03
DEC 04
05
06

OW-30


Benzene
Toluene
Ethylbenzene
MTBE
Concentrations (ppm)
0.02
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
0.0031
0.0027
0.0025
0.018
0
MAR 03
AUG 03
MAR 04
05
06

5. Groundwater Chemical Analytical Data

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, November 17, 2006

Steve Morris
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: Annual Ground Water 2006-Ciniza

Order No.: 0611014

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 9 sample(s) on 11/1/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-12
Lab Order:	0611014	**Collection Date:**	10/27/2006 9:15:00 AM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/3/2006 11:26:32 AM
Benzene	ND	1.0		µg/L	1	11/3/2006 11:26:32 AM
Toluene	ND	1.0		µg/L	1	11/3/2006 11:26:32 AM
Ethylbenzene	ND	1.0		µg/L	1	11/3/2006 11:26:32 AM
Xylenes, Total	ND	3.0		µg/L	1	11/3/2006 11:26:32 AM
Surr: 4-Bromofluorobenzene	82.7	72.2-125		%REC	1	11/3/2006 11:26:32 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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-13
Lab Order:	0611014	**Collection Date:**	10/27/2006 10:30:00 AM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/3/2006 11:56:36 AM
Benzene	ND	1.0		µg/L	1	11/3/2006 11:56:36 AM
Toluene	ND	1.0		µg/L	1	11/3/2006 11:56:36 AM
Ethylbenzene	ND	1.0		µg/L	1	11/3/2006 11:56:36 AM
Xylenes, Total	ND	3.0		µg/L	1	11/3/2006 11:56:36 AM
Surr: 4-Bromofluorobenzene	83.8	72.2-125		%REC	1	11/3/2006 11:56:36 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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-14
Lab Order:	0611014	**Collection Date:**	10/29/2006 1:30:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	16	2.5		µg/L	1	11/3/2006 12:29:21 PM
Benzene	3.4	1.0		µg/L	1	11/3/2006 12:29:21 PM
Toluene	ND	1.0		µg/L	1	11/3/2006 12:29:21 PM
Ethylbenzene	ND	1.0		µg/L	1	11/3/2006 12:29:21 PM
Xylenes, Total	ND	3.0		µg/L	1	11/3/2006 12:29:21 PM
Surr: 4-Bromofluorobenzene	84.9	72.2-125		%REC	1	11/3/2006 12:29:21 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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-29
Lab Order:	0611014	**Collection Date:**	10/27/2006 12:30:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	ND	2.5		µg/L	1	11/3/2006 1:29:18 PM
Benzene	ND	1.0		µg/L	1	11/3/2006 1:29:18 PM
Toluene	ND	1.0		µg/L	1	11/3/2006 1:29:18 PM
Ethylbenzene	ND	1.0		µg/L	1	11/3/2006 1:29:18 PM
Xylenes, Total	ND	3.0		µg/L	1	11/3/2006 1:29:18 PM
Surr: 4-Bromofluorobenzene	84.2	72.2-125		%REC	1	11/3/2006 1:29:18 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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-30
Lab Order:	0611014	**Collection Date:**	10/27/2006 2:00:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Methyl tert-butyl ether (MTBE)	18	2.5		µg/L	1	11/3/2006 1:59:29 PM
Benzene	ND	1.0		µg/L	1	11/3/2006 1:59:29 PM
Toluene	ND	1.0		µg/L	1	11/3/2006 1:59:29 PM
Ethylbenzene	ND	1.0		µg/L	1	11/3/2006 1:59:29 PM
Xylenes, Total	ND	3.0		µg/L	1	11/3/2006 1:59:29 PM
Surr: 4-Bromofluorobenzene	86.2	72.2-125		%REC	1	11/3/2006 1:59:29 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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-11
Lab Order:	0611014	**Collection Date:**	10/26/2006 2:00:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	2.5	0.10		mg/L	1	11/3/2006 11:57:39 PM
Chloride	86	0.50		mg/L	5	11/6/2006 2:21:59 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 12:49:51 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/3/2006 11:57:39 PM
Sulfate	1100	10		mg/L	20	11/7/2006 10:40:32 AM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/9/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 8:13:48 PM
Barium	ND	0.020		mg/L	1	11/15/2006 8:13:48 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 8:13:48 PM
Calcium	12	1.0		mg/L	1	11/15/2006 8:13:48 PM
Chromium	ND	0.0060		mg/L	1	11/15/2006 8:13:48 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 8:13:48 PM
Magnesium	1.4	1.0		mg/L	1	11/15/2006 8:13:48 PM
Potassium	1.6	1.0		mg/L	1	11/15/2006 8:13:48 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 8:13:48 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 8:13:48 PM
Sodium	660	10		mg/L	10	11/16/2006 10:33:42 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-11
Lab Order:	0611014	**Collection Date:**	10/26/2006 2:00:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-11
Lab Order:	0611014	**Collection Date:**	10/26/2006 2:00:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	63.0	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	63.7	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	48.1	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	72.9	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	63.4	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	36.2	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-11
Lab Order:	0611014	**Collection Date:**	10/26/2006 2:00:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-11
Lab Order:	0611014	**Collection Date:**	10/26/2006 2:00:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	85.9	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	101	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	90.8	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	98.2	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	3100	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.40	0.010		pH units	1	11/1/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CLIENT:	Giant Refining Co	**Client Sample ID:**	MW-1
Lab Order:	0611014	**Collection Date:**	10/26/2006 11:00:00 AM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: **SCC**
Diesel Range Organics (DRO)	ND	1.0		mg/L	1	11/2/2006 12:35:58 PM
Motor Oil Range Organics (MRO)	ND	5.0		mg/L	1	11/2/2006 12:35:58 PM
Surr: DNOP	138	58-140		%REC	1	11/2/2006 12:35:58 PM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	ND	0.050		mg/L	1	11/3/2006 6:16:41 PM
Surr: BFB	106	84.5-129		%REC	1	11/3/2006 6:16:41 PM
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	0.84	0.10		mg/L	1	11/4/2006 1:07:15 AM
Chloride	46	0.50		mg/L	5	11/6/2006 2:56:48 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 1:24:39 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/4/2006 1:07:15 AM
Sulfate	150	2.5		mg/L	5	11/6/2006 2:56:48 PM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/9/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 8:17:58 PM
Barium	ND	0.020		mg/L	1	11/15/2006 8:17:58 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 8:17:58 PM
Calcium	2.3	1.0		mg/L	1	11/15/2006 8:17:58 PM
Chromium	ND	0.0060		mg/L	1	11/15/2006 8:17:58 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 8:17:58 PM
Magnesium	ND	1.0		mg/L	1	11/15/2006 8:17:58 PM
Potassium	ND	1.0		mg/L	1	11/15/2006 8:17:58 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 8:17:58 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 8:17:58 PM
Sodium	280	10		mg/L	10	11/16/2006 10:36:47 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	MW-1
Lab Order:	0611014	**Collection Date:**	10/26/2006 11:00:00 AM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006

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
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

CLIENT:	Giant Refining Co	**Client Sample ID:**	MW-1
Lab Order:	0611014	**Collection Date:**	10/26/2006 11:00:00 AM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	63.8	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	68.2	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	55.1	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	68.7	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	72.7	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	40.8	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	MW-1
Lab Order:	0611014	**Collection Date:**	10/26/2006 11:00:00 AM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CLIENT:	Giant Refining Co	**Client Sample ID:**	MW-1
Lab Order:	0611014	**Collection Date:**	10/26/2006 11:00:00 AM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-07	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	84.4	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	112	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	88.0	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	98.4	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	970	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.98	0.010		pH units	1	11/1/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	PW-3
Lab Order:	0611014	**Collection Date:**	10/27/2006 2:45:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	0.19	0.10		mg/L	1	11/4/2006 1:42:03 AM
Chloride	14	0.10		mg/L	1	11/4/2006 1:42:03 AM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 1:59:28 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/4/2006 1:42:03 AM
Sulfate	490	5.0		mg/L	10	11/6/2006 3:14:12 PM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/9/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 8:22:09 PM
Barium	ND	0.020		mg/L	1	11/15/2006 8:22:09 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 8:22:09 PM
Calcium	190	10		mg/L	10	11/16/2006 10:41:19 AM
Chromium	ND	0.0060		mg/L	1	11/15/2006 8:22:09 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 8:22:09 PM
Magnesium	43	1.0		mg/L	1	11/15/2006 8:22:09 PM
Potassium	1.1	1.0		mg/L	1	11/15/2006 8:22:09 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 8:22:09 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 8:22:09 PM
Sodium	28	1.0		mg/L	1	11/15/2006 8:22:09 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	PW-3
Lab Order:	0611014	**Collection Date:**	10/27/2006 2:45:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	PW-3
Lab Order:	0611014	**Collection Date:**	10/27/2006 2:45:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	50.4	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	61.1	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	43.6	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	67.3	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	61.4	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	33.1	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	PW-3
Lab Order:	0611014	**Collection Date:**	10/27/2006 2:45:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	PW-3
Lab Order:	0611014	**Collection Date:**	10/27/2006 2:45:00 PM
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-08	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	85.3	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	101	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	89.4	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	89.0	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	1200	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	7.89	0.010		pH units	1	11/1/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Trip Blank
Lab Order:	0611014	**Collection Date:**	
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-09	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Trip Blank
Lab Order:	0611014	**Collection Date:**	
Project:	Annual Ground Water 2006-Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611014-09	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	85.9	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	108	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	87.8	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	96.4	81.9-122		%REC	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

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800-735-4489 • 406-252-6325 • 406-252-6069 fax • eli@energylab.com

LABORATORY ANALYTICAL REPORT

Client:	Hall Environmental-Albuquerque	**Report Date:**	11/14/06
Project:	Proj. 0611014	**Collection Date:**	10/26/06 11:00
Lab ID:	B06110241-001	**DateReceived:**	11/03/06
Client Sample ID	0611014-07E, MW-1	**Matrix:**	Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Cyanide, Total Manual Distillation	ND	mg/L		0.005		E335.4	11/03/06 12:42 / kjp

Report Definitions: RL - Analyte reporting limit. QCL - Quality control limit. MCL - Maximum contaminant level. ND - Not detected at the reporting limit.

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LABORATORY ANALYTICAL REPORT

Client: Hall Environmental-Albuquerque
Project: Proj. 0611014
Lab ID: B06110241-002
Client Sample ID 0611014-08E, PW-3

Report Date: 11/14/06
Collection Date: 10/27/06 14:45
DateReceived: 11/03/06
Matrix: Aqueous

Analyses	Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
INORGANICS							
Cyanide, Total Manual Distillation	ND	mg/L		0.005		E335.4	11/03/06 12:44 / kjp

Report Definitions:
RL - Analyte reporting limit.
QCL - Quality control limit.
MCL - Maximum contaminant level.
ND - Not detected at the reporting limit.

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QA/QC Summary Report

Client: Hall Environmental-Albuquerque
Project: Proj. 0611014

Report Date: 11/08/06
Work Order: B06110241

Analyte	Result	Units	RL	%REC	Low Limit	High Limit	RPD	RPDLimit	Qual
Method: E335.4								Batch: A2006-11-03_4_CN__01	
Sample ID: B06110241-002AMS	Sample Matrix Spike				Run: AUTOAN201-B_061103A			11/03/06 12:46	
Cyanide, Total Manual Distillation	0.113	mg/L	0.0050	113	90	110			S
Sample ID: B06110241-002AMSD	Sample Matrix Spike Duplicate				Run: AUTOAN201-B_061103A			11/03/06 12:47	
Cyanide, Total Manual Distillation	0.112	mg/L	0.0050	112	90	110	1.3	10	S
Sample ID: LFB	Laboratory Fortified Blank				Run: AUTOAN201-B_061103A			11/03/06 11:52	
Cyanide, Total Manual Distillation	0.0986	mg/L	0.0050	99	90	110			
Sample ID: MBLK	Method Blank				Run: AUTOAN201-B_061103A			11/03/06 11:54	
Cyanide, Total Manual Distillation	ND	mg/L	0.001						

Qualifiers:

RL - Analyte reporting limit.
ND - Not detected at the reporting limit.
S - Spike recovery outside of advisory limits.

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID: **R21288**		Analysis Date:	11/3/2006 11:11:41 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID: **R21305**		Analysis Date:	11/6/2006 10:00:52 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS ST300-06019		*LCS*			Batch ID: **R21288**		Analysis Date:	11/3/2006 11:29:05 AM	
Fluoride	0.5273	mg/L	0.10	105	90	110			
Chloride	4.899	mg/L	0.10	98.0	90	110			
Nitrate (As N)+Nitrite (As N)	3.461	mg/L	0.10	98.9	90	110			
Phosphorus, Orthophosphate (As P)	4.997	mg/L	0.50	99.9	90	110			
Sulfate	9.674	mg/L	0.50	96.7	90	110			
Sample ID: LCS ST300-06019		*LCS*			Batch ID: **R21305**		Analysis Date:	11/6/2006 10:18:16 AM	
Fluoride	0.5066	mg/L	0.10	101	90	110			
Chloride	4.862	mg/L	0.10	97.2	90	110			
Nitrate (As N)+Nitrite (As N)	3.426	mg/L	0.10	97.9	90	110			
Phosphorus, Orthophosphate (As P)	4.905	mg/L	0.50	98.1	90	110			
Sulfate	9.652	mg/L	0.50	96.5	90	110			
Method: SW8015									
Sample ID: MB-11640		*MBLK*			Batch ID: **11640**		Analysis Date:	11/2/2006 1:11:03 PM	
Diesel Range Organics (DRO)	ND	mg/L	1.0						
Motor Oil Range Organics (MRO)	ND	mg/L	5.0						
Sample ID: LCS-11640		*LCS*			Batch ID: **11640**		Analysis Date:	11/2/2006 11:26:05 AM	
Diesel Range Organics (DRO)	5.830	mg/L	1.0	117	74	157			
Sample ID: LCSD-11640		*LCSD*			Batch ID: **11640**		Analysis Date:	11/2/2006 12:00:55 PM	
Diesel Range Organics (DRO)	6.008	mg/L	1.0	120	74	157	3.01	23	
Method: SW8015									
Sample ID: 5ML RB		*MBLK*			Batch ID: **R21285**		Analysis Date:	11/3/2006 8:46:30 AM	
Gasoline Range Organics (GRO)	ND	mg/L	0.050						
Sample ID: 2.5UG GRO LCS		*LCS*			Batch ID: **R21285**		Analysis Date:	11/3/2006 7:17:11 PM	
Gasoline Range Organics (GRO)	0.4740	mg/L	0.050	94.8	73.3	119			

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8021									
Sample ID: 0611014-01A MSD		*MSD*			Batch ID:	**R21286**	Analysis Date:		11/3/2006 8:10:59 PM
Methyl tert-butyl ether (MTBE)	38.73	µg/L	2.5	96.8	51.2	138	1.19	28	
Benzene	19.96	µg/L	1.0	99.8	85	115	2.15	27	
Toluene	20.31	µg/L	1.0	102	85	118	3.09	19	
Ethylbenzene	20.26	µg/L	1.0	101	85	116	2.06	10	
Xylenes, Total	61.04	µg/L	3.0	102	85	119	2.62	13	
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID:	**R21286**	Analysis Date:		11/3/2006 8:55:37 AM
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID:	**R21286**	Analysis Date:		11/3/2006 7:10:49 PM
Methyl tert-butyl ether (MTBE)	40.12	µg/L	2.5	100	51.2	138			
Benzene	19.89	µg/L	1.0	99.4	85	115			
Toluene	20.41	µg/L	1.0	102	85	118			
Ethylbenzene	20.50	µg/L	1.0	103	85	116			
Xylenes, Total	61.61	µg/L	3.0	103	85	119			
Sample ID: 0611014-01A MS		*MS*			Batch ID:	**R21286**	Analysis Date:		11/3/2006 7:40:53 PM
Methyl tert-butyl ether (MTBE)	39.20	µg/L	2.5	98.0	51.2	138			
Benzene	20.39	µg/L	1.0	102	85	115			
Toluene	20.95	µg/L	1.0	105	85	118			
Ethylbenzene	20.68	µg/L	1.0	103	85	116			
Xylenes, Total	62.66	µg/L	3.0	104	85	119			

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: MB-11641		*MBLK*		Batch ID: **11641**		Analysis Date:	11/14/2006		
Acenaphthene	ND	µg/L	10						
Acenaphthylene	ND	µg/L	10						
Aniline	ND	µg/L	20						
Anthracene	ND	µg/L	10						
Azobenzene	ND	µg/L	10						
Benz(a)anthracene	ND	µg/L	15						
Benzo(a)pyrene	ND	µg/L	15						
Benzo(b)fluoranthene	ND	µg/L	15						
Benzo(g,h,i)perylene	ND	µg/L	10						
Benzo(k)fluoranthene	ND	µg/L	10						
Benzoic acid	ND	µg/L	50						
Benzyl alcohol	ND	µg/L	20						
Bis(2-chloroethoxy)methane	ND	µg/L	10						
Bis(2-chloroethyl)ether	ND	µg/L	15						
Bis(2-chloroisopropyl)ether	ND	µg/L	15						
Bis(2-ethylhexyl)phthalate	ND	µg/L	15						
4-Bromophenyl phenyl ether	ND	µg/L	10						
Butyl benzyl phthalate	ND	µg/L	15						
Carbazole	ND	µg/L	10						
4-Chloro-3-methylphenol	ND	µg/L	20						
4-Chloroaniline	ND	µg/L	20						
2-Chloronaphthalene	ND	µg/L	10						
2-Chlorophenol	ND	µg/L	10						
4-Chlorophenyl phenyl ether	ND	µg/L	15						
Chrysene	ND	µg/L	15						
Di-n-butyl phthalate	ND	µg/L	10						
Di-n-octyl phthalate	ND	µg/L	15						
Dibenz(a,h)anthracene	ND	µg/L	10						
Dibenzofuran	ND	µg/L	10						
1,2-Dichlorobenzene	ND	µg/L	10						
1,3-Dichlorobenzene	ND	µg/L	10						
1,4-Dichlorobenzene	ND	µg/L	10						
3,3'-Dichlorobenzidine	ND	µg/L	15						
Diethyl phthalate	ND	µg/L	10						
Dimethyl phthalate	ND	µg/L	10						
2,4-Dichlorophenol	ND	µg/L	10						
2,4-Dimethylphenol	ND	µg/L	10						
4,6-Dinitro-2-methylphenol	ND	µg/L	50						
2,4-Dinitrophenol	ND	µg/L	50						
2,4-Dinitrotoluene	ND	µg/L	10						
2,6-Dinitrotoluene	ND	µg/L	10						
Fluoranthene	ND	µg/L	10						
Fluorene	ND	µg/L	10						
Hexachlorobenzene	ND	µg/L	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: MB-11641		*MBLK*			Batch ID: **11641**		Analysis Date:		11/14/2006
Hexachlorobutadiene	ND	µg/L	10						
Hexachlorocyclopentadiene	ND	µg/L	10						
Hexachloroethane	ND	µg/L	10						
Indeno(1,2,3-cd)pyrene	ND	µg/L	10						
Isophorone	ND	µg/L	10						
2-Methylnaphthalene	ND	µg/L	10						
2-Methylphenol	ND	µg/L	15						
3+4-Methylphenol	ND	µg/L	20						
N-Nitrosodi-n-propylamine	ND	µg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	µg/L	10						
Naphthalene	ND	µg/L	10						
2-Nitroaniline	ND	µg/L	50						
3-Nitroaniline	ND	µg/L	50						
4-Nitroaniline	ND	µg/L	20						
Nitrobenzene	ND	µg/L	10						
2-Nitrophenol	ND	µg/L	15						
4-Nitrophenol	ND	µg/L	50						
Pentachlorophenol	ND	µg/L	50						
Phenanthrene	ND	µg/L	10						
Phenol	ND	µg/L	10						
Pyrene	ND	µg/L	15						
Pyridine	ND	µg/L	30						
1,2,4-Trichlorobenzene	ND	µg/L	10						
2,4,5-Trichlorophenol	ND	µg/L	10						
2,4,6-Trichlorophenol	ND	µg/L	15						
Sample ID: LCS-11641		*LCS*			Batch ID: **11641**		Analysis Date:		11/14/2006
Acenaphthene	75.56	µg/L	10	75.6	11	123			
4-Chloro-3-methylphenol	128.8	µg/L	20	64.4	15.4	119			
2-Chlorophenol	109.7	µg/L	10	54.9	12.2	122			
1,4-Dichlorobenzene	44.08	µg/L	10	44.1	16.9	100			
2,4-Dinitrotoluene	70.12	µg/L	10	70.1	13	138			
N-Nitrosodi-n-propylamine	59.72	µg/L	10	59.7	9.93	122			
4-Nitrophenol	61.04	µg/L	50	30.5	12.5	87.4			
Pentachlorophenol	89.54	µg/L	50	44.8	3.55	114			
Phenol	60.02	µg/L	10	30.0	7.53	73.1			
Pyrene	74.84	µg/L	15	74.8	12.6	140			
1,2,4-Trichlorobenzene	49.74	µg/L	10	49.7	17.4	98.7			
Sample ID: LCSD-11641		*LCSD*			Batch ID: **11641**		Analysis Date:		11/14/2006
Acenaphthene	72.80	µg/L	10	72.8	11	123	3.72	30.5	
4-Chloro-3-methylphenol	129.7	µg/L	20	64.8	15.4	119	0.697	28.6	
2-Chlorophenol	129.1	µg/L	10	64.5	12.2	122	16.2	107	
1,4-Dichlorobenzene	48.32	µg/L	10	48.3	16.9	100	9.18	62.1	
2,4-Dinitrotoluene	64.96	µg/L	10	65.0	13	138	7.64	14.7	

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: LCSD-11641		*LCSD*			Batch ID: **11641**		Analysis Date:		11/14/2006
N-Nitrosodi-n-propylamine	60.62	µg/L	10	60.6	9.93	122	1.50	30.3	
4-Nitrophenol	75.92	µg/L	50	38.0	12.5	87.4	21.7	36.3	
Pentachlorophenol	127.0	µg/L	50	63.5	3.55	114	34.6	49	
Phenol	72.86	µg/L	10	36.4	7.53	73.1	19.3	52.4	
Pyrene	71.16	µg/L	15	71.2	12.6	140	5.04	16.3	
1,2,4-Trichlorobenzene	52.72	µg/L	10	52.7	17.4	98.7	5.82	36.4	
Method: SW7470									
Sample ID: 0611014-08C MSD		*MSD*			Batch ID: **11711**		Analysis Date:		11/9/2006
Mercury	0.004725	mg/L	0.00020	94.5	75	125	2.25	20	
Sample ID: MB-11711		*MBLK*			Batch ID: **11711**		Analysis Date:		11/9/2006
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-11711		*LCS*			Batch ID: **11711**		Analysis Date:		11/9/2006
Mercury	0.004815	mg/L	0.00020	96.3	80	120			
Sample ID: 0611014-08C MS		*MS*			Batch ID: **11711**		Analysis Date:		11/9/2006
Mercury	0.004620	mg/L	0.00020	92.4	75	125			

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW6010A									
Sample ID: MB-11746		*MBLK*			Batch ID: **11746**		Analysis Date:	11/16/2006 8:58:41 AM	
Arsenic	ND	mg/L	0.020						
Barium	ND	mg/L	0.020						
Cadmium	ND	mg/L	0.0020						
Calcium	ND	mg/L	1.0						
Chromium	ND	mg/L	0.0060						
Lead	ND	mg/L	0.0050						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Selenium	ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						
Sodium	ND	mg/L	1.0						
Sample ID: MB-11746		*MBLK*			Batch ID: **11746**		Analysis Date:	11/15/2006 7:10:00 PM	
Cadmium	ND	mg/L	0.0020						
Chromium	ND	mg/L	0.0060						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Sample ID: MB-11746		*MBLK*			Batch ID: **11746**		Analysis Date:	11/16/2006 8:58:41 AM	
Calcium	ND	mg/L	1.0						
Sodium	ND	mg/L	1.0						
Sample ID: LCS-11746		*LCS*			Batch ID: **11746**		Analysis Date:	11/16/2006 8:53:16 AM	
Arsenic	0.5143	mg/L	0.020	103	80	120			
Barium	0.4951	mg/L	0.020	99.0	80	120			
Cadmium	0.5012	mg/L	0.0020	100	80	120			
Calcium	53.42	mg/L	1.0	107	80	120			
Chromium	0.5086	mg/L	0.0060	102	80	120			
Lead	0.4945	mg/L	0.0050	98.9	80	120			
Magnesium	53.81	mg/L	1.0	108	80	120			
Potassium	57.58	mg/L	1.0	115	80	120			
Selenium	0.4749	mg/L	0.050	95.0	80	120			
Silver	0.5011	mg/L	0.0050	100	80	120			
Sodium	57.46	mg/L	1.0	115	80	120			
Sample ID: LCS-11746		*LCS*			Batch ID: **11746**		Analysis Date:	11/15/2006 7:13:04 PM	
Cadmium	0.4806	mg/L	0.0020	96.1	80	120			
Chromium	0.4878	mg/L	0.0060	97.6	80	120			
Magnesium	54.21	mg/L	1.0	108	80	120			
Potassium	56.75	mg/L	1.0	114	80	120			
Sample ID: LCS-11746		*LCS*			Batch ID: **11746**		Analysis Date:	11/16/2006 8:53:16 AM	
Calcium	53.42	mg/L	1.0	107	80	120			
Sodium	57.46	mg/L	1.0	115	80	120			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		*MBLK*			Batch ID: **R21321**		Analysis Date:		11/7/2006
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.5						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromochloromethane	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	2.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	2.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	2.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	2.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	2.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Ground Water 2006-Ciniza **Work Order:** 0611014

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		*MBLK*			Batch ID: **R21321**		Analysis Date:		11/7/2006
4-Isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	2.0						
Styrene	ND	µg/L	1.5						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	1.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100ng lcs-b		*LCS*			Batch ID: **R21321**		Analysis Date:		11/7/2006
Benzene	18.27	µg/L	1.0	91.4	74.9	113			
Toluene	17.05	µg/L	1.0	85.3	80.4	111			
Chlorobenzene	20.26	µg/L	1.0	101	83.2	120			
1,1-Dichloroethene	18.32	µg/L	1.0	91.6	72	127			
Trichloroethene (TCE)	17.25	µg/L	1.0	86.2	58.2	131			

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, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN | Date and Time Received: 11/1/2006

Work Order Number 0611014 | Received by AT

Checklist completed by _____ 11/1/06
Signature | 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? 3° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

Client: Giant Refining Company - Ciniza
Address: Route 3 Box 7 Gallup, NM 87301
Phone #: 505 722 3833
Fax #: 505 722 0210

Project Name: Annual Ground Water 2006 - Ciniza
Project #:
Project Manager: Steve Morris
Sampler: Steve Morris
Sample Temperature: 3 °C

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	HEAL No. 0611014	BTEX + MTBE + TPH (Gasoline Only)	BTEX + MTBE + TPH (Gas/Diesel)	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)	Gen. Chem. Cyanide Nitrate RCRA Metals Total	Air Bubbles or Headspace (Y or N)
10.27.06	0915	H_2O	OW-12				-1	X													
10.27.06	1030	"	OW-13				-2	X													
10.29.06	1330	"	OW-14				-3	X													
10.27.06	1230	"	OW-29				-4	X													
10.27.06	1400	"	OW-30				-5	X													
10.26.06	1400	"	OW-11				-6								X			X	X	X	
10.26.06	1100	"	MW-1				-7			X					X			X	X	X X	
10/27/06	1445	"	PW-3				-8											X	X X X	+ X X	
			Tr. Blank				-9														

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11-1-06	1100	Steve Morris	11/1/06 1100
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Gen. Chem. = Cations, Anions, pH, + Conductivity

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, November 27, 2006

Steve Morris
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: Annual Groundwater Samples 2006 Ponds 1

Order No.: 0611018

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 3 sample(s) on 11/1/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pond 1 Inlet
Lab Order:	0611018	**Collection Date:**	10/30/2006 2:00:00 PM
Project:	Annual Groundwater Samples 2006 Ponds 1&2	**Date Received:**	11/1/2006
Lab ID:	0611018-01	**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	11/3/2006 3:37:33 PM
Benzene	ND	10		µg/L	10	11/3/2006 3:37:33 PM
Toluene	ND	10		µg/L	10	11/3/2006 3:37:33 PM
Ethylbenzene	13	10		µg/L	10	11/3/2006 3:37:33 PM
Xylenes, Total	79	30		µg/L	10	11/3/2006 3:37:33 PM
Surr: 4-Bromofluorobenzene	88.0	72.2-125		%REC	10	11/3/2006 3:37:33 PM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	0.00057	0.00020		mg/L	1	11/16/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 9:35:51 PM
Barium	0.15	0.020		mg/L	1	11/15/2006 9:35:51 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 9:35:51 PM
Chromium	0.012	0.0060		mg/L	1	11/15/2006 9:35:51 PM
Lead	0.015	0.0050		mg/L	1	11/15/2006 9:35:51 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 9:35:51 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 9:35:51 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	25		µg/L	1	11/14/2006
Acenaphthylene	ND	25		µg/L	1	11/14/2006
Aniline	ND	50		µg/L	1	11/14/2006
Anthracene	ND	25		µg/L	1	11/14/2006
Azobenzene	ND	25		µg/L	1	11/14/2006
Benz(a)anthracene	ND	38		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	38		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	38		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	25		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	25		µg/L	1	11/14/2006
Benzoic acid	ND	120		µg/L	1	11/14/2006
Benzyl alcohol	ND	50		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	25		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	38		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	38		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	38		µg/L	1	11/14/2006
4-Bromophenyl phenyl ether	ND	25		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	38		µg/L	1	11/14/2006
Carbazole	ND	25		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pond 1 Inlet
Lab Order:	0611018	**Collection Date:**	10/30/2006 2:00:00 PM
Project:	Annual Groundwater Samples 2006 Ponds 1&2	**Date Received:**	11/1/2006
Lab ID:	0611018-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Chloro-3-methylphenol	ND	50		µg/L	1	11/14/2006
4-Chloroaniline	ND	50		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	25		µg/L	1	11/14/2006
2-Chlorophenol	ND	25		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	38		µg/L	1	11/14/2006
Chrysene	ND	38		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	25		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	38		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	25		µg/L	1	11/14/2006
Dibenzofuran	ND	25		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	25		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	25		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	25		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	38		µg/L	1	11/14/2006
Diethyl phthalate	ND	25		µg/L	1	11/14/2006
Dimethyl phthalate	ND	25		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	25		µg/L	1	11/14/2006
2,4-Dimethylphenol	110	25		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	120		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	120		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	25		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	25		µg/L	1	11/14/2006
Fluoranthene	ND	25		µg/L	1	11/14/2006
Fluorene	ND	25		µg/L	1	11/14/2006
Hexachlorobenzene	ND	25		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	25		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	25		µg/L	1	11/14/2006
Hexachloroethane	ND	25		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	25		µg/L	1	11/14/2006
Isophorone	ND	25		µg/L	1	11/14/2006
2-Methylnaphthalene	320	25		µg/L	1	11/14/2006
2-Methylphenol	220	38		µg/L	1	11/14/2006
3+4-Methylphenol	88	50		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	25		µg/L	1	11/14/2006
N-Nitrosodimethylamine	27	25		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	25		µg/L	1	11/14/2006
Naphthalene	48	25		µg/L	1	11/14/2006
2-Nitroaniline	ND	120		µg/L	1	11/14/2006
3-Nitroaniline	ND	120		µg/L	1	11/14/2006
4-Nitroaniline	ND	50		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pond 1 Inlet
Lab Order:	0611018	**Collection Date:**	10/30/2006 2:00:00 PM
Project:	Annual Groundwater Samples 2006 Ponds 1&2	**Date Received:**	11/1/2006
Lab ID:	0611018-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Nitrobenzene	ND	25		µg/L	1	11/14/2006
2-Nitrophenol	ND	38		µg/L	1	11/14/2006
4-Nitrophenol	ND	120		µg/L	1	11/14/2006
Pentachlorophenol	ND	120		µg/L	1	11/14/2006
Phenanthrene	460	25		µg/L	1	11/14/2006
Phenol	130	25		µg/L	1	11/14/2006
Pyrene	96	38		µg/L	1	11/14/2006
Pyridine	ND	75		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	25		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	25		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	38		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	87.9	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	68.8	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	44.2	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	69.8	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	67.3	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	37.7	10.7-80.3		%REC	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pond 2 Inlet
Lab Order:	0611018	**Collection Date:**	10/31/2006 11:00:00 AM
Project:	Annual Groundwater Samples 2006 Ponds 1&2	**Date Received:**	11/1/2006
Lab ID:	0611018-02	**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	11/3/2006 4:10:13 PM
Benzene	ND	10		µg/L	10	11/3/2006 4:10:13 PM
Toluene	22	10		µg/L	10	11/3/2006 4:10:13 PM
Ethylbenzene	ND	10		µg/L	10	11/3/2006 4:10:13 PM
Xylenes, Total	45	30		µg/L	10	11/3/2006 4:10:13 PM
Surr: 4-Bromofluorobenzene	85.0	72.2-125		%REC	10	11/3/2006 4:10:13 PM
EPA METHOD 160.1: TDS						Analyst: **KS**
Total Dissolved Solids	1800	40		mg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *27-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pond 7 Gen Chem
Lab Order:	0611018	**Collection Date:**	10/31/2006 2:30:00 PM
Project:	Annual Groundwater Samples 2006 Ponds 1&2	**Date Received:**	11/1/2006
Lab ID:	0611018-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	31	10		mg/L	100	11/6/2006 1:12:21 PM
Chloride	42000	200		mg/L	2000	11/6/2006 2:04:34 PM
Nitrate (As N)+Nitrite (As N)	ND	10		mg/L	100	11/7/2006 10:23:07 AM
Phosphorus, Orthophosphate (As P)	ND	50	H	mg/L	100	11/6/2006 1:12:21 PM
Sulfate	7000	250		mg/L	500	11/6/2006 1:29:45 PM
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **IC**
Calcium	810	20		mg/L	20	11/27/2006 11:38:49 AM
Magnesium	970	20		mg/L	20	11/27/2006 11:38:49 AM
Potassium	1400	20		mg/L	20	11/27/2006 11:38:49 AM
Sodium	29000	500		mg/L	500	11/27/2006 2:53:48 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	150000	0.10		µmhos/cm	10	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	7.46	0.010		pH units	1	11/1/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

ASSAIGAI ANALYTICAL LABORATORIES, INC.

4301 Masthead NE • Albuquerque, New Mexico 87109 • (505) 345-8964 • FAX (505) 345-7259
3332 Wedgewood, Ste. N • El Paso, Texas 79925 • (915) 593-6000 • FAX (915) 593-7820
127 Eastgate Drive, 212-C • Los Alamos, New Mexico 87544 • (505) 662-2558

Explanation of codes	
B	*Analyte Detected in Method Blank*
E	*Result is Estimated*
H	*Analyzed Out of Hold Time*
N	*Tentatively Identified Compound*
S	*Subcontracted*
1-9	*See Footnote*

HALL ENVIRONMENTAL
attn: **ANDY FREEMAN**
4901 HAWKINS NE, SUITE D
ALBUQUERQUE NM 87109-4372

STANDARD

Assaigai Analytical Laboratories, Inc.

Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: **HALL ENVIRONMENTAL**
Project: **0611018**
Order: **0611031** **HAL03** Receipt: **11-02-06**

William P. Biava: President of Assaigai Analytical Laboratories, Inc.

Sample: ***0611018-02C POND 2 INLET*** Collected: *10-31-06 11:00:00* By:
Matrix: ***AQUEOUS***

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0611031-0001A		**EPA 405.1 Biochemical Oxygen Demand**						By: NJL		
BOD06131	WC.2006.2807.13	10-26-4	Biochemical Oxygen Demand	586	mg/L	1	2		11-02-06	11-07-06

Sample: ***0611018-02D POND 2 INLET*** Collected: *10-31-06 11:00:00* By:
Matrix: ***AQUEOUS***

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0611031-0002A		**EPA 410.1 Chemical Oxygen Demand**						By: NJL		
WCOD06070	WC.2006.2849.5	C-004	Chemical Oxygen Demand	1240	mg/L	1	10		11-15-06	11-15-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or foonotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

Report Date: 11/16/2006 12:47:33 PM

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Groundwater Samples 2006 Ponds 1&2 **Work Order:** 0611018

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID: **R21288**		Analysis Date:	11/3/2006 11:11:41 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID: **R21305**		Analysis Date:	11/6/2006 10:00:52 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS ST300-06019		*LCS*			Batch ID: **R21288**		Analysis Date:	11/3/2006 11:29:05 AM	
Fluoride	0.5273	mg/L	0.10	105	90	110			
Chloride	4.899	mg/L	0.10	98.0	90	110			
Nitrate (As N)+Nitrite (As N)	3.461	mg/L	0.10	98.9	90	110			
Phosphorus, Orthophosphate (As P)	4.997	mg/L	0.50	99.9	90	110			
Sulfate	9.674	mg/L	0.50	96.7	90	110			
Sample ID: LCS ST300-06019		*LCS*			Batch ID: **R21305**		Analysis Date:	11/6/2006 10:18:16 AM	
Fluoride	0.5066	mg/L	0.10	101	90	110			
Chloride	4.862	mg/L	0.10	97.2	90	110			
Nitrate (As N)+Nitrite (As N)	3.426	mg/L	0.10	97.9	90	110			
Phosphorus, Orthophosphate (As P)	4.905	mg/L	0.50	98.1	90	110			
Sulfate	9.652	mg/L	0.50	96.5	90	110			
Method: SW8021									
Sample ID: 5ML REAGENT BLA		*MBLK*			Batch ID: **R21286**		Analysis Date:	11/3/2006 8:55:37 AM	
Methyl tert-butyl ether (MTBE)	ND	µg/L	2.5						
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100NG BTEX LCS		*LCS*			Batch ID: **R21286**		Analysis Date:	11/3/2006 7:10:49 PM	
Methyl tert-butyl ether (MTBE)	40.12	µg/L	2.5	100	51.2	138			
Benzene	19.89	µg/L	1.0	99.4	85	115			
Toluene	20.41	µg/L	1.0	102	85	118			
Ethylbenzene	20.50	µg/L	1.0	103	85	116			
Xylenes, Total	61.61	µg/L	3.0	103	85	119			

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Groundwater Samples 2006 Ponds 1&2 **Work Order:** 0611018

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: MB-11641		*MBLK*			Batch ID: **11641**		Analysis Date:		11/14/2006
Acenaphthene	ND	µg/L	10						
Acenaphthylene	ND	µg/L	10						
Aniline	ND	µg/L	20						
Anthracene	ND	µg/L	10						
Azobenzene	ND	µg/L	10						
Benz(a)anthracene	ND	µg/L	15						
Benzo(a)pyrene	ND	µg/L	15						
Benzo(b)fluoranthene	ND	µg/L	15						
Benzo(g,h,i)perylene	ND	µg/L	10						
Benzo(k)fluoranthene	ND	µg/L	10						
Benzoic acid	ND	µg/L	50						
Benzyl alcohol	ND	µg/L	20						
Bis(2-chloroethoxy)methane	ND	µg/L	10						
Bis(2-chloroethyl)ether	ND	µg/L	15						
Bis(2-chloroisopropyl)ether	ND	µg/L	15						
Bis(2-ethylhexyl)phthalate	ND	µg/L	15						
4-Bromophenyl phenyl ether	ND	µg/L	10						
Butyl benzyl phthalate	ND	µg/L	15						
Carbazole	ND	µg/L	10						
4-Chloro-3-methylphenol	ND	µg/L	20						
4-Chloroaniline	ND	µg/L	20						
2-Chloronaphthalene	ND	µg/L	10						
2-Chlorophenol	ND	µg/L	10						
4-Chlorophenyl phenyl ether	ND	µg/L	15						
Chrysene	ND	µg/L	15						
Di-n-butyl phthalate	ND	µg/L	10						
Di-n-octyl phthalate	ND	µg/L	15						
Dibenz(a,h)anthracene	ND	µg/L	10						
Dibenzofuran	ND	µg/L	10						
1,2-Dichlorobenzene	ND	µg/L	10						
1,3-Dichlorobenzene	ND	µg/L	10						
1,4-Dichlorobenzene	ND	µg/L	10						
3,3'-Dichlorobenzidine	ND	µg/L	15						
Diethyl phthalate	ND	µg/L	10						
Dimethyl phthalate	ND	µg/L	10						
2,4-Dichlorophenol	ND	µg/L	10						
2,4-Dimethylphenol	ND	µg/L	10						
4,6-Dinitro-2-methylphenol	ND	µg/L	50						
2,4-Dinitrophenol	ND	µg/L	50						
2,4-Dinitrotoluene	ND	µg/L	10						
2,6-Dinitrotoluene	ND	µg/L	10						
Fluoranthene	ND	µg/L	10						
Fluorene	ND	µg/L	10						
Hexachlorobenzene	ND	µg/L	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Groundwater Samples 2006 Ponds 1&2 **Work Order:** 0611018

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: MB-11641		*MBLK*			Batch ID:	**11641**	Analysis Date:		11/14/2006
Hexachlorobutadiene	ND	µg/L	10						
Hexachlorocyclopentadiene	ND	µg/L	10						
Hexachloroethane	ND	µg/L	10						
Indeno(1,2,3-cd)pyrene	ND	µg/L	10						
Isophorone	ND	µg/L	10						
2-Methylnaphthalene	ND	µg/L	10						
2-Methylphenol	ND	µg/L	15						
3+4-Methylphenol	ND	µg/L	20						
N-Nitrosodi-n-propylamine	ND	µg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	µg/L	10						
Naphthalene	ND	µg/L	10						
2-Nitroaniline	ND	µg/L	50						
3-Nitroaniline	ND	µg/L	50						
4-Nitroaniline	ND	µg/L	20						
Nitrobenzene	ND	µg/L	10						
2-Nitrophenol	ND	µg/L	15						
4-Nitrophenol	ND	µg/L	50						
Pentachlorophenol	ND	µg/L	50						
Phenanthrene	ND	µg/L	10						
Phenol	ND	µg/L	10						
Pyrene	ND	µg/L	15						
Pyridine	ND	µg/L	30						
1,2,4-Trichlorobenzene	ND	µg/L	10						
2,4,5-Trichlorophenol	ND	µg/L	10						
2,4,6-Trichlorophenol	ND	µg/L	15						
Sample ID: LCS-11641		*LCS*			Batch ID:	**11641**	Analysis Date:		11/14/2006
Acenaphthene	75.56	µg/L	10	75.6	11	123			
4-Chloro-3-methylphenol	128.8	µg/L	20	64.4	15.4	119			
2-Chlorophenol	109.7	µg/L	10	54.9	12.2	122			
1,4-Dichlorobenzene	44.08	µg/L	10	44.1	16.9	100			
2,4-Dinitrotoluene	70.12	µg/L	10	70.1	13	138			
N-Nitrosodi-n-propylamine	59.72	µg/L	10	59.7	9.93	122			
4-Nitrophenol	61.04	µg/L	50	30.5	12.5	87.4			
Pentachlorophenol	89.54	µg/L	50	44.8	3.55	114			
Phenol	60.02	µg/L	10	30.0	7.53	73.1			
Pyrene	74.84	µg/L	15	74.8	12.6	140			
1,2,4-Trichlorobenzene	49.74	µg/L	10	49.7	17.4	98.7			
Sample ID: LCSD-11641		*LCSD*			Batch ID:	**11641**	Analysis Date:		11/14/2006
Acenaphthene	72.80	µg/L	10	72.8	11	123	3.72	30.5	
4-Chloro-3-methylphenol	129.7	µg/L	20	64.8	15.4	119	0.697	28.6	
2-Chlorophenol	129.1	µg/L	10	64.5	12.2	122	16.2	107	
1,4-Dichlorobenzene	48.32	µg/L	10	48.3	16.9	100	9.18	62.1	
2,4-Dinitrotoluene	64.96	µg/L	10	65.0	13	138	7.64	14.7	

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Groundwater Samples 2006 Ponds 1&2 **Work Order:** 0611018

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: LCSD-11641		*LCSD*			Batch ID: **11641**		Analysis Date:		11/14/2006
N-Nitrosodi-n-propylamine	60.62	µg/L	10	60.6	9.93	122	1.50	30.3	
4-Nitrophenol	75.92	µg/L	50	38.0	12.5	87.4	21.7	36.3	
Pentachlorophenol	127.0	µg/L	50	63.5	3.55	114	34.6	49	
Phenol	72.86	µg/L	10	36.4	7.53	73.1	19.3	52.4	
Pyrene	71.16	µg/L	15	71.2	12.6	140	5.04	16.3	
1,2,4-Trichlorobenzene	52.72	µg/L	10	52.7	17.4	98.7	5.82	36.4	
Method: SW7470									
Sample ID: MB-11774		*MBLK*			Batch ID: **11774**		Analysis Date:		11/16/2006
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-11774		*LCS*			Batch ID: **11774**		Analysis Date:		11/16/2006
Mercury	0.005025	mg/L	0.00020	100	80	120			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual Groundwater Samples 2006 Ponds 1&2 **Work Order:** 0611018

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW6010A									
Sample ID: MB-11746		*MBLK*			Batch ID: **11746**		Analysis Date:	11/16/2006 8:58:41 AM	
Arsenic	ND	mg/L	0.020						
Barium	ND	mg/L	0.020						
Cadmium	ND	mg/L	0.0020						
Chromium	ND	mg/L	0.0060						
Lead	ND	mg/L	0.0050						
Selenium	ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						
Sample ID: MB-11746		*MBLK*			Batch ID: **11746**		Analysis Date:	11/15/2006 7:10:00 PM	
Cadmium	ND	mg/L	0.0020						
Chromium	ND	mg/L	0.0060						
Sample ID: MB-11761		*MBLK*			Batch ID: **11761**		Analysis Date:	11/22/2006 1:16:09 PM	
Calcium	ND	mg/L	1.0						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Sodium	ND	mg/L	1.0						
Sample ID: LCS-11746		*LCS*			Batch ID: **11746**		Analysis Date:	11/16/2006 8:53:16 AM	
Arsenic	0.5143	mg/L	0.020	103	80	120			
Barium	0.4951	mg/L	0.020	99.0	80	120			
Cadmium	0.5012	mg/L	0.0020	100	80	120			
Chromium	0.5086	mg/L	0.0060	102	80	120			
Lead	0.4945	mg/L	0.0050	98.9	80	120			
Selenium	0.4749	mg/L	0.050	95.0	80	120			
Silver	0.5011	mg/L	0.0050	100	80	120			
Sample ID: LCS-11746		*LCS*			Batch ID: **11746**		Analysis Date:	11/15/2006 7:13:04 PM	
Cadmium	0.4806	mg/L	0.0020	96.1	80	120			
Chromium	0.4878	mg/L	0.0060	97.6	80	120			
Sample ID: LCS-11761		*LCS*			Batch ID: **11761**		Analysis Date:	11/22/2006 11:04:34 AM	
Calcium	51.40	mg/L	1.0	103	80	120			
Magnesium	53.28	mg/L	1.0	106	80	120			
Potassium	55.78	mg/L	1.0	111	80	120			
Sodium	57.07	mg/L	1.0	113	80	120			
Method: E160.1									
Sample ID: MB-11691		*MBLK*			Batch ID: **11691**		Analysis Date:	11/7/2006	
Total Dissolved Solids	ND	mg/L	20						
Sample ID: LCS-11691		*LCS*			Batch ID: **11691**		Analysis Date:	11/7/2006	
Total Dissolved Solids	1010	mg/L	20	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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN | Date and Time Received: 11/1/2006

Work Order Number 0611018 | Received by AT

Checklist completed by _____ 11/1/06
Signature | 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? 3° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: per sm Pond 7 collection time 1430 AT 11/1/06

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: Giant Refining Company – Ciniza
Address: Route 3 Box 7 Gallup, NM 87301
Phone #: 5057223833
Fax #: 5057220210

Project Name: Annual Ground water Samples 2006 Ponds 1 and 2 Inlets.
Project #:
Project Manager: Steve Morris
Sampler: Steve Morris
Sample Temperature: 3

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
10/30/06	1400	H_2O	Pond 1 Inlet	5				0611018 -1
10/31/06	1100	"	Pond 2 Inlet	6				-2
10/31/06	1430	"	Pond 7 Gen Chem	3				-3

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 Total	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	BOD, COD + TDS	Gen Chem			Air Bubbles or Headspace (Y or N)
X							X			X	X					
X												X				
													X			

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)	Date:	Time:
11-1-06	1100	Steve Morris		11/1/06	1100

Remarks: Gen. Chem. = Cations, Anions, pH, + Conductivity

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, November 15, 2006

Steve Morris
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: NMED Quarterly Samples 4th Qtr. 2006

Order No.: 0611012

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 4 sample(s) on 11/1/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

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

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co
Project:	NMED Quarterly Samples 4th Qtr. 2006
Lab Order:	0611012

CASE NARRATIVE

Analytical Comments for METHOD 8015GRO_W, SAMPLE 0611012-01A: Elevated surrogate due to matrix interference.See Corrective Action: [400] Low recovery for Se in 0611012-2 MS/MSD.

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	AL-2 to EP-1
Lab Order:	0611012	**Collection Date:**	10/30/2006 3:45:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	28	0.50		mg/L	10	11/6/2006 12:19:30 PM
Surr: BFB	142	84.5-129	S	%REC	10	11/6/2006 12:19:30 PM
EPA METHOD 7470: MERCURY						Analyst: CMS
Mercury	0.0011	0.00020		mg/L	1	11/8/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/9/2006 2:35:03 PM
Barium	0.16	0.020		mg/L	1	11/9/2006 2:35:03 PM
Cadmium	ND	0.0020		mg/L	1	11/9/2006 2:35:03 PM
Chromium	0.011	0.0060		mg/L	1	11/9/2006 2:35:03 PM
Lead	0.018	0.0050		mg/L	1	11/9/2006 2:35:03 PM
Selenium	ND	0.050		mg/L	1	11/9/2006 2:35:03 PM
Silver	ND	0.0050		mg/L	1	11/9/2006 2:35:03 PM
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Benzene	ND	10		µg/L	10	11/8/2006
Toluene	ND	10		µg/L	10	11/8/2006
Ethylbenzene	ND	10		µg/L	10	11/8/2006
Methyl tert-butyl ether (MTBE)	ND	15		µg/L	10	11/8/2006
1,2,4-Trimethylbenzene	110	10		µg/L	10	11/8/2006
1,3,5-Trimethylbenzene	30	10		µg/L	10	11/8/2006
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	11/8/2006
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	11/8/2006
Naphthalene	54	20		µg/L	10	11/8/2006
1-Methylnaphthalene	440	40		µg/L	10	11/8/2006
2-Methylnaphthalene	550	40		µg/L	10	11/8/2006
Acetone	1100	100		µg/L	10	11/8/2006
Bromobenzene	ND	10		µg/L	10	11/8/2006
Bromochloromethane	ND	10		µg/L	10	11/8/2006
Bromodichloromethane	ND	10		µg/L	10	11/8/2006
Bromoform	ND	10		µg/L	10	11/8/2006
Bromomethane	ND	20		µg/L	10	11/8/2006
2-Butanone	110	100		µg/L	10	11/8/2006
Carbon disulfide	ND	100		µg/L	10	11/8/2006
Carbon Tetrachloride	ND	20		µg/L	10	11/8/2006
Chlorobenzene	ND	10		µg/L	10	11/8/2006
Chloroethane	ND	20		µg/L	10	11/8/2006
Chloroform	ND	10		µg/L	10	11/8/2006

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
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	AL-2 to EP-1
Lab Order:	0611012	**Collection Date:**	10/30/2006 3:45:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Chloromethane	ND	10		µg/L	10	11/8/2006
2-Chlorotoluene	ND	10		µg/L	10	11/8/2006
4-Chlorotoluene	ND	10		µg/L	10	11/8/2006
cis-1,2-DCE	ND	10		µg/L	10	11/8/2006
cis-1,3-Dichloropropene	ND	10		µg/L	10	11/8/2006
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	11/8/2006
Dibromochloromethane	ND	10		µg/L	10	11/8/2006
Dibromomethane	ND	20		µg/L	10	11/8/2006
1,2-Dichlorobenzene	ND	10		µg/L	10	11/8/2006
1,3-Dichlorobenzene	ND	10		µg/L	10	11/8/2006
1,4-Dichlorobenzene	ND	10		µg/L	10	11/8/2006
Dichlorodifluoromethane	ND	10		µg/L	10	11/8/2006
1,1-Dichloroethane	ND	20		µg/L	10	11/8/2006
1,1-Dichloroethene	ND	10		µg/L	10	11/8/2006
1,2-Dichloropropane	ND	10		µg/L	10	11/8/2006
1,3-Dichloropropane	ND	10		µg/L	10	11/8/2006
2,2-Dichloropropane	ND	20		µg/L	10	11/8/2006
1,1-Dichloropropene	ND	10		µg/L	10	11/8/2006
Hexachlorobutadiene	ND	20		µg/L	10	11/8/2006
2-Hexanone	ND	100		µg/L	10	11/8/2006
Isopropylbenzene	ND	10		µg/L	10	11/8/2006
4-Isopropyltoluene	ND	10		µg/L	10	11/8/2006
4-Methyl-2-pentanone	ND	100		µg/L	10	11/8/2006
Methylene Chloride	ND	30		µg/L	10	11/8/2006
n-Butylbenzene	47	10		µg/L	10	11/8/2006
n-Propylbenzene	ND	10		µg/L	10	11/8/2006
sec-Butylbenzene	ND	20		µg/L	10	11/8/2006
Styrene	ND	15		µg/L	10	11/8/2006
tert-Butylbenzene	ND	10		µg/L	10	11/8/2006
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	11/8/2006
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	11/8/2006
Tetrachloroethene (PCE)	ND	10		µg/L	10	11/8/2006
trans-1,2-DCE	ND	10		µg/L	10	11/8/2006
trans-1,3-Dichloropropene	ND	10		µg/L	10	11/8/2006
1,2,3-Trichlorobenzene	ND	10		µg/L	10	11/8/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	10	11/8/2006
1,1,1-Trichloroethane	ND	10		µg/L	10	11/8/2006
1,1,2-Trichloroethane	ND	10		µg/L	10	11/8/2006
Trichloroethene (TCE)	ND	10		µg/L	10	11/8/2006
Trichlorofluoromethane	ND	10		µg/L	10	11/8/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	AL-2 to EP-1
Lab Order:	0611012	**Collection Date:**	10/30/2006 3:45:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
1,2,3-Trichloropropane	ND	20		µg/L	10	11/8/2006
Vinyl chloride	ND	10		µg/L	10	11/8/2006
Xylenes, Total	62	30		µg/L	10	11/8/2006
Surr: 1,2-Dichloroethane-d4	84.2	69.9-130		%REC	10	11/8/2006
Surr: 4-Bromofluorobenzene	109	75-139		%REC	10	11/8/2006
Surr: Dibromofluoromethane	89.1	57.3-135		%REC	10	11/8/2006
Surr: Toluene-d8	86.0	81.9-122		%REC	10	11/8/2006

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	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot TC Eff
Lab Order:	0611012	**Collection Date:**	10/30/2006 2:45:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.17	0.10		mg/L	2	11/6/2006 2:30:16 PM
Surr: BFB	103	84.5-129		%REC	2	11/6/2006 2:30:16 PM
EPA METHOD 7470: MERCURY						Analyst: CMS
Mercury	ND	0.00020		mg/L	1	11/8/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	11/9/2006 2:37:44 PM
Barium	ND	0.020		mg/L	1	11/9/2006 2:37:44 PM
Cadmium	ND	0.0020		mg/L	1	11/9/2006 2:37:44 PM
Chromium	ND	0.0060		mg/L	1	11/9/2006 2:37:44 PM
Lead	ND	0.0050		mg/L	1	11/9/2006 2:37:44 PM
Selenium	ND	0.050		mg/L	1	11/9/2006 2:37:44 PM
Silver	ND	0.0050		mg/L	1	11/9/2006 2:37:44 PM
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Benzene	ND	1.0		µg/L	1	11/13/2006
Toluene	5.1	1.0		µg/L	1	11/13/2006
Ethylbenzene	ND	1.0		µg/L	1	11/13/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/13/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/13/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/13/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/13/2006
Naphthalene	ND	2.0		µg/L	1	11/13/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/13/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/13/2006
Acetone	150	10		µg/L	1	11/13/2006
Bromobenzene	ND	1.0		µg/L	1	11/13/2006
Bromochloromethane	ND	1.0		µg/L	1	11/13/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/13/2006
Bromoform	ND	1.0		µg/L	1	11/13/2006
Bromomethane	ND	2.0		µg/L	1	11/13/2006
2-Butanone	ND	10		µg/L	1	11/13/2006
Carbon disulfide	ND	10		µg/L	1	11/13/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/13/2006
Chlorobenzene	ND	1.0		µg/L	1	11/13/2006
Chloroethane	ND	2.0		µg/L	1	11/13/2006
Chloroform	1.8	1.0		µg/L	1	11/13/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot TC Eff
Lab Order:	0611012	**Collection Date:**	10/30/2006 2:45:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Chloromethane	ND	1.0		µg/L	1	11/13/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/13/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/13/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/13/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/13/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/13/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/13/2006
Dibromomethane	ND	2.0		µg/L	1	11/13/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/13/2006
1,4-Dichlorobenzene	2.8	1.0		µg/L	1	11/13/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/13/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/13/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/13/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/13/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/13/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/13/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/13/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/13/2006
2-Hexanone	ND	10		µg/L	1	11/13/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/13/2006
4-Isopropyltoluene	1.6	1.0		µg/L	1	11/13/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/13/2006
Methylene Chloride	ND	3.0		µg/L	1	11/13/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/13/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/13/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/13/2006
Styrene	ND	1.5		µg/L	1	11/13/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/13/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/13/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/13/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/13/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/13/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/13/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/13/2006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/13/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/13/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/13/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/13/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/13/2006

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	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot TC Eff
Lab Order:	0611012	**Collection Date:**	10/30/2006 2:45:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/13/2006
Vinyl chloride	ND	1.0		µg/L	1	11/13/2006
Xylenes, Total	ND	3.0		µg/L	1	11/13/2006
Surr: 1,2-Dichloroethane-d4	86.3	69.9-130		%REC	1	11/13/2006
Surr: 4-Bromofluorobenzene	120	75-139		%REC	1	11/13/2006
Surr: Dibromofluoromethane	93.2	57.3-135		%REC	1	11/13/2006
Surr: Toluene-d8	91.0	81.9-122		%REC	1	11/13/2006

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	MCL	Maximum Contaminant Level
	ND	Not Detected at the Reporting Limit	RL	Reporting Limit
	S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	NAPIS Eff
Lab Order:	0611012	**Collection Date:**	10/30/2006 3:15:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	39	1.0		mg/L	20	11/6/2006 1:24:52 PM
Surr: BFB	103	84.5-129		%REC	20	11/6/2006 1:24:52 PM
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Benzene	6600	100		µg/L	100	11/8/2006
Toluene	9800	100		µg/L	100	11/8/2006
Ethylbenzene	760	100		µg/L	100	11/8/2006
Methyl tert-butyl ether (MTBE)	300	150		µg/L	100	11/8/2006
1,2,4-Trimethylbenzene	570	100		µg/L	100	11/8/2006
1,3,5-Trimethylbenzene	170	100		µg/L	100	11/8/2006
1,2-Dichloroethane (EDC)	ND	100		µg/L	100	11/8/2006
1,2-Dibromoethane (EDB)	ND	100		µg/L	100	11/8/2006
Naphthalene	330	200		µg/L	100	11/8/2006
1-Methylnaphthalene	ND	400		µg/L	100	11/8/2006
2-Methylnaphthalene	ND	400		µg/L	100	11/8/2006
Acetone	1800	1000		µg/L	100	11/8/2006
Bromobenzene	ND	100		µg/L	100	11/8/2006
Bromochloromethane	ND	100		µg/L	100	11/8/2006
Bromodichloromethane	ND	100		µg/L	100	11/8/2006
Bromoform	ND	100		µg/L	100	11/8/2006
Bromomethane	ND	200		µg/L	100	11/8/2006
2-Butanone	ND	1000		µg/L	100	11/8/2006
Carbon disulfide	ND	1000		µg/L	100	11/8/2006
Carbon Tetrachloride	ND	200		µg/L	100	11/8/2006
Chlorobenzene	ND	100		µg/L	100	11/8/2006
Chloroethane	ND	200		µg/L	100	11/8/2006
Chloroform	ND	100		µg/L	100	11/8/2006
Chloromethane	ND	100		µg/L	100	11/8/2006
2-Chlorotoluene	ND	100		µg/L	100	11/8/2006
4-Chlorotoluene	ND	100		µg/L	100	11/8/2006
cis-1,2-DCE	ND	100		µg/L	100	11/8/2006
cis-1,3-Dichloropropene	ND	100		µg/L	100	11/8/2006
1,2-Dibromo-3-chloropropane	ND	200		µg/L	100	11/8/2006
Dibromochloromethane	ND	100		µg/L	100	11/8/2006
Dibromomethane	ND	200		µg/L	100	11/8/2006
1,2-Dichlorobenzene	ND	100		µg/L	100	11/8/2006
1,3-Dichlorobenzene	ND	100		µg/L	100	11/8/2006
1,4-Dichlorobenzene	ND	100		µg/L	100	11/8/2006
Dichlorodifluoromethane	ND	100		µg/L	100	11/8/2006
1,1-Dichloroethane	ND	200		µg/L	100	11/8/2006

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
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *15-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	NAPIS Eff
Lab Order:	0611012	**Collection Date:**	10/30/2006 3:15:00 PM
Project:	NMED Quarterly Samples 4th Qtr. 2006	**Date Received:**	11/1/2006
Lab ID:	0611012-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
1,1-Dichloroethene	ND	100		µg/L	100	11/8/2006
1,2-Dichloropropane	ND	100		µg/L	100	11/8/2006
1,3-Dichloropropane	ND	100		µg/L	100	11/8/2006
2,2-Dichloropropane	ND	200		µg/L	100	11/8/2006
1,1-Dichloropropene	ND	100		µg/L	100	11/8/2006
Hexachlorobutadiene	ND	200		µg/L	100	11/8/2006
2-Hexanone	ND	1000		µg/L	100	11/8/2006
Isopropylbenzene	ND	100		µg/L	100	11/8/2006
4-Isopropyltoluene	ND	100		µg/L	100	11/8/2006
4-Methyl-2-pentanone	ND	1000		µg/L	100	11/8/2006
Methylene Chloride	ND	300		µg/L	100	11/8/2006
n-Butylbenzene	ND	100		µg/L	100	11/8/2006
n-Propylbenzene	ND	100		µg/L	100	11/8/2006
sec-Butylbenzene	ND	200		µg/L	100	11/8/2006
Styrene	ND	150		µg/L	100	11/8/2006
tert-Butylbenzene	ND	100		µg/L	100	11/8/2006
1,1,1,2-Tetrachloroethane	ND	100		µg/L	100	11/8/2006
1,1,2,2-Tetrachloroethane	ND	100		µg/L	100	11/8/2006
Tetrachloroethene (PCE)	ND	100		µg/L	100	11/8/2006
trans-1,2-DCE	ND	100		µg/L	100	11/8/2006
trans-1,3-Dichloropropene	ND	100		µg/L	100	11/8/2006
1,2,3-Trichlorobenzene	ND	100		µg/L	100	11/8/2006
1,2,4-Trichlorobenzene	ND	100		µg/L	100	11/8/2006
1,1,1-Trichloroethane	ND	100		µg/L	100	11/8/2006
1,1,2-Trichloroethane	ND	100		µg/L	100	11/8/2006
Trichloroethene (TCE)	ND	100		µg/L	100	11/8/2006
Trichlorofluoromethane	ND	100		µg/L	100	11/8/2006
1,2,3-Trichloropropane	ND	200		µg/L	100	11/8/2006
Vinyl chloride	ND	100		µg/L	100	11/8/2006
Xylenes, Total	3500	300		µg/L	100	11/8/2006
Surr: 1,2-Dichloroethane-d4	89.3	69.9-130		%REC	100	11/8/2006
Surr: 4-Bromofluorobenzene	89.1	75-139		%REC	100	11/8/2006
Surr: Dibromofluoromethane	97.8	57.3-135		%REC	100	11/8/2006
Surr: Toluene-d8	87.0	81.9-122		%REC	100	11/8/2006

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
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Thursday, January 04, 2007

Steve Morris
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: Groundwater 2006-0W-14

Order No.: 0612343

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 12/28/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *04-Jan-07*

CLIENT:	Giant Refining Co	**Client Sample ID:**	OW-14
Lab Order:	0612343	**Collection Date:**	12/28/2006 10:30:00 PM
Project:	Groundwater 2006-0W-14	**Date Received:**	12/28/2006
Lab ID:	0612343-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **SMP**
Benzene	4.2	1.0		µg/L	1	1/3/2007
Toluene	ND	1.0		µg/L	1	1/3/2007
Ethylbenzene	2.5	1.0		µg/L	1	1/3/2007
Methyl tert-butyl ether (MTBE)	180	1.5		µg/L	1	1/3/2007
Xylenes, Total	ND	3.0		µg/L	1	1/3/2007
Surr: 4-Bromofluorobenzene	105	71.2-123		%REC	1	1/3/2007

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Groundwater 2006-0W-14

Work Order: 0612343

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5ml rb		*MBLK*			Batch ID:	**R21999**	Analysis Date:		1/3/2007
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.5						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100ng lcs		*LCS*			Batch ID:	**R21999**	Analysis Date:		1/3/2007
Benzene	19.37	µg/L	1.0	96.8	75.6	111			
Toluene	19.64	µg/L	1.0	98.2	69.6	113			

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, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN | Date and Time Received: 12/28/2006

Work Order Number 0612343 | Received by AT

Checklist completed by _____ 12/28/06
Signature | 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:

Client: Giant Refining Company - Ciniza
Address: Route 3 Box 7 Gallup, NM 87301
Phone #: 505 722 3833
Fax #: 505 722 0210

Project Name: Groundwater 2006 - OW-14
Project #:
Project Manager: Steve Moore
Sampler: Steve Moore
Sample Temperature: 1°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No.
12-28-06	~~1030~~ AM	Water	OW-14					612343 -1

Date	Time	Relinquished By: (Signature)	Received By: (Signature)
12-28-06	1525	Steve Moore	12/28/06 1525
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks:

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

ANALYSIS REQUEST

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

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Wednesday, April 12, 2006

Steve Morris
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: NMED Mntly & OCD Qtly Samp 3/30/06

Order No.: 0603345

Dear Steve Morris:

Hall Environmental Analysis Laboratory received 3 sample(s) on 3/31/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

AZ license # AZ0682
ORELAP Lab # NM100001

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

Hall Environmental Analysis Laboratory

Date: *12-Apr-06*

CLIENT: Giant Refining Co
Project: NMED Mntly & OCD Qtly Samp 3/30/06
Lab Order: 0603345

CASE NARRATIVE

Analytical Comments for METHOD 8260_W, SAMPLE 0603345-01a: Dilution necessary due to sulfur dioxide

Hall Environmental Analysis Laboratory

Date: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot Eff
Lab Order:	0603345	**Collection Date:**	3/30/2006 9:45:00 AM
Project:	NMED Mnthly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	22	3.0		mg/L	1	4/4/2006 9:22:58 AM
Motor Oil Range Organics (MRO)	ND	15		mg/L	1	4/4/2006 9:22:58 AM
Surr: DNOP	96.4	58-140		%REC	1	4/4/2006 9:22:58 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	0.078	0.050		mg/L	1	4/10/2006 2:01:51 PM
Surr: BFB	114	79.7-119		%REC	1	4/10/2006 2:01:51 PM
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	ND	0.00020		mg/L	1	4/5/2006
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	4/11/2006 2:50:18 PM
Barium	0.15	0.020		mg/L	1	4/11/2006 2:50:18 PM
Cadmium	0.0027	0.0020		mg/L	1	4/11/2006 2:50:18 PM
Chromium	0.023	0.0060		mg/L	1	4/11/2006 2:50:18 PM
Lead	0.0081	0.0050		mg/L	1	4/11/2006 2:50:18 PM
Selenium	ND	0.050		mg/L	1	4/11/2006 2:50:18 PM
Silver	0.0061	0.0050		mg/L	1	4/11/2006 6:03:48 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
Acenaphthene	ND	100		µg/L	2	4/11/2006
Acenaphthylene	ND	100		µg/L	2	4/11/2006
Aniline	ND	200		µg/L	2	4/11/2006
Anthracene	ND	100		µg/L	2	4/11/2006
Azobenzene	ND	100		µg/L	2	4/11/2006
Benz(a)anthracene	ND	150		µg/L	2	4/11/2006
Benzo(a)pyrene	ND	150		µg/L	2	4/11/2006
Benzo(b)fluoranthene	ND	150		µg/L	2	4/11/2006
Benzo(g,h,i)perylene	ND	100		µg/L	2	4/11/2006
Benzo(k)fluoranthene	ND	100		µg/L	2	4/11/2006
Benzoic acid	1300	500		µg/L	2	4/11/2006
Benzyl alcohol	ND	200		µg/L	2	4/11/2006
Bis(2-chloroethoxy)methane	ND	100		µg/L	2	4/11/2006
Bis(2-chloroethyl)ether	ND	150		µg/L	2	4/11/2006
Bis(2-chloroisopropyl)ether	ND	150		µg/L	2	4/11/2006
Bis(2-ethylhexyl)phthalate	ND	150		µg/L	2	4/11/2006
4-Bromophenyl phenyl ether	ND	100		µg/L	2	4/11/2006

Qualifiers:

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

Hall Environmental Analysis Laboratory

Date: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot Eff
Lab Order:	0603345	**Collection Date:**	3/30/2006 9:45:00 AM
Project:	NMED Mntly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
Butyl benzyl phthalate	ND	150		µg/L	2	4/11/2006
Carbazole	ND	100		µg/L	2	4/11/2006
4-Chloro-3-methylphenol	ND	200		µg/L	2	4/11/2006
4-Chloroaniline	ND	200		µg/L	2	4/11/2006
2-Chloronaphthalene	ND	100		µg/L	2	4/11/2006
2-Chlorophenol	ND	100		µg/L	2	4/11/2006
4-Chlorophenyl phenyl ether	ND	150		µg/L	2	4/11/2006
Chrysene	ND	150		µg/L	2	4/11/2006
Di-n-butyl phthalate	ND	100		µg/L	2	4/11/2006
Di-n-octyl phthalate	ND	150		µg/L	2	4/11/2006
Dibenz(a,h)anthracene	ND	100		µg/L	2	4/11/2006
Dibenzofuran	ND	100		µg/L	2	4/11/2006
1,2-Dichlorobenzene	ND	100		µg/L	2	4/11/2006
1,3-Dichlorobenzene	ND	100		µg/L	2	4/11/2006
1,4-Dichlorobenzene	ND	100		µg/L	2	4/11/2006
3,3'-Dichlorobenzidine	ND	150		µg/L	2	4/11/2006
Diethyl phthalate	ND	100		µg/L	2	4/11/2006
Dimethyl phthalate	ND	100		µg/L	2	4/11/2006
2,4-Dichlorophenol	ND	100		µg/L	2	4/11/2006
2,4-Dimethylphenol	ND	100		µg/L	2	4/11/2006
4,6-Dinitro-2-methylphenol	ND	500		µg/L	2	4/11/2006
2,4-Dinitrophenol	ND	500		µg/L	2	4/11/2006
2,4-Dinitrotoluene	ND	100		µg/L	2	4/11/2006
2,6-Dinitrotoluene	ND	100		µg/L	2	4/11/2006
Fluoranthene	ND	100		µg/L	2	4/11/2006
Fluorene	ND	100		µg/L	2	4/11/2006
Hexachlorobenzene	ND	100		µg/L	2	4/11/2006
Hexachlorobutadiene	ND	100		µg/L	2	4/11/2006
Hexachlorocyclopentadiene	ND	100		µg/L	2	4/11/2006
Hexachloroethane	ND	100		µg/L	2	4/11/2006
Indeno(1,2,3-cd)pyrene	ND	100		µg/L	2	4/11/2006
Isophorone	ND	100		µg/L	2	4/11/2006
2-Methylnaphthalene	ND	100		µg/L	2	4/11/2006
2-Methylphenol	ND	150		µg/L	2	4/11/2006
3+4-Methylphenol	370	200		µg/L	2	4/11/2006
N-Nitrosodi-n-propylamine	ND	100		µg/L	2	4/11/2006
N-Nitrosodimethylamine	ND	100		µg/L	2	4/11/2006
N-Nitrosodiphenylamine	ND	100		µg/L	2	4/11/2006
Naphthalene	ND	100		µg/L	2	4/11/2006
2-Nitroaniline	ND	500		µg/L	2	4/11/2006

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: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot Eff
Lab Order:	0603345	**Collection Date:**	3/30/2006 9:45:00 AM
Project:	NMED Mntly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: BL
3-Nitroaniline	ND	500		µg/L	2	4/11/2006
4-Nitroaniline	ND	200		µg/L	2	4/11/2006
Nitrobenzene	ND	100		µg/L	2	4/11/2006
2-Nitrophenol	ND	150		µg/L	2	4/11/2006
4-Nitrophenol	ND	500		µg/L	2	4/11/2006
Pentachlorophenol	ND	500		µg/L	2	4/11/2006
Phenanthrene	ND	100		µg/L	2	4/11/2006
Phenol	ND	100		µg/L	2	4/11/2006
Pyrene	ND	150		µg/L	2	4/11/2006
Pyridine	ND	300		µg/L	2	4/11/2006
1,2,4-Trichlorobenzene	ND	100		µg/L	2	4/11/2006
2,4,5-Trichlorophenol	ND	100		µg/L	2	4/11/2006
2,4,6-Trichlorophenol	ND	150		µg/L	2	4/11/2006
Surr: 2,4,6-Tribromophenol	96.5	16.6-150		%REC	2	4/11/2006
Surr: 2-Fluorobiphenyl	67.8	19.6-134		%REC	2	4/11/2006
Surr: 2-Fluorophenol	59.3	9.54-113		%REC	2	4/11/2006
Surr: 4-Terphenyl-d14	61.8	22.7-145		%REC	2	4/11/2006
Surr: Nitrobenzene-d5	65.3	14.6-134		%REC	2	4/11/2006
Surr: Phenol-d5	47.0	10.7-80.3		%REC	2	4/11/2006
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Benzene	ND	10		µg/L	10	4/4/2006
Toluene	10	10		µg/L	10	4/4/2006
Ethylbenzene	ND	10		µg/L	10	4/4/2006
Methyl tert-butyl ether (MTBE)	ND	15		µg/L	10	4/4/2006
1,2,4-Trimethylbenzene	ND	10		µg/L	10	4/4/2006
1,3,5-Trimethylbenzene	ND	10		µg/L	10	4/4/2006
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	4/4/2006
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	4/4/2006
Naphthalene	ND	20		µg/L	10	4/4/2006
1-Methylnaphthalene	ND	40		µg/L	10	4/4/2006
2-Methylnaphthalene	ND	40		µg/L	10	4/4/2006
Acetone	ND	100		µg/L	10	4/4/2006
Bromobenzene	ND	10		µg/L	10	4/4/2006
Bromochloromethane	ND	10		µg/L	10	4/4/2006
Bromodichloromethane	ND	10		µg/L	10	4/4/2006
Bromoform	ND	10		µg/L	10	4/4/2006
Bromomethane	ND	20		µg/L	10	4/4/2006
2-Butanone	ND	100		µg/L	10	4/4/2006
Carbon disulfide	ND	100		µg/L	10	4/4/2006

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: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot Eff
Lab Order:	0603345	**Collection Date:**	3/30/2006 9:45:00 AM
Project:	NMED Mnly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Carbon Tetrachloride	ND	20		µg/L	10	4/4/2006
Chlorobenzene	ND	10		µg/L	10	4/4/2006
Chloroethane	ND	20		µg/L	10	4/4/2006
Chloroform	20	10		µg/L	10	4/4/2006
Chloromethane	ND	10		µg/L	10	4/4/2006
2-Chlorotoluene	ND	10		µg/L	10	4/4/2006
4-Chlorotoluene	ND	10		µg/L	10	4/4/2006
cis-1,2-DCE	ND	10		µg/L	10	4/4/2006
cis-1,3-Dichloropropene	ND	10		µg/L	10	4/4/2006
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	4/4/2006
Dibromochloromethane	ND	10		µg/L	10	4/4/2006
Dibromomethane	ND	20		µg/L	10	4/4/2006
1,2-Dichlorobenzene	ND	10		µg/L	10	4/4/2006
1,3-Dichlorobenzene	ND	10		µg/L	10	4/4/2006
1,4-Dichlorobenzene	ND	10		µg/L	10	4/4/2006
Dichlorodifluoromethane	ND	10		µg/L	10	4/4/2006
1,1-Dichloroethane	ND	20		µg/L	10	4/4/2006
1,1-Dichloroethene	ND	10		µg/L	10	4/4/2006
1,2-Dichloropropane	ND	10		µg/L	10	4/4/2006
1,3-Dichloropropane	ND	10		µg/L	10	4/4/2006
2,2-Dichloropropane	ND	20		µg/L	10	4/4/2006
1,1-Dichloropropene	ND	10		µg/L	10	4/4/2006
Hexachlorobutadiene	ND	20		µg/L	10	4/4/2006
2-Hexanone	ND	100		µg/L	10	4/4/2006
Isopropylbenzene	ND	10		µg/L	10	4/4/2006
4-Isopropyltoluene	ND	10		µg/L	10	4/4/2006
4-Methyl-2-pentanone	ND	100		µg/L	10	4/4/2006
Methylene Chloride	ND	30		µg/L	10	4/4/2006
n-Butylbenzene	ND	10		µg/L	10	4/4/2006
n-Propylbenzene	ND	10		µg/L	10	4/4/2006
sec-Butylbenzene	ND	20		µg/L	10	4/4/2006
Styrene	ND	15		µg/L	10	4/4/2006
tert-Butylbenzene	ND	10		µg/L	10	4/4/2006
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	4/4/2006
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	4/4/2006
Tetrachloroethene (PCE)	ND	10		µg/L	10	4/4/2006
trans-1,2-DCE	ND	10		µg/L	10	4/4/2006
trans-1,3-Dichloropropene	ND	10		µg/L	10	4/4/2006
1,2,3-Trichlorobenzene	ND	10		µg/L	10	4/4/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	10	4/4/2006

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: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Pilot Eff
Lab Order:	0603345	**Collection Date:**	3/30/2006 9:45:00 AM
Project:	NMED Mntly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HLM
1,1,1-Trichloroethane	ND	10		µg/L	10	4/4/2006
1,1,2-Trichloroethane	ND	10		µg/L	10	4/4/2006
Trichloroethene (TCE)	ND	10		µg/L	10	4/4/2006
Trichlorofluoromethane	ND	10		µg/L	10	4/4/2006
1,2,3-Trichloropropane	ND	20		µg/L	10	4/4/2006
Vinyl chloride	ND	10		µg/L	10	4/4/2006
Xylenes, Total	ND	30		µg/L	10	4/4/2006
Surr: 1,2-Dichloroethane-d4	101	69.9-130		%REC	10	4/4/2006
Surr: 4-Bromofluorobenzene	90.4	71.2-123		%REC	10	4/4/2006
Surr: Dibromofluoromethane	108	57.3-135		%REC	10	4/4/2006
Surr: Toluene-d8	98.6	81.9-122		%REC	10	4/4/2006

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: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	NAPIS Eff
Lab Order:	0603345	**Collection Date:**	3/30/2006 10:10:00 AM
Project:	NMED Mntly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	520	30		mg/L	10	4/4/2006 11:45:13 AM
Motor Oil Range Organics (MRO)	ND	150		mg/L	10	4/4/2006 11:45:13 AM
Surr: DNOP	118	58-140		%REC	10	4/4/2006 11:45:13 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	64	12		mg/L	250	4/7/2006 1:41:57 PM
Surr: BFB	103	79.7-118		%REC	250	4/7/2006 1:41:57 PM
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Benzene	8600	250		µg/L	250	4/4/2006
Toluene	12000	250		µg/L	250	4/4/2006
Ethylbenzene	790	250		µg/L	250	4/4/2006
Methyl tert-butyl ether (MTBE)	1500	380		µg/L	250	4/4/2006
1,2,4-Trimethylbenzene	1000	250		µg/L	250	4/4/2006
1,3,5-Trimethylbenzene	ND	250		µg/L	250	4/4/2006
1,2-Dichloroethane (EDC)	ND	250		µg/L	250	4/4/2006
1,2-Dibromoethane (EDB)	ND	250		µg/L	250	4/4/2006
Naphthalene	1100	500		µg/L	250	4/4/2006
1-Methylnaphthalene	ND	1000		µg/L	250	4/4/2006
2-Methylnaphthalene	1200	1000		µg/L	250	4/4/2006
Acetone	42000	2500		µg/L	250	4/4/2006
Bromobenzene	ND	250		µg/L	250	4/4/2006
Bromochloromethane	ND	250		µg/L	250	4/4/2006
Bromodichloromethane	ND	250		µg/L	250	4/4/2006
Bromoform	ND	250		µg/L	250	4/4/2006
Bromomethane	ND	500		µg/L	250	4/4/2006
2-Butanone	15000	2500		µg/L	250	4/4/2006
Carbon disulfide	ND	2500		µg/L	250	4/4/2006
Carbon Tetrachloride	ND	500		µg/L	250	4/4/2006
Chlorobenzene	ND	250		µg/L	250	4/4/2006
Chloroethane	ND	500		µg/L	250	4/4/2006
Chloroform	ND	250		µg/L	250	4/4/2006
Chloromethane	ND	250		µg/L	250	4/4/2006
2-Chlorotoluene	ND	250		µg/L	250	4/4/2006
4-Chlorotoluene	ND	250		µg/L	250	4/4/2006
cis-1,2-DCE	ND	250		µg/L	250	4/4/2006
cis-1,3-Dichloropropene	ND	250		µg/L	250	4/4/2006
1,2-Dibromo-3-chloropropane	ND	500		µg/L	250	4/4/2006
Dibromochloromethane	ND	250		µg/L	250	4/4/2006

Qualifiers:

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- 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: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	NAPIS Eff
Lab Order:	0603345	**Collection Date:**	3/30/2006 10:10:00 AM
Project:	NMED Mnthly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Dibromomethane	ND	500		µg/L	250	4/4/2006
1,2-Dichlorobenzene	ND	250		µg/L	250	4/4/2006
1,3-Dichlorobenzene	ND	250		µg/L	250	4/4/2006
1,4-Dichlorobenzene	ND	250		µg/L	250	4/4/2006
Dichlorodifluoromethane	ND	250		µg/L	250	4/4/2006
1,1-Dichloroethane	ND	500		µg/L	250	4/4/2006
1,1-Dichloroethene	ND	250		µg/L	250	4/4/2006
1,2-Dichloropropane	ND	250		µg/L	250	4/4/2006
1,3-Dichloropropane	ND	250		µg/L	250	4/4/2006
2,2-Dichloropropane	ND	500		µg/L	250	4/4/2006
1,1-Dichloropropene	ND	250		µg/L	250	4/4/2006
Hexachlorobutadiene	ND	500		µg/L	250	4/4/2006
2-Hexanone	ND	2500		µg/L	250	4/4/2006
Isopropylbenzene	ND	250		µg/L	250	4/4/2006
4-Isopropyltoluene	ND	250		µg/L	250	4/4/2006
4-Methyl-2-pentanone	ND	2500		µg/L	250	4/4/2006
Methylene Chloride	ND	750		µg/L	250	4/4/2006
n-Butylbenzene	ND	250		µg/L	250	4/4/2006
n-Propylbenzene	ND	250		µg/L	250	4/4/2006
sec-Butylbenzene	ND	500		µg/L	250	4/4/2006
Styrene	ND	380		µg/L	250	4/4/2006
tert-Butylbenzene	ND	250		µg/L	250	4/4/2006
1,1,1,2-Tetrachloroethane	ND	250		µg/L	250	4/4/2006
1,1,2,2-Tetrachloroethane	ND	250		µg/L	250	4/4/2006
Tetrachloroethene (PCE)	ND	250		µg/L	250	4/4/2006
trans-1,2-DCE	ND	250		µg/L	250	4/4/2006
trans-1,3-Dichloropropene	ND	250		µg/L	250	4/4/2006
1,2,3-Trichlorobenzene	ND	250		µg/L	250	4/4/2006
1,2,4-Trichlorobenzene	ND	250		µg/L	250	4/4/2006
1,1,1-Trichloroethane	ND	250		µg/L	250	4/4/2006
1,1,2-Trichloroethane	ND	250		µg/L	250	4/4/2006
Trichloroethene (TCE)	ND	250		µg/L	250	4/4/2006
Trichlorofluoromethane	ND	250		µg/L	250	4/4/2006
1,2,3-Trichloropropane	ND	500		µg/L	250	4/4/2006
Vinyl chloride	ND	250		µg/L	250	4/4/2006
Xylenes, Total	4700	750		µg/L	250	4/4/2006
Surr: 1,2-Dichloroethane-d4	107	69.9-130		%REC	250	4/4/2006
Surr: 4-Bromofluorobenzene	90.6	71.2-123		%REC	250	4/4/2006
Surr: Dibromofluoromethane	92.4	57.3-135		%REC	250	4/4/2006
Surr: Toluene-d8	102	81.9-122		%REC	250	4/4/2006

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: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	AL-2 to EP-1
Lab Order:	0603345	**Collection Date:**	3/30/2006 10:30:00 AM
Project:	NMED Mntly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: DIESEL RANGE						Analyst: SCC
Diesel Range Organics (DRO)	64	3.0		mg/L	1	4/4/2006 10:08:17 AM
Motor Oil Range Organics (MRO)	ND	15		mg/L	1	4/4/2006 10:08:17 AM
Surr: DNOP	90.2	58-140		%REC	1	4/4/2006 10:08:17 AM
EPA METHOD 8015B: GASOLINE RANGE						Analyst: NSB
Gasoline Range Organics (GRO)	3.5	2.5		mg/L	50	4/7/2006 2:40:33 PM
Surr: BFB	109	79.7-118		%REC	50	4/7/2006 2:40:33 PM
EPA METHOD 7470: MERCURY						Analyst: CMC
Mercury	0.0017	0.00020		mg/L	1	4/5/2006
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: NMO
Arsenic	ND	0.020		mg/L	1	4/11/2006 2:53:13 PM
Barium	0.22	0.020		mg/L	1	4/11/2006 2:53:13 PM
Cadmium	ND	0.0020		mg/L	1	4/11/2006 2:53:13 PM
Chromium	0.010	0.0060		mg/L	1	4/11/2006 2:53:13 PM
Lead	0.011	0.0050		mg/L	1	4/11/2006 2:53:13 PM
Selenium	ND	0.050		mg/L	1	4/11/2006 2:53:13 PM
Silver	ND	0.0050		mg/L	1	4/11/2006 6:06:18 PM
EPA METHOD 8260B: VOLATILES						Analyst: HLM
Benzene	210	50		µg/L	50	4/4/2006
Toluene	440	50		µg/L	50	4/4/2006
Ethylbenzene	60	50		µg/L	50	4/4/2006
Methyl tert-butyl ether (MTBE)	ND	75		µg/L	50	4/4/2006
1,2,4-Trimethylbenzene	170	50		µg/L	50	4/4/2006
1,3,5-Trimethylbenzene	ND	50		µg/L	50	4/4/2006
1,2-Dichloroethane (EDC)	ND	50		µg/L	50	4/4/2006
1,2-Dibromoethane (EDB)	ND	50		µg/L	50	4/4/2006
Naphthalene	200	100		µg/L	50	4/4/2006
1-Methylnaphthalene	410	200		µg/L	50	4/4/2006
2-Methylnaphthalene	620	200		µg/L	50	4/4/2006
Acetone	2500	500		µg/L	50	4/4/2006
Bromobenzene	ND	50		µg/L	50	4/4/2006
Bromochloromethane	ND	50		µg/L	50	4/4/2006
Bromodichloromethane	ND	50		µg/L	50	4/4/2006
Bromoform	ND	50		µg/L	50	4/4/2006
Bromomethane	ND	100		µg/L	50	4/4/2006

Qualifiers:

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- 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: *12-Apr-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	AL-2 to EP-1
Lab Order:	0603345	**Collection Date:**	3/30/2006 10:30:00 AM
Project:	NMED Mntly & OCD Qtly Samp 3/30/06	**Date Received:**	3/31/2006
Lab ID:	0603345-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HLM
2-Butanone	820	500		µg/L	50	4/4/2006
Carbon disulfide	ND	500		µg/L	50	4/4/2006
Carbon Tetrachloride	ND	100		µg/L	50	4/4/2006
Chlorobenzene	ND	50		µg/L	50	4/4/2006
Chloroethane	ND	100		µg/L	50	4/4/2006
Chloroform	ND	50		µg/L	50	4/4/2006
Chloromethane	ND	50		µg/L	50	4/4/2006
2-Chlorotoluene	ND	50		µg/L	50	4/4/2006
4-Chlorotoluene	ND	50		µg/L	50	4/4/2006
cis-1,2-DCE	ND	50		µg/L	50	4/4/2006
cis-1,3-Dichloropropene	ND	50		µg/L	50	4/4/2006
1,2-Dibromo-3-chloropropane	ND	100		µg/L	50	4/4/2006
Dibromochloromethane	ND	50		µg/L	50	4/4/2006
Dibromomethane	ND	100		µg/L	50	4/4/2006
1,2-Dichlorobenzene	ND	50		µg/L	50	4/4/2006
1,3-Dichlorobenzene	ND	50		µg/L	50	4/4/2006
1,4-Dichlorobenzene	ND	50		µg/L	50	4/4/2006
Dichlorodifluoromethane	ND	50		µg/L	50	4/4/2006
1,1-Dichloroethane	ND	100		µg/L	50	4/4/2006
1,1-Dichloroethene	ND	50		µg/L	50	4/4/2006
1,2-Dichloropropane	ND	50		µg/L	50	4/4/2006
1,3-Dichloropropane	ND	50		µg/L	50	4/4/2006
2,2-Dichloropropane	ND	100		µg/L	50	4/4/2006
1,1-Dichloropropene	ND	50		µg/L	50	4/4/2006
Hexachlorobutadiene	ND	100		µg/L	50	4/4/2006
2-Hexanone	ND	500		µg/L	50	4/4/2006
Isopropylbenzene	ND	50		µg/L	50	4/4/2006
4-Isopropyltoluene	ND	50		µg/L	50	4/4/2006
4-Methyl-2-pentanone	ND	500		µg/L	50	4/4/2006
Methylene Chloride	ND	150		µg/L	50	4/4/2006
n-Butylbenzene	ND	50		µg/L	50	4/4/2006
n-Propylbenzene	ND	50		µg/L	50	4/4/2006
sec-Butylbenzene	ND	100		µg/L	50	4/4/2006
Styrene	ND	75		µg/L	50	4/4/2006
tert-Butylbenzene	ND	50		µg/L	50	4/4/2006
1,1,1,2-Tetrachloroethane	ND	50		µg/L	50	4/4/2006
1,1,2,2-Tetrachloroethane	ND	50		µg/L	50	4/4/2006
Tetrachloroethene (PCE)	ND	50		µg/L	50	4/4/2006
trans-1,2-DCE	ND	50		µg/L	50	4/4/2006
trans-1,3-Dichloropropene	ND	50		µg/L	50	4/4/2006

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: *12-Apr-06*

CLIENT:	Giant Refining Co	Client Sample ID:	AL-2 to EP-1
Lab Order:	0603345	Collection Date:	3/30/2006 10:30:00 AM
Project:	NMED Mntly & OCD Qtly Samp 3/30/06	Date Received:	3/31/2006
Lab ID:	0603345-03	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HLM
1,2,3-Trichlorobenzene	ND	50		µg/L	50	4/4/2006
1,2,4-Trichlorobenzene	ND	50		µg/L	50	4/4/2006
1,1,1-Trichloroethane	ND	50		µg/L	50	4/4/2006
1,1,2-Trichloroethane	ND	50		µg/L	50	4/4/2006
Trichloroethene (TCE)	ND	50		µg/L	50	4/4/2006
Trichlorofluoromethane	ND	50		µg/L	50	4/4/2006
1,2,3-Trichloropropane	ND	100		µg/L	50	4/4/2006
Vinyl chloride	ND	50		µg/L	50	4/4/2006
Xylenes, Total	430	150		µg/L	50	4/4/2006
Surr: 1,2-Dichloroethane-d4	94.5	69.9-130		%REC	50	4/4/2006
Surr: 4-Bromofluorobenzene	84.4	71.2-123		%REC	50	4/4/2006
Surr: Dibromofluoromethane	105	57.3-135		%REC	50	4/4/2006
Surr: Toluene-d8	96.4	81.9-122		%REC	50	4/4/2006

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		

Explanation of codes	
B	Analyte Detected in Method Blank
E	Result is Estimated
H	Analyzed Out of Hold Time
N	Tentatively Identified Compound
S	Subcontracted
1-9	See Footnote

HALL ENVIRONMENTAL
attn: ANDY FREEMAN
4901 HAWKINS NE, SUITE D
ALBUQUERQUE NM 87109-4372

STANDARD

Assalgai Analytical Laboratories, Inc.

Certificate of Analysis

All samples are reported on an "as received" basis, unless otherwise noted (i.e. - Dry Weight).

Client: HALL ENVIRONMENTAL
Project: 0603345
Order: 0603760 HAL03 Receipt: 03-31-06

William P. Biava: President of Assalgai Analytical Laboratories, Inc.

Sample: *0603345-01D/PILOT EFF* Collected: *03-30-06 9:45:00* By:
Matrix: *AQUEOUS*

QC Group	Run Sequence	CAS #	Analyte	Result	Units	Dilution Factor	Detection Limit	Code	Prep Date	Run Date
0603760-0001A		EPA 405.1 Biochemical Oxygen Demand						By: NJL		
BOD06041	WC.2006.856.15	10-26-4	Biochemical Oxygen Demand	886	mg/L	1	2		03-31-06	04-05-06

Unless otherwise noted, all samples were received in acceptable condition and all sampling was performed by client or client representative. Sample result of ND indicates Not Detected, ie result is less than the sample specific Detection Limit. Sample specific Detection Limit is determined by multiplying the sample Dilution Factor by the listed Reporting Detection Limit. All results relate only to the items tested. Any miscellaneous workorder information or foonotes will appear below.

Analytical results are not corrected for method blank or field blank contamination.

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Friday, November 17, 2006

Steve Morris
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: Annual GW Samples 2006 Ciniza

Order No.: 0611016

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 7 sample(s) on 11/1/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager
Nancy McDuffie, Laboratory Manager

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

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-1C
Lab Order:	0611016	**Collection Date:**	10/28/2006 10:15:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	2.7	0.10		mg/L	1	11/4/2006 2:16:52 AM
Chloride	36	0.10		mg/L	1	11/4/2006 2:16:52 AM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 2:34:16 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/4/2006 2:16:52 AM
Sulfate	250	2.5		mg/L	5	11/6/2006 3:31:36 PM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/14/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 8:26:20 PM
Barium	ND	0.020		mg/L	1	11/15/2006 8:26:20 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 8:26:20 PM
Calcium	3.4	1.0		mg/L	1	11/15/2006 8:26:20 PM
Chromium	0.011	0.0060		mg/L	1	11/15/2006 8:26:20 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 8:26:20 PM
Magnesium	ND	1.0		mg/L	1	11/15/2006 8:26:20 PM
Potassium	ND	1.0		mg/L	1	11/15/2006 8:26:20 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 8:26:20 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 8:26:20 PM
Sodium	320	10		mg/L	10	11/16/2006 10:44:19 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-1C
Lab Order:	0611016	**Collection Date:**	10/28/2006 10:15:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-1C
Lab Order:	0611016	**Collection Date:**	10/28/2006 10:15:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	53.3	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	63.4	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	40.2	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	66.1	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	61.4	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	29.4	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-1C
Lab Order:	0611016	**Collection Date:**	10/28/2006 10:15:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-1C
Lab Order:	0611016	**Collection Date:**	10/28/2006 10:15:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	97.3	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	97.8	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	105	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	90.9	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	1400	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.72	0.010		pH units	1	11/1/2006

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2A
Lab Order:	0611016	**Collection Date:**	10/28/2006 11:30:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	1.3	0.10		mg/L	1	11/4/2006 2:51:41 AM
Chloride	39	0.50		mg/L	5	11/6/2006 3:49:00 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 3:09:05 AM
Phosphorus, Orthophosphate (As P)	0.64	0.50	H	mg/L	1	11/4/2006 2:51:41 AM
Sulfate	7.5	0.50		mg/L	1	11/4/2006 2:51:41 AM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/14/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 8:32:14 PM
Barium	0.15	0.020		mg/L	1	11/15/2006 8:32:14 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 8:32:14 PM
Calcium	9.7	1.0		mg/L	1	11/15/2006 8:32:14 PM
Chromium	ND	0.0060		mg/L	1	11/15/2006 8:32:14 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 8:32:14 PM
Magnesium	3.5	1.0		mg/L	1	11/15/2006 8:32:14 PM
Potassium	ND	1.0		mg/L	1	11/15/2006 8:32:14 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 8:32:14 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 8:32:14 PM
Sodium	340	10		mg/L	10	11/16/2006 10:47:22 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2A
Lab Order:	0611016	**Collection Date:**	10/28/2006 11:30:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2A
Lab Order:	0611016	**Collection Date:**	10/28/2006 11:30:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	51.3	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	62.8	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	49.7	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	69.4	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	64.3	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	36.4	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2A
Lab Order:	0611016	**Collection Date:**	10/28/2006 11:30:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2A
Lab Order:	0611016	**Collection Date:**	10/28/2006 11:30:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-02	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	83.7	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	109	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	90.7	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	94.4	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	1400	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.27	0.010		pH units	1	11/1/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2B
Lab Order:	0611016	**Collection Date:**	10/28/2006 1:30:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	1.9	0.10		mg/L	1	11/4/2006 3:26:30 AM
Chloride	31	0.10		mg/L	1	11/4/2006 3:26:30 AM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 4:18:43 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/4/2006 3:26:30 AM
Sulfate	140	2.5		mg/L	5	11/6/2006 4:41:13 PM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/14/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 8:36:34 PM
Barium	0.071	0.020		mg/L	1	11/15/2006 8:36:34 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 8:36:34 PM
Calcium	20	1.0		mg/L	1	11/15/2006 8:36:34 PM
Chromium	ND	0.0060		mg/L	1	11/15/2006 8:36:34 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 8:36:34 PM
Magnesium	3.8	1.0		mg/L	1	11/15/2006 8:36:34 PM
Potassium	1.6	1.0		mg/L	1	11/15/2006 8:36:34 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 8:36:34 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 8:36:34 PM
Sodium	580	10		mg/L	10	11/16/2006 10:50:27 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2B
Lab Order:	0611016	**Collection Date:**	10/28/2006 1:30:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2B
Lab Order:	0611016	**Collection Date:**	10/28/2006 1:30:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	55.5	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	57.0	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	43.6	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	64.4	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	53.6	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	32.7	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2B
Lab Order:	0611016	**Collection Date:**	10/28/2006 1:30:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2B
Lab Order:	0611016	**Collection Date:**	10/28/2006 1:30:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-03	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	87.6	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	104	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	90.9	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	92.4	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	2400	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.10	0.010		pH units	1	11/1/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2C
Lab Order:	0611016	**Collection Date:**	10/28/2006 3:00:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	2.4	0.10		mg/L	1	11/4/2006 4:36:07 AM
Chloride	42	0.50		mg/L	5	11/6/2006 4:58:38 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 4:53:31 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/4/2006 4:36:07 AM
Sulfate	270	2.5		mg/L	5	11/6/2006 4:58:38 PM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/14/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 8:40:46 PM
Barium	0.031	0.020		mg/L	1	11/15/2006 8:40:46 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 8:40:46 PM
Calcium	5.8	1.0		mg/L	1	11/15/2006 8:40:46 PM
Chromium	ND	0.0060		mg/L	1	11/15/2006 8:40:46 PM
Lead	0.0054	0.0050		mg/L	1	11/15/2006 8:40:46 PM
Magnesium	ND	1.0		mg/L	1	11/15/2006 8:40:46 PM
Potassium	ND	1.0		mg/L	1	11/15/2006 8:40:46 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 8:40:46 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 8:40:46 PM
Sodium	310	10		mg/L	10	11/16/2006 10:53:31 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2C
Lab Order:	0611016	**Collection Date:**	10/28/2006 3:00:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2C
Lab Order:	0611016	**Collection Date:**	10/28/2006 3:00:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	64.4	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	66.5	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	48.6	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	70.2	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	62.7	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	35.8	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2C
Lab Order:	0611016	**Collection Date:**	10/28/2006 3:00:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2C
Lab Order:	0611016	**Collection Date:**	10/28/2006 3:00:00 PM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-04	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	84.9	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	107	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	95.0	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	89.9	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	1300	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.76	0.010		pH units	1	11/1/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3B
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:00:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	1.7	0.10		mg/L	1	11/4/2006 5:10:56 AM
Chloride	33	0.50		mg/L	5	11/6/2006 5:16:03 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 5:28:21 AM
Phosphorus, Orthophosphate (As P)	1.1	0.50	H	mg/L	1	11/4/2006 5:10:56 AM
Sulfate	53	0.50		mg/L	1	11/4/2006 5:10:56 AM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/14/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	0.021	0.020		mg/L	1	11/15/2006 9:26:01 PM
Barium	0.11	0.020		mg/L	1	11/15/2006 9:26:01 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 9:26:01 PM
Calcium	9.0	1.0		mg/L	1	11/15/2006 9:26:01 PM
Chromium	ND	0.0060		mg/L	1	11/15/2006 9:26:01 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 9:26:01 PM
Magnesium	2.7	1.0		mg/L	1	11/15/2006 9:26:01 PM
Potassium	ND	1.0		mg/L	1	11/15/2006 9:26:01 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 9:26:01 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 9:26:01 PM
Sodium	380	10		mg/L	10	11/16/2006 11:10:42 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3B
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:00:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3B
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:00:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	61.7	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	60.1	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	47.8	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	65.4	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	56.4	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	35.4	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3B
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:00:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3B
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:00:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-05	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	86.8	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	114	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	93.0	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	96.4	81.9-122		%REC	1	11/7/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	1500	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.12	0.010		pH units	1	11/1/2006

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3C
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:45:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **TES**
Fluoride	1.9	0.10		mg/L	1	11/4/2006 5:45:46 AM
Chloride	38	0.50		mg/L	5	11/6/2006 5:33:27 PM
Nitrate (As N)+Nitrite (As N)	ND	0.50		mg/L	5	11/4/2006 6:03:10 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/4/2006 5:45:46 AM
Sulfate	280	2.5		mg/L	5	11/6/2006 5:33:27 PM
EPA METHOD 7470: MERCURY						Analyst: **MAP**
Mercury	ND	0.00020		mg/L	1	11/14/2006
EPA 6010B: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Arsenic	ND	0.020		mg/L	1	11/15/2006 9:29:53 PM
Barium	0.029	0.020		mg/L	1	11/15/2006 9:29:53 PM
Cadmium	ND	0.0020		mg/L	1	11/15/2006 9:29:53 PM
Calcium	6.0	1.0		mg/L	1	11/15/2006 9:29:53 PM
Chromium	ND	0.0060		mg/L	1	11/15/2006 9:29:53 PM
Lead	ND	0.0050		mg/L	1	11/15/2006 9:29:53 PM
Magnesium	ND	1.0		mg/L	1	11/15/2006 9:29:53 PM
Potassium	ND	1.0		mg/L	1	11/15/2006 9:29:53 PM
Selenium	ND	0.050		mg/L	1	11/15/2006 9:29:53 PM
Silver	ND	0.0050		mg/L	1	11/15/2006 9:29:53 PM
Sodium	320	10		mg/L	10	11/16/2006 11:16:50 AM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
Acenaphthene	ND	10		µg/L	1	11/14/2006
Acenaphthylene	ND	10		µg/L	1	11/14/2006
Aniline	ND	20		µg/L	1	11/14/2006
Anthracene	ND	10		µg/L	1	11/14/2006
Azobenzene	ND	10		µg/L	1	11/14/2006
Benz(a)anthracene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyrene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid	ND	50		µg/L	1	11/14/2006
Benzyl alcohol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	11/14/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	11/14/2006

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
- MCL Maximum Contaminant Level
- ND Not Detected at the Reporting Limit
- RL Reporting Limit
- S Spike recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3C
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:45:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
4-Bromophenyl phenyl ether	ND	10		µg/L	1	11/14/2006
Butyl benzyl phthalate	ND	15		µg/L	1	11/14/2006
Carbazole	ND	10		µg/L	1	11/14/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	11/14/2006
4-Chloroaniline	ND	20		µg/L	1	11/14/2006
2-Chloronaphthalene	ND	10		µg/L	1	11/14/2006
2-Chlorophenol	ND	10		µg/L	1	11/14/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	11/14/2006
Chrysene	ND	15		µg/L	1	11/14/2006
Di-n-butyl phthalate	ND	10		µg/L	1	11/14/2006
Di-n-octyl phthalate	ND	15		µg/L	1	11/14/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	11/14/2006
Dibenzofuran	ND	10		µg/L	1	11/14/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	11/14/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	11/14/2006
Diethyl phthalate	ND	10		µg/L	1	11/14/2006
Dimethyl phthalate	ND	10		µg/L	1	11/14/2006
2,4-Dichlorophenol	ND	10		µg/L	1	11/14/2006
2,4-Dimethylphenol	ND	10		µg/L	1	11/14/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrophenol	ND	50		µg/L	1	11/14/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	11/14/2006
Fluoranthene	ND	10		µg/L	1	11/14/2006
Fluorene	ND	10		µg/L	1	11/14/2006
Hexachlorobenzene	ND	10		µg/L	1	11/14/2006
Hexachlorobutadiene	ND	10		µg/L	1	11/14/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	11/14/2006
Hexachloroethane	ND	10		µg/L	1	11/14/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	11/14/2006
Isophorone	ND	10		µg/L	1	11/14/2006
2-Methylnaphthalene	ND	10		µg/L	1	11/14/2006
2-Methylphenol	ND	15		µg/L	1	11/14/2006
3+4-Methylphenol	ND	20		µg/L	1	11/14/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	11/14/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	11/14/2006
Naphthalene	ND	10		µg/L	1	11/14/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3C
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:45:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: **BL**
2-Nitroaniline	ND	50		µg/L	1	11/14/2006
3-Nitroaniline	ND	50		µg/L	1	11/14/2006
4-Nitroaniline	ND	20		µg/L	1	11/14/2006
Nitrobenzene	ND	10		µg/L	1	11/14/2006
2-Nitrophenol	ND	15		µg/L	1	11/14/2006
4-Nitrophenol	ND	50		µg/L	1	11/14/2006
Pentachlorophenol	ND	50		µg/L	1	11/14/2006
Phenanthrene	ND	10		µg/L	1	11/14/2006
Phenol	ND	10		µg/L	1	11/14/2006
Pyrene	ND	15		µg/L	1	11/14/2006
Pyridine	ND	30		µg/L	1	11/14/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-Tribromophenol	66.1	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluorobiphenyl	54.6	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluorophenol	44.3	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphenyl-d14	66.5	22.7-145		%REC	1	11/14/2006
Surr: Nitrobenzene-d5	50.6	14.6-134		%REC	1	11/14/2006
Surr: Phenol-d5	32.0	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/8/2006
Toluene	ND	1.0		µg/L	1	11/8/2006
Ethylbenzene	ND	1.0		µg/L	1	11/8/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/8/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/8/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/8/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/8/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/8/2006
Naphthalene	ND	2.0		µg/L	1	11/8/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/8/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/8/2006
Acetone	ND	10		µg/L	1	11/8/2006
Bromobenzene	ND	1.0		µg/L	1	11/8/2006
Bromochloromethane	ND	1.0		µg/L	1	11/8/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/8/2006
Bromoform	ND	1.0		µg/L	1	11/8/2006
Bromomethane	ND	2.0		µg/L	1	11/8/2006
2-Butanone	ND	10		µg/L	1	11/8/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3C
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:45:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Carbon disulfide	ND	10		µg/L	1	11/8/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/8/2006
Chlorobenzene	ND	1.0		µg/L	1	11/8/2006
Chloroethane	ND	2.0		µg/L	1	11/8/2006
Chloroform	ND	1.0		µg/L	1	11/8/2006
Chloromethane	ND	1.0		µg/L	1	11/8/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/8/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/8/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/8/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/8/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/8/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/8/2006
Dibromomethane	ND	2.0		µg/L	1	11/8/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/8/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/8/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/8/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/8/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/8/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/8/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/8/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/8/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/8/2006
1,1-Dichloropropene	ND	1.0		µg/L	1	11/8/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/8/2006
2-Hexanone	ND	10		µg/L	1	11/8/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/8/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/8/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/8/2006
Methylene Chloride	ND	3.0		µg/L	1	11/8/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/8/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/8/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/8/2006
Styrene	ND	1.5		µg/L	1	11/8/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/8/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/8/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/8/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/8/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/8/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/8/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/8/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-3C
Lab Order:	0611016	**Collection Date:**	10/29/2006 10:45:00 AM
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-06	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/8/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/8/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/8/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/8/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/8/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/8/2006
Vinyl chloride	ND	1.0		µg/L	1	11/8/2006
Xylenes, Total	ND	3.0		µg/L	1	11/8/2006
Surr: 1,2-Dichloroethane-d4	89.8	69.9-130		%REC	1	11/8/2006
Surr: 4-Bromofluorobenzene	97.9	75-139		%REC	1	11/8/2006
Surr: Dibromofluoromethane	99.9	57.3-135		%REC	1	11/8/2006
Surr: Toluene-d8	94.5	81.9-122		%REC	1	11/8/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **CMS**
Specific Conductance	1400	0.010		µmhos/cm	1	11/1/2006
EPA METHOD 150.1: PH						Analyst: **CMS**
pH	8.72	0.010		pH units	1	11/1/2006

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Trip Blank
Lab Order:	0611016	**Collection Date:**	
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-07	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
Benzene	ND	1.0		µg/L	1	11/7/2006
Toluene	ND	1.0		µg/L	1	11/7/2006
Ethylbenzene	ND	1.0		µg/L	1	11/7/2006
Methyl tert-butyl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphthalene	ND	4.0		µg/L	1	11/7/2006
Acetone	ND	10		µg/L	1	11/7/2006
Bromobenzene	ND	1.0		µg/L	1	11/7/2006
Bromochloromethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloromethane	ND	1.0		µg/L	1	11/7/2006
Bromoform	ND	1.0		µg/L	1	11/7/2006
Bromomethane	ND	2.0		µg/L	1	11/7/2006
2-Butanone	ND	10		µg/L	1	11/7/2006
Carbon disulfide	ND	10		µg/L	1	11/7/2006
Carbon Tetrachloride	ND	2.0		µg/L	1	11/7/2006
Chlorobenzene	ND	1.0		µg/L	1	11/7/2006
Chloroethane	ND	2.0		µg/L	1	11/7/2006
Chloroform	ND	1.0		µg/L	1	11/7/2006
Chloromethane	ND	1.0		µg/L	1	11/7/2006
2-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
4-Chlorotoluene	ND	1.0		µg/L	1	11/7/2006
cis-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	11/7/2006
Dibromochloromethane	ND	1.0		µg/L	1	11/7/2006
Dibromomethane	ND	2.0		µg/L	1	11/7/2006
1,2-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,3-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,4-Dichlorobenzene	ND	1.0		µg/L	1	11/7/2006
Dichlorodifluoromethane	ND	1.0		µg/L	1	11/7/2006
1,1-Dichloroethane	ND	2.0		µg/L	1	11/7/2006
1,1-Dichloroethene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
1,3-Dichloropropane	ND	1.0		µg/L	1	11/7/2006
2,2-Dichloropropane	ND	2.0		µg/L	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

Date: *17-Nov-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	Trip Blank
Lab Order:	0611016	**Collection Date:**	
Project:	Annual GW Samples 2006 Ciniza	**Date Received:**	11/1/2006
Lab ID:	0611016-07	**Matrix:**	TRIP BLANK

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: **LMM**
1,1-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
Hexachlorobutadiene	ND	2.0		µg/L	1	11/7/2006
2-Hexanone	ND	10		µg/L	1	11/7/2006
Isopropylbenzene	ND	1.0		µg/L	1	11/7/2006
4-Isopropyltoluene	ND	1.0		µg/L	1	11/7/2006
4-Methyl-2-pentanone	ND	10		µg/L	1	11/7/2006
Methylene Chloride	ND	3.0		µg/L	1	11/7/2006
n-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
n-Propylbenzene	ND	1.0		µg/L	1	11/7/2006
sec-Butylbenzene	ND	2.0		µg/L	1	11/7/2006
Styrene	ND	1.5		µg/L	1	11/7/2006
tert-Butylbenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2,2-Tetrachloroethane	ND	1.0		µg/L	1	11/7/2006
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	11/7/2006
trans-1,2-DCE	ND	1.0		µg/L	1	11/7/2006
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoromethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloropropane	ND	2.0		µg/L	1	11/7/2006
Vinyl chloride	ND	1.0		µg/L	1	11/7/2006
Xylenes, Total	ND	3.0		µg/L	1	11/7/2006
Surr: 1,2-Dichloroethane-d4	88.6	69.9-130		%REC	1	11/7/2006
Surr: 4-Bromofluorobenzene	104	75-139		%REC	1	11/7/2006
Surr: Dibromofluoromethane	95.4	57.3-135		%REC	1	11/7/2006
Surr: Toluene-d8	95.1	81.9-122		%REC	1	11/7/2006

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	MCL	Maximum Contaminant Level
ND	Not Detected at the Reporting Limit	RL	Reporting Limit
S	Spike recovery outside accepted recovery limits		

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID:	**R21288**	Analysis Date:	11/3/2006 11:11:41 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID:	**R21305**	Analysis Date:	11/6/2006 10:00:52 AM	
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS ST300-06019		*LCS*			Batch ID:	**R21288**	Analysis Date:	11/3/2006 11:29:05 AM	
Fluoride	0.5273	mg/L	0.10	105	90	110			
Chloride	4.899	mg/L	0.10	98.0	90	110			
Nitrate (As N)+Nitrite (As N)	3.461	mg/L	0.10	98.9	90	110			
Phosphorus, Orthophosphate (As P)	4.997	mg/L	0.50	99.9	90	110			
Sulfate	9.674	mg/L	0.50	96.7	90	110			
Sample ID: LCS ST300-06019		*LCS*			Batch ID:	**R21305**	Analysis Date:	11/6/2006 10:18:16 AM	
Fluoride	0.5066	mg/L	0.10	101	90	110			
Chloride	4.862	mg/L	0.10	97.2	90	110			
Nitrate (As N)+Nitrite (As N)	3.426	mg/L	0.10	97.9	90	110			
Phosphorus, Orthophosphate (As P)	4.905	mg/L	0.50	98.1	90	110			
Sulfate	9.652	mg/L	0.50	96.5	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: MB-11641		*MBLK*			Batch ID: **11641**		Analysis Date:		11/14/2006
Acenaphthene	ND	µg/L	10						
Acenaphthylene	ND	µg/L	10						
Aniline	ND	µg/L	20						
Anthracene	ND	µg/L	10						
Azobenzene	ND	µg/L	10						
Benz(a)anthracene	ND	µg/L	15						
Benzo(a)pyrene	ND	µg/L	15						
Benzo(b)fluoranthene	ND	µg/L	15						
Benzo(g,h,i)perylene	ND	µg/L	10						
Benzo(k)fluoranthene	ND	µg/L	10						
Benzoic acid	ND	µg/L	50						
Benzyl alcohol	ND	µg/L	20						
Bis(2-chloroethoxy)methane	ND	µg/L	10						
Bis(2-chloroethyl)ether	ND	µg/L	15						
Bis(2-chloroisopropyl)ether	ND	µg/L	15						
Bis(2-ethylhexyl)phthalate	ND	µg/L	15						
4-Bromophenyl phenyl ether	ND	µg/L	10						
Butyl benzyl phthalate	ND	µg/L	15						
Carbazole	ND	µg/L	10						
4-Chloro-3-methylphenol	ND	µg/L	20						
4-Chloroaniline	ND	µg/L	20						
2-Chloronaphthalene	ND	µg/L	10						
2-Chlorophenol	ND	µg/L	10						
4-Chlorophenyl phenyl ether	ND	µg/L	15						
Chrysene	ND	µg/L	15						
Di-n-butyl phthalate	ND	µg/L	10						
Di-n-octyl phthalate	ND	µg/L	15						
Dibenz(a,h)anthracene	ND	µg/L	10						
Dibenzofuran	ND	µg/L	10						
1,2-Dichlorobenzene	ND	µg/L	10						
1,3-Dichlorobenzene	ND	µg/L	10						
1,4-Dichlorobenzene	ND	µg/L	10						
3,3'-Dichlorobenzidine	ND	µg/L	15						
Diethyl phthalate	ND	µg/L	10						
Dimethyl phthalate	ND	µg/L	10						
2,4-Dichlorophenol	ND	µg/L	10						
2,4-Dimethylphenol	ND	µg/L	10						
4,6-Dinitro-2-methylphenol	ND	µg/L	50						
2,4-Dinitrophenol	ND	µg/L	50						
2,4-Dinitrotoluene	ND	µg/L	10						
2,6-Dinitrotoluene	ND	µg/L	10						
Fluoranthene	ND	µg/L	10						
Fluorene	ND	µg/L	10						
Hexachlorobenzene	ND	µg/L	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: MB-11641		*MBLK*			Batch ID: **11641**		Analysis Date:		11/14/2006
Hexachlorobutadiene	ND	µg/L	10						
Hexachlorocyclopentadiene	ND	µg/L	10						
Hexachloroethane	ND	µg/L	10						
Indeno(1,2,3-cd)pyrene	ND	µg/L	10						
Isophorone	ND	µg/L	10						
2-Methylnaphthalene	ND	µg/L	10						
2-Methylphenol	ND	µg/L	15						
3+4-Methylphenol	ND	µg/L	20						
N-Nitrosodi-n-propylamine	ND	µg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	µg/L	10						
Naphthalene	ND	µg/L	10						
2-Nitroaniline	ND	µg/L	50						
3-Nitroaniline	ND	µg/L	50						
4-Nitroaniline	ND	µg/L	20						
Nitrobenzene	ND	µg/L	10						
2-Nitrophenol	ND	µg/L	15						
4-Nitrophenol	ND	µg/L	50						
Pentachlorophenol	ND	µg/L	50						
Phenanthrene	ND	µg/L	10						
Phenol	ND	µg/L	10						
Pyrene	ND	µg/L	15						
Pyridine	ND	µg/L	30						
1,2,4-Trichlorobenzene	ND	µg/L	10						
2,4,5-Trichlorophenol	ND	µg/L	10						
2,4,6-Trichlorophenol	ND	µg/L	15						
Sample ID: LCS-11641		*LCS*			Batch ID: **11641**		Analysis Date:		11/14/2006
Acenaphthene	75.56	µg/L	10	75.6	11	123			
4-Chloro-3-methylphenol	128.8	µg/L	20	64.4	15.4	119			
2-Chlorophenol	109.7	µg/L	10	54.9	12.2	122			
1,4-Dichlorobenzene	44.08	µg/L	10	44.1	16.9	100			
2,4-Dinitrotoluene	70.12	µg/L	10	70.1	13	138			
N-Nitrosodi-n-propylamine	59.72	µg/L	10	59.7	9.93	122			
4-Nitrophenol	61.04	µg/L	50	30.5	12.5	87.4			
Pentachlorophenol	89.54	µg/L	50	44.8	3.55	114			
Phenol	60.02	µg/L	10	30.0	7.53	73.1			
Pyrene	74.84	µg/L	15	74.8	12.6	140			
1,2,4-Trichlorobenzene	49.74	µg/L	10	49.7	17.4	98.7			
Sample ID: LCSD-11641		*LCSD*			Batch ID: **11641**		Analysis Date:		11/14/2006
Acenaphthene	72.80	µg/L	10	72.8	11	123	3.72	30.5	
4-Chloro-3-methylphenol	129.7	µg/L	20	64.8	15.4	119	0.697	28.6	
2-Chlorophenol	129.1	µg/L	10	64.5	12.2	122	16.2	107	
1,4-Dichlorobenzene	48.32	µg/L	10	48.3	16.9	100	9.18	62.1	
2,4-Dinitrotoluene	64.96	µg/L	10	65.0	13	138	7.64	14.7	

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: LCSD-11641		*LCSD*			Batch ID:	**11641**	Analysis Date:		11/14/2006
N-Nitrosodi-n-propylamine	60.62	µg/L	10	60.6	9.93	122	1.50	30.3	
4-Nitrophenol	75.92	µg/L	50	38.0	12.5	87.4	21.7	36.3	
Pentachlorophenol	127.0	µg/L	50	63.5	3.55	114	34.6	49	
Phenol	72.86	µg/L	10	36.4	7.53	73.1	19.3	52.4	
Pyrene	71.16	µg/L	15	71.2	12.6	140	5.04	16.3	
1,2,4-Trichlorobenzene	52.72	µg/L	10	52.7	17.4	98.7	5.82	36.4	
Method: SW7470									
Sample ID: 0611016-06D msd		*MSD*			Batch ID:	**11747**	Analysis Date:		11/14/2006
Mercury	0.005025	mg/L	0.00020	100	75	125	2.07	20	
Sample ID: MB-11747		*MBLK*			Batch ID:	**11747**	Analysis Date:		11/14/2006
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-11747		*LCS*			Batch ID:	**11747**	Analysis Date:		11/14/2006
Mercury	0.005385	mg/L	0.00020	108	80	120			
Sample ID: 0611016-06D ms		*MS*			Batch ID:	**11747**	Analysis Date:		11/14/2006
Mercury	0.005130	mg/L	0.00020	103	75	125			

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: **SW6010A**									
Sample ID: **MB-11746**		*MBLK*			Batch ID:	**11746**	Analysis Date:	11/16/2006 8:58:41 AM	
Arsenic	ND	mg/L	0.020						
Barium	ND	mg/L	0.020						
Cadmium	ND	mg/L	0.0020						
Calcium	ND	mg/L	1.0						
Chromium	ND	mg/L	0.0060						
Lead	ND	mg/L	0.0050						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Selenium	ND	mg/L	0.050						
Silver	ND	mg/L	0.0050						
Sodium	ND	mg/L	1.0						
Sample ID: **MB-11746**		*MBLK*			Batch ID:	**11746**	Analysis Date:	11/15/2006 7:10:00 PM	
Cadmium	ND	mg/L	0.0020						
Chromium	ND	mg/L	0.0060						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Sample ID: **MB-11746**		*MBLK*			Batch ID:	**11746**	Analysis Date:	11/16/2006 8:58:41 AM	
Calcium	ND	mg/L	1.0						
Sodium	ND	mg/L	1.0						
Sample ID: **LCS-11746**		*LCS*			Batch ID:	**11746**	Analysis Date:	11/16/2006 8:53:16 AM	
Arsenic	0.5143	mg/L	0.020	103	80	120			
Barium	0.4951	mg/L	0.020	99.0	80	120			
Cadmium	0.5012	mg/L	0.0020	100	80	120			
Calcium	53.42	mg/L	1.0	107	80	120			
Chromium	0.5086	mg/L	0.0060	102	80	120			
Lead	0.4945	mg/L	0.0050	98.9	80	120			
Magnesium	53.81	mg/L	1.0	108	80	120			
Potassium	57.58	mg/L	1.0	115	80	120			
Selenium	0.4749	mg/L	0.050	95.0	80	120			
Silver	0.5011	mg/L	0.0050	100	80	120			
Sodium	57.46	mg/L	1.0	115	80	120			
Sample ID: **LCS-11746**		*LCS*			Batch ID:	**11746**	Analysis Date:	11/15/2006 7:13:04 PM	
Cadmium	0.4806	mg/L	0.0020	96.1	80	120			
Chromium	0.4878	mg/L	0.0060	97.6	80	120			
Magnesium	54.21	mg/L	1.0	108	80	120			
Potassium	56.75	mg/L	1.0	114	80	120			
Sample ID: **LCS-11746**		*LCS*			Batch ID:	**11746**	Analysis Date:	11/16/2006 8:53:16 AM	
Calcium	53.42	mg/L	1.0	107	80	120			
Sodium	57.46	mg/L	1.0	115	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 0611016-04a msd		*MSD*			Batch ID: **R21321**		Analysis Date:		11/7/2006
Benzene	18.60	µg/L	1.0	93.0	74.9	113	3.52	15	
Toluene	17.00	µg/L	1.0	85.0	80.4	111	1.44	15	
Chlorobenzene	19.68	µg/L	1.0	98.4	83.2	120	3.82	15	
1,1-Dichloroethene	18.95	µg/L	1.0	94.8	72	127	2.72	17.8	
Trichloroethene (TCE)	16.61	µg/L	1.0	83.1	58.2	131	3.36	19.8	
Sample ID: 5mL rb		*MBLK*			Batch ID: **R21321**		Analysis Date:		11/7/2006
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.5						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromochloromethane	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	2.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	2.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	2.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	2.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		*MBLK*			Batch ID: **R21321**		Analysis Date:		11/7/2006
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	2.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	2.0						
Styrene	ND	µg/L	1.5						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	1.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 5mL rb		*MBLK*			Batch ID: **R21342**		Analysis Date:		11/8/2006
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.5						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromochloromethane	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		*MBLK*		Batch ID: **R21342**		Analysis Date:	11/8/2006		
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	2.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	2.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	2.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	2.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	2.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						
4-Isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	2.0						
Styrene	ND	µg/L	1.5						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	1.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Annual GW Samples 2006 Ciniza **Work Order:** 0611016

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		*MBLK*			Batch ID: **R21342**		Analysis Date:		11/8/2006
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100ng lcs-b		*LCS*			Batch ID: **R21321**		Analysis Date:		11/7/2006
Benzene	18.27	µg/L	1.0	91.4	74.9	113			
Toluene	17.05	µg/L	1.0	85.3	80.4	111			
Chlorobenzene	20.26	µg/L	1.0	101	83.2	120			
1,1-Dichloroethene	18.32	µg/L	1.0	91.6	72	127			
Trichloroethene (TCE)	17.25	µg/L	1.0	86.2	58.2	131			
Sample ID: 100ng lcs		*LCS*			Batch ID: **R21342**		Analysis Date:		11/8/2006
Benzene	18.16	µg/L	1.0	90.8	74.9	113			
Toluene	16.22	µg/L	1.0	81.1	80.4	111			
Chlorobenzene	18.37	µg/L	1.0	91.9	83.2	120			
1,1-Dichloroethene	19.73	µg/L	1.0	98.6	72	127			
Trichloroethene (TCE)	17.89	µg/L	1.0	89.5	58.2	131			
Sample ID: 0611016-04a ms		*MS*			Batch ID: **R21321**		Analysis Date:		11/7/2006
Benzene	17.96	µg/L	1.0	89.8	74.9	113			
Toluene	17.24	µg/L	1.0	86.2	80.4	111			
Chlorobenzene	18.94	µg/L	1.0	94.7	83.2	120			
1,1-Dichloroethene	18.44	µg/L	1.0	92.2	72	127			
Trichloroethene (TCE)	17.18	µg/L	1.0	85.9	58.2	131			

Qualifiers:

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

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN | Date and Time Received: 11/1/2006

Work Order Number 0611016 | Received by AT

Checklist completed by _____ Signature _____ Date 11/1/06

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? 3° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

Client: Giant Refining Company Ciniza
Address: Route 3 Box 7
Gallup, NM 87301
Phone #: 505-722-3833
Fax #: 505-722-0210

Project Name: Annual Ground water samples 2006 - Ciniza
Project #:
Project Manager: Stacie Moreno
Sampler: Steve Morris
Sample Temperature: Steve Morris 3°

ANALYSIS REQUEST

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative	HEAL No. 061016	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 Total	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)	Gen. Chem.				Air Bubbles or Headspace (Y or N)
10.28.06	1015	H_2O	BW-1C					-1								X			X	X	X				
10.28.06	1130	"	BW-1A					-2								X			X	X	X				
10.28.06	1330	"	BW-2B					-3								X			X	X	X				
10.28.06	1500	"	BW-2C					-4								X			X	X	X				
10.29.06	1000	"	BW-3B					-5								X			X	X	X				
10.29.06	1045		BW-3C					-6								X			X	X	X				
			Trip Blank					-7																	

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
11-1-06	1100	Steve Morris	11/1/06 1100
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: Gen. Chem. = Cations anions, pH, + Conductivity

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, July 25, 2006

Steve Morris
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: Boundary Well 2B for Selenium

Order No.: 0607244

Dear Steve Morris:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 7/21/2006 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business 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, Inc.

Date: *25-Jul-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	BW-2B
Lab Order:	0607244	**Collection Date:**	7/19/2006 3:30:00 PM
Project:	Boundary Well 2B for Selenium	**Date Received:**	7/21/2006
Lab ID:	0607244-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 6010: DISSOLVED METALS						Analyst: **NMO**
Selenium	ND	0.050		mg/L	1	7/25/2006 11:36:17 AM
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: **NMO**
Selenium	ND	0.050		mg/L	1	7/25/2006 9:13:00 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		

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: Boundary Well 2B for Selenium **Work Order:** 0607244

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW6010A									
Sample ID: MB		*MBLK*			Batch ID: **R20019**		Analysis Date: 7/25/2006 11:27:24 AM		
Selenium	ND	mg/L	0.050						
Sample ID: LCS		*LCS*			Batch ID: **R20019**		Analysis Date: 7/25/2006 11:30:25 AM		
Selenium	0.4790	mg/L	0.050	95.8	80	120			
Method: SW6010A									
Sample ID: 0607244-01AMSD		*MSD*			Batch ID: **10853**		Analysis Date: 7/25/2006 9:19:23 AM		
Selenium	0.4837	mg/L	0.050	96.7	75	125	0.983	20	
Sample ID: MB-10853		*MBLK*			Batch ID: **10853**		Analysis Date: 7/25/2006 9:00:52 AM		
Selenium	ND	mg/L	0.050						
Sample ID: LCS-10853		*LCS*			Batch ID: **10853**		Analysis Date: 7/25/2006 9:03:56 AM		
Selenium	0.4717	mg/L	0.050	94.3	80	120			
Sample ID: 0607244-01AMS		*MS*			Batch ID: **10853**		Analysis Date: 7/25/2006 9:17:04 AM		
Selenium	0.4790	mg/L	0.050	95.8	75	125			

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, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN | Date and Time Received: 7/21/2006

Work Order Number 0607244 | Received by AT

Checklist completed by _____ 7/21/06
Signature | Date

Matrix | Carrier name FedEx

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

Container/Temp Blank temperature? **5°** *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

Client: Giant - Refining Company - Ciniza
Address: Route 3 Box 7 Gallup, NM 87301
Phone #: 505 722 3833
Fax #: 505 722 0210

Project Name: Boundary Well 2B for Selenium
Project #: 8
Project Manager: Steve Mona
Sampler: Steve Mona
Sample Temperature: 5

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	HEAL No.
7/19/96	1530	H_2O	BW-2B	2		X	607241

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~~ Selenium	Anions (F, Cl, NO_3, NO_2, PO_4, SO_4)	8081 Pesticides / PCB's (8082)	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles or Headspace (Y or N)
							X									

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
7/29/96	1400	Steve Mona	7/24/96 1030
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: RUSH RCRA Metals Total and Dissolved for Selenium

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Tuesday, August 22, 2006

Ed Riege
Giant Refining Co
Rt. 3 Box 7
Gallup, NM 87301

TEL: (505) 722-3833
FAX (505) 722-0210

RE: GWM-1 Annual 2006

Order No.: 0608046

Dear Ed Riege:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 8/4/2006 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

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

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Aug-06*

CLIENT:	Giant Refining Co	Client Sample ID:	GWM-1
Lab Order:	0608046	Collection Date:	8/2/2006 2:00:00 PM
Project:	GWM-1 Annual 2006	Date Received:	8/4/2006
Lab ID:	0608046-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: TES
Fluoride	2.0	0.50		mg/L	5	8/4/2006 12:28:00 PM
Chloride	3700	10		mg/L	100	8/7/2006 1:51:51 PM
Nitrate (As N)+Nitrite (As N)	ND	2.0		mg/L	20	8/14/2006 7:17:23 PM
Phosphorus, Orthophosphate (As P)	ND	2.5		mg/L	5	8/4/2006 12:28:00 PM
Sulfate	120	2.5		mg/L	5	8/4/2006 12:28:00 PM
EPA METHOD 7470: MERCURY						Analyst: MAP
Mercury	ND	0.00020		mg/L	1	8/15/2006
EPA 6010: TOTAL RECOVERABLE METALS						Analyst: CMC
Arsenic	0.077	0.020		mg/L	1	8/9/2006 2:35:20 PM
Barium	0.53	0.020		mg/L	1	8/10/2006 6:44:01 PM
Cadmium	ND	0.0020		mg/L	1	8/9/2006 2:35:20 PM
Calcium	380	20		mg/L	20	8/10/2006 7:52:38 PM
Chromium	ND	0.0060		mg/L	1	8/9/2006 2:35:20 PM
Lead	ND	0.0050		mg/L	1	8/9/2006 2:35:20 PM
Magnesium	93	1.0		mg/L	1	8/9/2006 2:35:20 PM
Potassium	4.2	1.0		mg/L	1	8/9/2006 2:35:20 PM
Selenium	ND	0.050		mg/L	1	8/9/2006 2:35:20 PM
Silver	ND	0.0050		mg/L	1	8/10/2006 6:44:01 PM
Sodium	1400	20		mg/L	20	8/10/2006 7:52:38 PM
EPA METHOD 8270C: SEMIVOLATILES						Analyst: SCC
Acenaphthene	ND	10		µg/L	1	8/15/2006
Acenaphthylene	ND	10		µg/L	1	8/15/2006
Aniline	ND	20		µg/L	1	8/15/2006
Anthracene	ND	10		µg/L	1	8/15/2006
Azobenzene	ND	10		µg/L	1	8/15/2006
Benz(a)anthracene	ND	15		µg/L	1	8/15/2006
Benzo(a)pyrene	ND	15		µg/L	1	8/15/2006
Benzo(b)fluoranthene	ND	15		µg/L	1	8/15/2006
Benzo(g,h,i)perylene	ND	10		µg/L	1	8/15/2006
Benzo(k)fluoranthene	ND	10		µg/L	1	8/15/2006
Benzoic acid	ND	50		µg/L	1	8/15/2006
Benzyl alcohol	ND	20		µg/L	1	8/15/2006
Bis(2-chloroethoxy)methane	ND	10		µg/L	1	8/15/2006
Bis(2-chloroethyl)ether	ND	15		µg/L	1	8/15/2006
Bis(2-chloroisopropyl)ether	ND	15		µg/L	1	8/15/2006
Bis(2-ethylhexyl)phthalate	ND	15		µg/L	1	8/15/2006

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, Inc.

Date: 22-Aug-06

CLIENT:	Giant Refining Co	Client Sample ID:	GWM-1
Lab Order:	0608046	Collection Date:	8/2/2006 2:00:00 PM
Project:	GWM-1 Annual 2006	Date Received:	8/4/2006
Lab ID:	0608046-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: SCC
4-Bromophenyl phenyl ether	ND	10		µg/L	1	8/15/2006
Butyl benzyl phthalate	ND	15		µg/L	1	8/15/2006
Carbazole	ND	10		µg/L	1	8/15/2006
4-Chloro-3-methylphenol	ND	20		µg/L	1	8/15/2006
4-Chloroaniline	ND	20		µg/L	1	8/15/2006
2-Chloronaphthalene	ND	10		µg/L	1	8/15/2006
2-Chlorophenol	ND	10		µg/L	1	8/15/2006
4-Chlorophenyl phenyl ether	ND	15		µg/L	1	8/15/2006
Chrysene	ND	15		µg/L	1	8/15/2006
Di-n-butyl phthalate	ND	10		µg/L	1	8/15/2006
Di-n-octyl phthalate	ND	15		µg/L	1	8/15/2006
Dibenz(a,h)anthracene	ND	10		µg/L	1	8/15/2006
Dibenzofuran	ND	10		µg/L	1	8/15/2006
1,2-Dichlorobenzene	ND	10		µg/L	1	8/15/2006
1,3-Dichlorobenzene	ND	10		µg/L	1	8/15/2006
1,4-Dichlorobenzene	ND	10		µg/L	1	8/15/2006
3,3'-Dichlorobenzidine	ND	15		µg/L	1	8/15/2006
Diethyl phthalate	ND	10		µg/L	1	8/15/2006
Dimethyl phthalate	ND	10		µg/L	1	8/15/2006
2,4-Dichlorophenol	ND	10		µg/L	1	8/15/2006
2,4-Dimethylphenol	85	10		µg/L	1	8/15/2006
4,6-Dinitro-2-methylphenol	ND	50		µg/L	1	8/15/2006
2,4-Dinitrophenol	ND	50		µg/L	1	8/15/2006
2,4-Dinitrotoluene	ND	10		µg/L	1	8/15/2006
2,6-Dinitrotoluene	ND	10		µg/L	1	8/15/2006
Fluoranthene	ND	10		µg/L	1	8/15/2006
Fluorene	ND	10		µg/L	1	8/15/2006
Hexachlorobenzene	ND	10		µg/L	1	8/15/2006
Hexachlorobutadiene	ND	10		µg/L	1	8/15/2006
Hexachlorocyclopentadiene	ND	10		µg/L	1	8/15/2006
Hexachloroethane	ND	10		µg/L	1	8/15/2006
Indeno(1,2,3-cd)pyrene	ND	10		µg/L	1	8/15/2006
Isophorone	ND	10		µg/L	1	8/15/2006
2-Methylnaphthalene	ND	10		µg/L	1	8/15/2006
2-Methylphenol	ND	15		µg/L	1	8/15/2006
3+4-Methylphenol	ND	20		µg/L	1	8/15/2006
N-Nitrosodi-n-propylamine	ND	10		µg/L	1	8/15/2006
N-Nitrosodimethylamine	ND	10		µg/L	1	8/15/2006
N-Nitrosodiphenylamine	ND	10		µg/L	1	8/15/2006
Naphthalene	ND	10		µg/L	1	8/15/2006

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

CLIENT:	Giant Refining Co	Client Sample ID:	GWM-1
Lab Order:	0608046	Collection Date:	8/2/2006 2:00:00 PM
Project:	GWM-1 Annual 2006	Date Received:	8/4/2006
Lab ID:	0608046-01	Matrix:	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES						Analyst: SCC
2-Nitroaniline	ND	50		µg/L	1	8/15/2006
3-Nitroaniline	ND	50		µg/L	1	8/15/2006
4-Nitroaniline	ND	20		µg/L	1	8/15/2006
Nitrobenzene	ND	10		µg/L	1	8/15/2006
2-Nitrophenol	ND	15		µg/L	1	8/15/2006
4-Nitrophenol	ND	50		µg/L	1	8/15/2006
Pentachlorophenol	ND	50		µg/L	1	8/15/2006
Phenanthrene	ND	10		µg/L	1	8/15/2006
Phenol	ND	10		µg/L	1	8/15/2006
Pyrene	ND	15		µg/L	1	8/15/2006
Pyridine	ND	30		µg/L	1	8/15/2006
1,2,4-Trichlorobenzene	ND	10		µg/L	1	8/15/2006
2,4,5-Trichlorophenol	ND	10		µg/L	1	8/15/2006
2,4,6-Trichlorophenol	ND	15		µg/L	1	8/15/2006
Surr: 2,4,6-Tribromophenol	86.6	16.6-150		%REC	1	8/15/2006
Surr: 2-Fluorobiphenyl	63.7	19.6-134		%REC	1	8/15/2006
Surr: 2-Fluorophenol	52.4	9.54-113		%REC	1	8/15/2006
Surr: 4-Terphenyl-d14	67.5	22.7-145		%REC	1	8/15/2006
Surr: Nitrobenzene-d5	65.4	14.6-134		%REC	1	8/15/2006
Surr: Phenol-d5	48.6	10.7-80.3		%REC	1	8/15/2006
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Benzene	12	10		µg/L	10	8/4/2006
Toluene	ND	10		µg/L	10	8/4/2006
Ethylbenzene	ND	10		µg/L	10	8/4/2006
Methyl tert-butyl ether (MTBE)	160	15		µg/L	10	8/4/2006
1,2,4-Trimethylbenzene	ND	10		µg/L	10	8/4/2006
1,3,5-Trimethylbenzene	ND	10		µg/L	10	8/4/2006
1,2-Dichloroethane (EDC)	ND	10		µg/L	10	8/4/2006
1,2-Dibromoethane (EDB)	ND	10		µg/L	10	8/4/2006
Naphthalene	ND	20		µg/L	10	8/4/2006
1-Methylnaphthalene	ND	40		µg/L	10	8/4/2006
2-Methylnaphthalene	ND	40		µg/L	10	8/4/2006
Acetone	ND	100		µg/L	10	8/4/2006
Bromobenzene	ND	10		µg/L	10	8/4/2006
Bromochloromethane	ND	10		µg/L	10	8/4/2006
Bromodichloromethane	ND	10		µg/L	10	8/4/2006
Bromoform	ND	10		µg/L	10	8/4/2006
Bromomethane	ND	20		µg/L	10	8/4/2006
2-Butanone	ND	100		µg/L	10	8/4/2006

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- S Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Date: *22-Aug-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	GWM-1
Lab Order:	0608046	**Collection Date:**	8/2/2006 2:00:00 PM
Project:	GWM-1 Annual 2006	**Date Received:**	8/4/2006
Lab ID:	0608046-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
Carbon disulfide	ND	100		µg/L	10	8/4/2006
Carbon Tetrachloride	ND	20		µg/L	10	8/4/2006
Chlorobenzene	ND	10		µg/L	10	8/4/2006
Chloroethane	ND	20		µg/L	10	8/4/2006
Chloroform	ND	10		µg/L	10	8/4/2006
Chloromethane	ND	10		µg/L	10	8/4/2006
2-Chlorotoluene	ND	10		µg/L	10	8/4/2006
4-Chlorotoluene	ND	10		µg/L	10	8/4/2006
cis-1,2-DCE	ND	10		µg/L	10	8/4/2006
cis-1,3-Dichloropropene	ND	10		µg/L	10	8/4/2006
1,2-Dibromo-3-chloropropane	ND	20		µg/L	10	8/4/2006
Dibromochloromethane	ND	10		µg/L	10	8/4/2006
Dibromomethane	ND	20		µg/L	10	8/4/2006
1,2-Dichlorobenzene	ND	10		µg/L	10	8/4/2006
1,3-Dichlorobenzene	ND	10		µg/L	10	8/4/2006
1,4-Dichlorobenzene	ND	10		µg/L	10	8/4/2006
Dichlorodifluoromethane	ND	10		µg/L	10	8/4/2006
1,1-Dichloroethane	ND	20		µg/L	10	8/4/2006
1,1-Dichloroethene	ND	10		µg/L	10	8/4/2006
1,2-Dichloropropane	ND	10		µg/L	10	8/4/2006
1,3-Dichloropropane	ND	10		µg/L	10	8/4/2006
2,2-Dichloropropane	ND	20		µg/L	10	8/4/2006
1,1-Dichloropropene	ND	10		µg/L	10	8/4/2006
Hexachlorobutadiene	ND	20		µg/L	10	8/4/2006
2-Hexanone	ND	100		µg/L	10	8/4/2006
Isopropylbenzene	ND	10		µg/L	10	8/4/2006
4-Isopropyltoluene	ND	10		µg/L	10	8/4/2006
4-Methyl-2-pentanone	ND	100		µg/L	10	8/4/2006
Methylene Chloride	ND	30		µg/L	10	8/4/2006
n-Butylbenzene	ND	10		µg/L	10	8/4/2006
n-Propylbenzene	ND	10		µg/L	10	8/4/2006
sec-Butylbenzene	ND	20		µg/L	10	8/4/2006
Styrene	ND	15		µg/L	10	8/4/2006
tert-Butylbenzene	ND	10		µg/L	10	8/4/2006
1,1,1,2-Tetrachloroethane	ND	10		µg/L	10	8/4/2006
1,1,2,2-Tetrachloroethane	ND	10		µg/L	10	8/4/2006
Tetrachloroethene (PCE)	ND	10		µg/L	10	8/4/2006
trans-1,2-DCE	ND	10		µg/L	10	8/4/2006
trans-1,3-Dichloropropene	ND	10		µg/L	10	8/4/2006
1,2,3-Trichlorobenzene	ND	10		µg/L	10	8/4/2006

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, Inc.

Date: *22-Aug-06*

CLIENT:	Giant Refining Co	**Client Sample ID:**	GWM-1
Lab Order:	0608046	**Collection Date:**	8/2/2006 2:00:00 PM
Project:	GWM-1 Annual 2006	**Date Received:**	8/4/2006
Lab ID:	0608046-01	**Matrix:**	AQUEOUS

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: LMM
1,2,4-Trichlorobenzene	ND	10		µg/L	10	8/4/2006
1,1,1-Trichloroethane	ND	10		µg/L	10	8/4/2006
1,1,2-Trichloroethane	ND	10		µg/L	10	8/4/2006
Trichloroethene (TCE)	ND	10		µg/L	10	8/4/2006
Trichlorofluoromethane	ND	10		µg/L	10	8/4/2006
1,2,3-Trichloropropane	ND	20		µg/L	10	8/4/2006
Vinyl chloride	ND	10		µg/L	10	8/4/2006
Xylenes, Total	ND	30		µg/L	10	8/4/2006
Surr: 1,2-Dichloroethane-d4	98.4	69.9-130		%REC	10	8/4/2006
Surr: 4-Bromofluorobenzene	104	75-139		%REC	10	8/4/2006
Surr: Dibromofluoromethane	96.9	57.3-135		%REC	10	8/4/2006
Surr: Toluene-d8	107	81.9-122		%REC	10	8/4/2006
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: CMC
Specific Conductance	8500	0.010		µmhos/cm	1	8/15/2006
EPA METHOD 150.1: PH						Analyst: CMC
pH	6.87	0.010		pH units	1	8/4/2006

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		

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: MBLK		*MBLK*			Batch ID: R20174		Analysis Date: 8/3/2006 4:09:29 PM		
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID: R20183		Analysis Date: 8/6/2006 1:57:31 PM		
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID: R20196		Analysis Date: 8/7/2006 11:39:12 AM		
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: MBLK		*MBLK*			Batch ID: R20300		Analysis Date: 8/14/2006 12:25:45 PM		
Fluoride	ND	mg/L	0.10						
Chloride	ND	mg/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10						
Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50						
Sulfate	ND	mg/L	0.50						
Sample ID: LCS ST300-06008		*LCS*			Batch ID: R20174		Analysis Date: 8/3/2006 4:26:53 PM		
Fluoride	0.4796	mg/L	0.10	95.9	90	110			
Chloride	4.897	mg/L	0.10	97.9	90	110			
Nitrate (As N)+Nitrite (As N)	3.440	mg/L	0.10	98.3	90	110			
Phosphorus, Orthophosphate (As P)	4.934	mg/L	0.50	98.7	90	110			
Sulfate	10.09	mg/L	0.50	101	90	110			
Sample ID: LCS ST300-06008		*LCS*			Batch ID: R20183		Analysis Date: 8/6/2006 2:14:55 PM		
Fluoride	0.4843	mg/L	0.10	96.9	90	110			
Chloride	5.025	mg/L	0.10	101	90	110			
Nitrate (As N)+Nitrite (As N)	3.578	mg/L	0.10	102	90	110			
Phosphorus, Orthophosphate (As P)	5.041	mg/L	0.50	101	90	110			
Sulfate	10.18	mg/L	0.50	102	90	110			
Sample ID: LCS ST300-06008		*LCS*			Batch ID: R20196		Analysis Date: 8/7/2006 11:56:36 AM		
Fluoride	0.4523	mg/L	0.10	90.5	90	110			
Chloride	4.859	mg/L	0.10	97.2	90	110			
Nitrate (As N)+Nitrite (As N)	3.444	mg/L	0.10	98.4	90	110			
Phosphorus, Orthophosphate (As P)	4.812	mg/L	0.50	96.2	90	110			
Sulfate	9.830	mg/L	0.50	98.3	90	110			
Sample ID: LCS ST300-06008		*LCS*			Batch ID: R20300		Analysis Date: 8/14/2006 12:43:09 PM		

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: E300									
Sample ID: LCS ST300-06008		*LCS*			**Batch ID:** R20300		**Analysis Date:** 8/14/2006 12:43:09 PM		
Fluoride	0.4765	mg/L	0.10	95.3	90	110			
Chloride	4.953	mg/L	0.10	99.1	90	110			
Nitrate (As N)+Nitrite (As N)	3.470	mg/L	0.10	99.2	90	110			
Phosphorus, Orthophosphate (As P)	4.978	mg/L	0.50	99.6	90	110			
Sulfate	10.46	mg/L	0.50	101	90	110			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: mb-10987		*MBLK*			Batch ID: 10987		Analysis Date: 8/15/2006		
Acenaphthene	ND	µg/L	10						
Acenaphthylene	ND	µg/L	10						
Aniline	ND	µg/L	20						
Anthracene	ND	µg/L	10						
Azobenzene	ND	µg/L	10						
Benz(a)anthracene	ND	µg/L	15						
Benzo(a)pyrene	ND	µg/L	15						
Benzo(b)fluoranthene	ND	µg/L	15						
Benzo(g,h,i)perylene	ND	µg/L	10						
Benzo(k)fluoranthene	ND	µg/L	10						
Benzoic acid	ND	µg/L	50						
Benzyl alcohol	ND	µg/L	20						
Bis(2-chloroethoxy)methane	ND	µg/L	10						
Bis(2-chloroethyl)ether	ND	µg/L	15						
Bis(2-chloroisopropyl)ether	ND	µg/L	15						
Bis(2-ethylhexyl)phthalate	ND	µg/L	15						
4-Bromophenyl phenyl ether	ND	µg/L	10						
Butyl benzyl phthalate	ND	µg/L	15						
Carbazole	ND	µg/L	10						
4-Chloro-3-methylphenol	ND	µg/L	20						
4-Chloroaniline	ND	µg/L	20						
2-Chloronaphthalene	ND	µg/L	10						
2-Chlorophenol	ND	µg/L	10						
4-Chlorophenyl phenyl ether	ND	µg/L	15						
Chrysene	ND	µg/L	15						
Di-n-butyl phthalate	ND	µg/L	10						
Di-n-octyl phthalate	ND	µg/L	15						
Dibenz(a,h)anthracene	ND	µg/L	10						
Dibenzofuran	ND	µg/L	10						
1,2-Dichlorobenzene	ND	µg/L	10						
1,3-Dichlorobenzene	ND	µg/L	10						
1,4-Dichlorobenzene	ND	µg/L	10						
3,3'-Dichlorobenzidine	ND	µg/L	15						
Diethyl phthalate	ND	µg/L	10						
Dimethyl phthalate	ND	µg/L	10						
2,4-Dichlorophenol	ND	µg/L	10						
2,4-Dimethylphenol	ND	µg/L	10						
4,6-Dinitro-2-methylphenol	ND	µg/L	50						
2,4-Dinitrophenol	ND	µg/L	50						
2,4-Dinitrotoluene	ND	µg/L	10						
2,6-Dinitrotoluene	ND	µg/L	10						
Fluoranthene	ND	µg/L	10						
Fluorene	ND	µg/L	10						
Hexachlorobenzene	ND	µg/L	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: mb-10987		*MBLK*			Batch ID: 10987		Analysis Date:		8/15/2006
Hexachlorobutadiene	ND	µg/L	10						
Hexachlorocyclopentadiene	ND	µg/L	10						
Hexachloroethane	ND	µg/L	10						
Indeno(1,2,3-cd)pyrene	ND	µg/L	10						
Isophorone	ND	µg/L	10						
2-Methylnaphthalene	ND	µg/L	10						
2-Methylphenol	ND	µg/L	15						
3+4-Methylphenol	ND	µg/L	20						
N-Nitrosodi-n-propylamine	ND	µg/L	10						
N-Nitrosodimethylamine	ND	µg/L	10						
N-Nitrosodiphenylamine	ND	µg/L	10						
Naphthalene	ND	µg/L	10						
2-Nitroaniline	ND	µg/L	50						
3-Nitroaniline	ND	µg/L	50						
4-Nitroaniline	ND	µg/L	20						
Nitrobenzene	ND	µg/L	10						
2-Nitrophenol	ND	µg/L	15						
4-Nitrophenol	ND	µg/L	50						
Pentachlorophenol	ND	µg/L	50						
Phenanthrene	ND	µg/L	10						
Phenol	ND	µg/L	10						
Pyrene	ND	µg/L	15						
Pyridine	ND	µg/L	30						
1,2,4-Trichlorobenzene	ND	µg/L	10						
2,4,5-Trichlorophenol	ND	µg/L	10						
2,4,6-Trichlorophenol	ND	µg/L	15						
Sample ID: lcs-10987		*LCS*			Batch ID: 10987		Analysis Date:		8/15/2006
Acenaphthene	65.72	µg/L	10	65.7	11	123			
4-Chloro-3-methylphenol	140.0	µg/L	20	70.0	15.4	119			
2-Chlorophenol	124.1	µg/L	10	62.0	12.2	122			
1,4-Dichlorobenzene	53.10	µg/L	10	53.1	16.9	100			
2,4-Dinitrotoluene	69.86	µg/L	10	69.9	13	138			
N-Nitrosodi-n-propylamine	67.28	µg/L	10	67.3	9.93	122			
4-Nitrophenol	82.46	µg/L	50	41.2	12.5	87.4			
Pentachlorophenol	155.2	µg/L	50	77.6	3.55	114			
Phenol	77.46	µg/L	10	38.7	7.53	73.1			
Pyrene	74.88	µg/L	15	74.9	12.6	140			
1,2,4-Trichlorobenzene	58.80	µg/L	10	58.8	17.4	98.7			
Sample ID: lcsd-10987		*LCSD*			Batch ID: 10987		Analysis Date:		8/15/2006
Acenaphthene	64.90	µg/L	10	64.9	11	123	1.26	30.5	
4-Chloro-3-methylphenol	136.0	µg/L	20	68.0	15.4	119	2.86	28.6	
2-Chlorophenol	125.8	µg/L	10	62.9	12.2	122	1.38	107	
1,4-Dichlorobenzene	55.42	µg/L	10	55.4	16.9	100	4.28	62.1	
2,4-Dinitrotoluene	65.64	µg/L	10	65.6	13	138	6.23	14.7	

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: lcsd-10987		*LCSD*			Batch ID:	10987	Analysis Date:		8/15/2006
N-Nitrosodi-n-propylamine	60.74	µg/L	10	60.7	9.93	122	10.2	30.3	
4-Nitrophenol	79.10	µg/L	50	39.6	12.5	87.4	4.16	36.3	
Pentachlorophenol	154.0	µg/L	50	77.0	3.55	114	0.776	49	
Phenol	76.22	µg/L	10	38.1	7.53	73.1	1.61	52.4	
Pyrene	72.70	µg/L	15	72.7	12.6	140	2.95	16.3	
1,2,4-Trichlorobenzene	59.64	µg/L	10	59.6	17.4	98.7	1.42	36.4	
Method: SW7470									
Sample ID: MB-11039		*MBLK*			Batch ID:	11039	Analysis Date:		8/15/2006
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-11039		*LCS*			Batch ID:	11039	Analysis Date:		8/15/2006
Mercury	0.005235	mg/L	0.00020	105	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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW6010A									
Sample ID: MB-10972		*MBLK*			Batch ID:	10972	Analysis Date:	8/9/2006 1:17:52 PM	
Arsenic	ND	mg/L	0.020						
Cadmium	ND	mg/L	0.0020						
Calcium	ND	mg/L	1.0						
Chromium	ND	mg/L	0.0060						
Lead	ND	mg/L	0.0050						
Magnesium	ND	mg/L	1.0						
Potassium	ND	mg/L	1.0						
Selenium	ND	mg/L	0.050						
Sodium	ND	mg/L	1.0						
Sample ID: MB-10972		*MBLK*			Batch ID:	10972	Analysis Date:	8/10/2006 6:15:43 PM	
Barium	ND	mg/L	0.020						
Calcium	ND	mg/L	1.0						
Silver	ND	mg/L	0.0050						
Sodium	ND	mg/L	1.0						
Sample ID: LCS-10972		*LCS*			Batch ID:	10972	Analysis Date:	8/9/2006 1:20:55 PM	
Arsenic	0.5138	mg/L	0.020	102	80	120			
Cadmium	0.4918	mg/L	0.0020	98.4	80	120			
Calcium	49.14	mg/L	1.0	98.3	80	120			
Chromium	0.4929	mg/L	0.0060	98.6	80	120			
Lead	0.4863	mg/L	0.0050	97.3	80	120			
Magnesium	49.39	mg/L	1.0	98.8	80	120			
Potassium	51.57	mg/L	1.0	103	80	120			
Selenium	0.4925	mg/L	0.050	98.5	80	120			
Sodium	52.08	mg/L	1.0	104	80	120			
Sample ID: LCS-10972		*LCS*			Batch ID:	10972	Analysis Date:	8/10/2006 6:18:45 PM	
Barium	0.4765	mg/L	0.020	95.3	80	120			
Calcium	49.50	mg/L	1.0	99.0	80	120			
Silver	0.4855	mg/L	0.0050	97.1	80	120			
Sodium	53.12	mg/L	1.0	106	80	120			

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		*MBLK*			Batch ID: R20161	Analysis Date:		8/4/2006	
Benzene	ND	µg/L	1.0						
Toluene	ND	µg/L	1.0						
Ethylbenzene	ND	µg/L	1.0						
Methyl tert-butyl ether (MTBE)	ND	µg/L	1.5						
1,2,4-Trimethylbenzene	ND	µg/L	1.0						
1,3,5-Trimethylbenzene	ND	µg/L	1.0						
1,2-Dichloroethane (EDC)	ND	µg/L	1.0						
1,2-Dibromoethane (EDB)	ND	µg/L	1.0						
Naphthalene	ND	µg/L	2.0						
1-Methylnaphthalene	ND	µg/L	4.0						
2-Methylnaphthalene	ND	µg/L	4.0						
Acetone	ND	µg/L	10						
Bromobenzene	ND	µg/L	1.0						
Bromochloromethane	ND	µg/L	1.0						
Bromodichloromethane	ND	µg/L	1.0						
Bromoform	ND	µg/L	1.0						
Bromomethane	ND	µg/L	2.0						
2-Butanone	ND	µg/L	10						
Carbon disulfide	ND	µg/L	10						
Carbon Tetrachloride	ND	µg/L	2.0						
Chlorobenzene	ND	µg/L	1.0						
Chloroethane	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µg/L	1.0						
2-Chlorotoluene	ND	µg/L	1.0						
4-Chlorotoluene	ND	µg/L	1.0						
cis-1,2-DCE	ND	µg/L	1.0						
cis-1,3-Dichloropropene	ND	µg/L	1.0						
1,2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromethane	ND	µg/L	1.0						
Dibromomethane	ND	µg/L	2.0						
1,2-Dichlorobenzene	ND	µg/L	1.0						
1,3-Dichlorobenzene	ND	µg/L	1.0						
1,4-Dichlorobenzene	ND	µg/L	1.0						
Dichlorodifluoromethane	ND	µg/L	1.0						
1,1-Dichloroethane	ND	µg/L	2.0						
1,1-Dichloroethene	ND	µg/L	1.0						
1,2-Dichloropropane	ND	µg/L	1.0						
1,3-Dichloropropane	ND	µg/L	1.0						
2,2-Dichloropropane	ND	µg/L	2.0						
1,1-Dichloropropene	ND	µg/L	1.0						
Hexachlorobutadiene	ND	µg/L	2.0						
2-Hexanone	ND	µg/L	10						
Isopropylbenzene	ND	µg/L	1.0						

Qualifiers:

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

QA/QC SUMMARY REPORT

Client: Giant Refining Co
Project: GWM-1 Annual 2006 **Work Order:** 0608046

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		*MBLK*			Batch ID: R20181		Analysis Date:		8/4/2006
4-Isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Methylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/L	1.0						
sec-Butylbenzene	ND	µg/L	2.0						
Styrene	ND	µg/L	1.5						
tert-Butylbenzene	ND	µg/L	1.0						
1,1,1,2-Tetrachloroethane	ND	µg/L	1.0						
1,1,2,2-Tetrachloroethane	ND	µg/L	1.0						
Tetrachloroethene (PCE)	ND	µg/L	1.0						
trans-1,2-DCE	ND	µg/L	1.0						
trans-1,3-Dichloropropene	ND	µg/L	1.0						
1,2,3-Trichlorobenzene	ND	µg/L	1.0						
1,2,4-Trichlorobenzene	ND	µg/L	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µg/L	1.0						
Trichlorofluoromethane	ND	µg/L	1.0						
1,2,3-Trichloropropane	ND	µg/L	2.0						
Vinyl chloride	ND	µg/L	1.0						
Xylenes, Total	ND	µg/L	3.0						
Sample ID: 100ng lcs		*LCS*			Batch ID: R20181		Analysis Date:		8/4/2006
Benzene	19.09	µg/L	1.0	95.5	71	124			
Toluene	18.01	µg/L	1.0	90.1	81.5	118			
Chlorobenzene	17.63	µg/L	1.0	88.2	81.2	132			
1,1-Dichloroethene	18.03	µg/L	1.0	90.2	65.5	134			
Trichloroethene (TCE)	17.87	µg/L	1.0	89.4	69.5	119			

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, Inc.

Sample Receipt Checklist

Client Name GIANTREFIN | Date and Time Received: 8/4/2006

Work Order Number 0608046 | Received by GLS

Checklist completed by _____ 8/4/06
Signature | 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? 3° *4° C ± 2 Acceptable* If given sufficient time to cool.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CHAIN-OF-CUSTODY RECORD

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

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

Client: Giant Refining Co Ciniza
Address: Route 3 Box 7 Gallup, NM 87301
Phone #: 505-722-3833
Fax #: 505-722-0216

Project Name: GWM-1 ANNUAL 2006
Project #:
Project Manager: ED RIEGE
Sampler: JJ + CJ
Sample Temperature: 3°

Date	Time	Matrix	Sample I.D. No.	Number/Volume	Preservative $HgCl_2$	Preservative HNO_3	Preservative H_2SO_4	Preservative HCL	HEAL No.
8/2/06	1400 Hrs	H_2O	GWM-1	1 500mL		X			D606046-1
				1 500mL			X		-2
				1 500mL		X			-3
				1 L PLASTIC UNPRESERVED					-4
				1 L GLASS AMBER UNPRESERVED					-5
				3 VOAS				X	-6

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)	GEN. CHEM				Air Bubbles or Headspace ≥ 6 mm
							X					X				
												X				
												X				
												X				
											X					
										X						

Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)
8/4/06	0930		8-4-06 @ 930
Date:	Time:	Relinquished By: (Signature)	Received By: (Signature)

Remarks: GEN. CHEM = CATIONS, ANIONS, PH + CONDUCTIVITY

6. Summary of Groundwater Testing

OW-11

A grab sample from OW-11 was taken on October 26, 2006 . The sample was analyzed for RCRA Metals, VOC, SVOC, BTEX, MTBE and general chemistry. Lab results showed results less than the New Mexico Water Quality Standards (NMWQS) for anions, VOCs, SVOCs, and metals. All the tested parameters were less than the applicable MCLs, NM ground water, and NM TPH screening levels. However, the general chemistry results showed that fluoride (2.5 mg/l) and sulfate (1,100 mg/l) were present at levels greater than the NMWQS for fluoride (1.6 mg/l) and sulfate (600 mg/l).

RECOMMENDATION: *Giant Gallup will continue to test OW-11 on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry*

OW-12

OW-12 was sampled on October 27, 2006 and analyzed for BTEX and MTBE. Lab analysis showed all parameters at concentrations less than (all non-detect) the NMWQS for BTEX and MTBE.

RECOMMENDATION: *Giant Gallup will continue to monitor OW-12 on an annual basis for BTEX and MTBE*

OW-13

OW-13 was sampled on October 27, 2006 and analyzed for BTEX and MTBE. Lab analysis showed all parameters at concentrations less than (all non-detect) the NMWQS for BTEX compounds and MTBE.

RECOMMENDATION: *Giant Gallup will continue to monitor OW-13 on an annual basis for BTEX and MTBE*

OW-14

OW-14 was sampled on October 29, 2006 and on December 28, 2006 and analyzed for BTEX and MTBE. **Lab analysis on the two sample events in 2006 showed all parameters at concentrations less than the NMWQS for BTEX compounds and MTBE. Benzene had shown up at levels exceeding the NMWQS in the 2004 and 2005 samplings.**

RECOMMENDATION: Well *OW-14 is to be sampled on a semi-annual basis. This well has been known to contain contaminants. Wells OW-12, OW-13, OW- 29, and OW-30 were installed to monitor if contaminants from OW-14 were migrating.* ***Data from the additional wells have not shown any signs of contaminants.***

OW-29

OW-29 was sampled on October 27, 2006 and analyzed for BTEX and MTBE. Lab analysis showed concentrations less than (all non-detect) the NMWQS for Benzene, Toluene, Ethylbenzene, Xylene, and MTBE.

RECOMMENDATION: *Giant Gallup will continue to monitor OW-29 on an annual basis for BTEX and MTBE*

OW-30

OW-30 was sampled on October 27, 2006 and analyzed for BTEX and MTBE. Lab analysis showed concentrations less than the NMWQS for Benzene, Toluene, Ethylbenzene, Xylene, and MTBE.

RECOMMENDATION: *Giant Gallup will continue to monitor OW-30 on an annual basis for BTEX and MTBE*

BW-1-A

BW-1-A is a dry well and therefore was not sampled in 2006.

RECOMMENDATION: *Giant Gallup will continue to visually inspect BW-1-A annually for any liquids. If liquids are observed, then sampling will occur. All samples will be analyzed for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry.*

BW-1-B

BW-1-B is a dry well and therefore was not sampled in 2006.

RECOMMENDATION: *Giant Gallup will continue to visually inspect BW-1-B annually for any liquids. If liquids appear, samples will be analyzed for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry.*

BW-1-C

BW-1-C was sampled on October 28, 2006 and analyzed for VOC, SVOC, BTEX, MTBE, metals, and General Chemistry. Lab analysis showed concentrations less than (all non-detect) the NMWQS for benzene, toluene, ethylbenzene, xylene, and MTBE. However, lab results showed fluoride (2.7 mg/l) was greater than the NMWQS (1.6 mg/l).

RECOMMENDATION: *Giant Gallup will continue to monitor BW-1-C on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry*

BW-2-A

BW-2-A was sampled on October 28, 2006 and analyzed for VOC, SVOC, BTEX, MTBE, recoverable metals, and General Chemistry. Lab results showed all parameters less than NMWQS.

RECOMMENDATION: *Giant Gallup will continue to monitor BW-2-A on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry*

BW-2-B

BW-2-B was sampled on October 28, 2006 and analyzed for VOC, SVOC, BTEX, MTBE, metals and General Chemistry. Lab results showed concentrations less than the NMWQS for all parameters except fluoride which was greater (1.9 mg/l) than the NMWQS (1.6 mg/l).

RECOMMENDATION: *Giant Gallup will continue to monitor BW-2-B on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry. All future lab reports will be compared to past data to determine if levels of Selenium are increasing or remaining static. Selenium in 2006 was less than the detection level (<0.050 mg/l) .*

BW-2-C

BW-2-C was sampled on October 28, 2006 and analyzed for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry. Lab results showed concentrations less than the NMWQS for all parameters except fluoride which was greater (2.4 mg/l) than the NMWQS (1.6 mg/l).

RECOMMENDATION: Giant Gallup will continue to monitor BW-2-C on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry.

BW-3-A

BW-3-A was dry and therefore could not be sampled.

RECOMMENDATION: *Giant Gallup will continue to visually inspect BW-3-A for any liquids. If liquids appear, samples will be analyzed for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry.*

BW-3-B

BW-3-B was sampled on October 29, 2006 and analyzed for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry. Lab results showed concentrations less than the NMWQS for all parameters except fluoride which was greater (1.7 mg/l) than the NMWQS (1.6 mg/l).

RECOMMENDATION: *Giant Gallup will continue to monitor BW-3-B on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry*

BW-3-C

BW-3-C was sampled on October 29, 2006 and analyzed for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry. Lab results showed concentrations less than the NMWQS for all parameters except fluoride (1.9 mg/l) which was present at greater than the NMWQS (1.6 mg/l).

RECOMMENDATION: *Giant Gallup will continue to monitor BW-3-C on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry*

GWM-1

GWM-1 was inspected for presence of water in 2006 on March 9, May 26, July 26, and October 13. Ground water was sampled on August 2, 2006; the sample was analyzed for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry. The sample showed benzene present at 0.012 mg/l which is greater than the 0.005 mg/l MCL standard for benzene. All other results from the August 2 sampling were less than the NMWQS except fluoride (2.0 mg/l), chloride (3,700 mg/l), and arsenic (0.077 mg/l) which were greater than the NMWQS for fluoride (1.6 mg/l), chloride (250 mg/l), and arsenic (0.05 mg/l).

RECOMMENDATION: *Giant Gallup will monitor GWM-1 on an annual basis for VOC, SVOC, BTEX, MTBE, Metals, and General Chemistry. Gallup also checks GWM-1 on a quarterly basis for the presence of water. Based on 2006 lab data, discussions with NMED and NMOCD are ongoing and sampling maybe changed*

GWM-2

GWM-2 was installed in the Fall of 2005 and was dry. It was inspected for presence of groundwater in 2006 on January 18, May 26, July 26, and October 13. It was dry at all the inspections.

RECOMMENDATION: *Giant Gallup will monitor GWM-2 on a quarterly basis for the presence of water. If water is found, Giant will contact OCD/HWB immediately.*

GWM-3

GWM-3 was installed in the Fall of 2005 and was dry. It was inspected for presence of groundwater in 2006 on October 13. It was dry at the inspection.

RECOMMENDATION: *Giant Gallup will monitor GWM-3 on a quarterly basis for the presence of water. If water is found, Giant will contact OCD/HWB immediately.*

Pond #1 Inlet

Pond #1 inlet was sampled on March 30, 2006 and October 30, 2006 for BTEX, VOCs, and RCRA 8 metals (VOCs were inadvertently tested rather than SVOCs). Benzene, 2-methylnaphthalene, and lead exceeded the NMWQS; all other parameters were less than the NMWQS.

RECOMMENDATION: *Giant Gallup will continue to monitor Pond 1inlet on a semi-annual basis for BTEX, SVOCs and RCRA 8 metals.*

POND #2 Inlet

Pond #2 inlet was sampled on October 31, 2006 for BTEX, MTBE, and TDS. TDS exceeds the NMWQS; BTEX and MTBE were less than the NMWQS. It was sampled many times in 2006 for BOD and COD (a summary of the test results is included in Section 21. 3. b. in the OCD Addendum, Binder 2). This evaluation is not to be confused with the general chemistry evaluation, as for Pond 7, described in the next section.

RECOMMENDATION: *Giant Gallup will continue to monitor Pond 2on an annual basis for BTEX, MTBE, BOD, COD, and TDS. Moreover, in 2006 Giant will monitor above this point (pond 1) for any contaminants.*

Pond 7

Giant is required to sample on an annual basis one of the evaporation ponds for general chemistry parameters. Pond 7 was sampled on October 31, 2006 for general chemistry. As to be expected in water from evaporation ponds, the water sample was high in chloride, sodium and sulfate.

RECOMMENDATION: *Giant Gallup will continue to perform a general chemistry evaluation of one of the evaporation ponds on an annual basis for general chemistry. The pond selection will be at Giant's discretion.*

PW-2

PW-2 was not required to be sampled in 2005.

RECOMMENDATION: *Giant Gallup will continue to monitor PW-2 according to the discharge plan for VOC, SVOC, Metals, Cyanide, and Nitrates. The next scheduled sampling will take place in 2008*

PW-3

PW-3 was sampled in 2006. All parameters are less than the applicable NMWQS and MCLs.

RECOMMENDATION: *Giant Gallup will monitor PW-3 according to the discharge plan. Sampling will be conducted every 3 years beginning in 2006*

PW-4

PW-4 was not required to be sampled in 2006.

RECOMMENDATION: *Giant Gallup will continue to monitor PW-4 according to the discharge plan for VOC, SVOC, Metals, Cyanide, and Nitrates and is scheduled for sampling in 2007*

OW-1 and OW-10

These wells will be visually checked on a quarterly basis starting the 4th quarter of 2004. In 2006 the wells were visually inspected on March 9, June 27, July 26, and October 13.

RECOMMENDATION: *Giant Gallup will continue to visually inspect OW-1 and OW-10 for artesian flow quarterly*

MW-1, MW-4, MW-5, SMW-2 AND SMW-4

MW-1 was sampled on October 26, 2006. MW-4, MW-5, SMW-2 and SMW-4 were not required to be sampled in 2006. Lab results for MW-1 showed concentrations less than the NMWQS on all parameters.

RECOMMENDATION: *Giant Gallup will sample MW-1 annually. MW-4, MW-5, SMW-2 and SMW-4 will be sampled in 2007 and 2009 and biennially thereafter.*

7. List of Tables

GROUND WATER DEPTH TO WATER 2006

WELL #	DTW:	BTM:	DATE:
BW-1A	Dry	37.8	10-24-06
BW-1B	67.55	1ft H_2O	"
BW-1C	7.55		"
BW-2A	23.03		"
BW-2B	27.78		"
BW-2C	20.25		"
BW-3A	Dry	52.60	"
BW-3B	32.78		"
BW-3C	8.40		"
OW-11	21.95		"
OW-12	49.17		"
OW-13	24.36		"
OW-14	27.38		"
OW-29	21.95		"
OW-30	26.43		"
MW-1	7.58		"

BW-1B not enough water to sample.

Star Refining Company

MW-1 10/26/06 DPW - 7.58 ft.
Cold / Windy / Pt Cloudy
Attendees / Steve Morris, Cheryl Morris
start Purge 9:45
Sample 11:60 AM
3 W Vols. = 429.18 gals
Purged 175 gal. Lost Suction, waited 10 min. & Sampled.
Water clear / No odor
0945 Calibrated pH & Cond. Meter 10.26.06

MW-11 10/24/06 DPW - 21.10 ft.
Cold windy
Attendees Steve Morris & Cheryl Morris
Start Purge 13:15 pm 105 gals. Purged
Sample 14:00 pm
Portable pump Lowered to 55 ft.
3 W. Vols = 101.05 gals
Water clear / No odor

OW-12 10/26/06
Cold Windy / Pt. Cloudy
DTW 49.14
Attendees Steve Morris, Cheryl Morris
Start Purge time 14:30
Sample time
3 W Vols = 212.8 gals

Con. Pg 2

Purged gals, Lost Suction time
Pump depth 120 ft.
Tried to lower pump to 130 feet, but hit within bottom of well or obstruction at about 120 feet.
Water Clear / No Odor

OW-12 | 10/27/06 Dtw 61.34 ft. 8:30 Am
Clear Skies, Cold, Wind Still.
10.27.06 Calibrated pH & Con. Meter
43 gals. Available in Well
1845 Purge 20 gal.
Purge time - 8:45 Lowered Pump to 120 ft.
Sample time - 9:15
Water Clear / No odor

OW-13 | 10.27.06 (Dtw) 24.38
Clear Skies, Cold, Wind Still
Purge Gals 170 gals.
Purge - time 0935 Purge Liquid Depth 24.38
Sample time - 01030
Pump depth - 90 ft.
3 Well Depts = 167.88 gals.
Water Clear / No odor

OW-29 | 10.27.06
Clear skies, Cold, Wind Still
Pump Depth: 45 3 Well Vols. = 66.64 gals
Well Dept. 52 Dept. to Water 21.98
Purge time - 1100 Purged 44 gals & Lost Suction.
Sample time - 12:30

OW-29 : Water Slightly Cloudy / No odor

OW-30 10.27.06

Clear, Cold, Slight breeze

DTW - 26.45

Purge gals 48.84 gals purge time 1330

Well Depth 48 ft.

Pump Depth 42 ft

3 Well Vols = 47.84 ft.

Water Clear / No odor

Sample time 1400

PW-3 10.27.06

Clear, Cold, Slight Breeze Grab sample 8260 x 3 Preservative HCL

Sample time 0145

8270 x 1 None

Gathered Water in 2 gal. filtered Water jugs filled Sample bottles @ shed, Vapors in the Air @ PW-3 well.

Cyanide x 1 NaOH, None

Nitrates x 2 1. H_2SO_4

RCRA metals total x 1

BW-1-C 10.28.06

Cold, Sunny, slight Breeze

Purge time - 0930 Purged 5 gals, Last Suction & Sampled 0 1015

Dtw - 7.55 ft.

DED Pump

Well Dpth. 157 3 Well Vols. = 73.08

Sample time - 0 1015

Dtw - 7.55 ft.

157
-7.55

x .163

x 3/2

-8260 Voa x 3 HCL

RCRA metals totals → HNO3 x 1
Gen Chem

8270 → glass amber x 1 None

Gen Chem | NoNE x 1

Gen Chem. H_2SO_4 x 1

(7 - Bottles)

BW-2-A 10.28.06

Cold, Sunny, slight Breeze

Purge time - 1115 Purged 17 gal.s.

Dtw - 31.98 ft.

Well Dept. 65 ft.

3 Well Vols = 16.15 gals

DED Pump

Sample time. 1130

Con. Pg. 5

BW-2-B 10.28.06

Cold, Sunny, No Wind

Purge time 1300 Purged 16 gals Lost Suction. Waited 15 min. Sampled.

Dtw 27.78

Well Depth. 90.5

3 Well Vols. = 30.67

Sample time - 1330

Cloudy sample Water

BW-2-C 10.28.06

Moderate, Sunny, No Wind

Purge time - 1400 Purged 28 gals, Lost suction. waited 30 mins sampled.

Dtw - 20.26

Well Depth. 170 ft.

3 Well Vols = 73.22

Sample time - 1500

Well Depth 170 ft

Con. page 6

BW-3-B 10.29.06

Cold, Partically Cloudy, Slight Breeze

Purge time 0900 Purged Amount 12 gals. Cloudy Water
Lost Suction.

DtW- 32.75

Well Depth 72 ft

3 Well Vols. = 19.19 gals

Voa x 3 HLC

sample time 1000

BW-3-C 10.29.06

Cold, Partically Cloudy, Slight Breeze,

Purge time 1015 Purged amount 19.41 gal Lost Suction

(History Notes) Lowered Pump to 80' well ran over, 10-12 gals lost Suction 5 min. Lowered again to 120'

DtW 8.40

Well Depth 155 ft

3 Well Vols = 71.69 gals.

~~Lowered Pump to~~

sample time 1045

Slightly Cloudy Water

Con. Pg. 7

MW-14 10.29.04

Cold, Overcast, slight Breeze

Purge time - 1300 purged amount - 40 gals

Dtw - 27.25

Well Depth 45 ft.

3 well Vols = 39.40 Vol x 3

Sample time - 1330

WELL MONITORING SAMPLING LOG

WELL #	OW-12	OW-13	OW-14	OW29	OW-30	OW-11	MW-1					
PURGE DATE	10.26.06	10.27.06	10.29.06	10.27.06	10.27.06	10/26/26	10/26/06					
PURGE TIME	14:30	0935	1300	1100	1330	13:15	0945					
OVA READING												
LIQUID DEPTH	49.14	24.38	27.25	21.98	26.45	21.10	7.58					
PUMP DEPTH	120ft	90ft.		45ft	42ft.	55ft.	Ded.					
IMMISC. LAYER												
FLOW RATE												
PUMP TIME												

SAMPLE DAY	10.27.06	10.27.06	10.29.06	10.27.06	10.27.06	10/26/06	10/26/06					
SAMPLE TIME	0915	1030	1330	12:30	1400	14:00	11:60					
OVA READING												
LIQUID DEPTH	61.34	24.38	27.25	21.98	26.45	24.10	7.58'					
1) TEMP. F	56	56	57	55	56	56	56					
pH	9.61	8.26	6.88	7.66	7.30	8.58	9.1					
SP. COND.	1190	1295	2540	1702	1675	2980	12-12					
2) TEMP. F	56	56	57	55	56	56	56					
pH	9.65	8.31	6.83	7.53	7.25	8.52	9-22					
SP. COND.	1177	1295	2540	1696	1671	3000	1192					
3) TEMP. F	56	56	57	55	56	56	56					
pH	9.64	8.28	6.81	7.48	7.24	8.55	9.16					
SP. COND.	1165	1293	2520	1702	1670	2960	1180					
4) TEMP. F	56	56	57	55	56	56	56					
pH	9.64	8.28	6.80	7.42	7.23	8.51	9.14					
SP. COND.	1169	1287	2530	1698	1672	2990	1185					

Nitrates H_2SO_4

WELL #	BW-1-C	BW-2-A	BW-2B	BW-2-C	BW-3-B	BW-3C						
PURGE DATE	10.28.06	10.28.06	10.28.06	10.28.06	10.29.06	10.29.06						
PURGE TIME	0930	1115	1300	1400	0900	1015						
OVA READING												
LIQUID DEPTH	7.55	31.98	27.78	20.26	32.75	8.40						
PUMP DEPTH	DED	DED	DED	140	DED	155						
IMMISC. LAYER												
FLOW RATE												
PUMP TIME												

SAMPLE DAY	10.28.06	10.28.06	10.28.06	10.28.06	10.29.06	10.29.06						
SAMPLE TIME	01015	1120	1330	1500	1000	1045						
OVA READING												
LIQUID DEPTH	7.55	31.98	27.78	20.26	32.75	8.40						
1) TEMP. F	57	56	56	56	56	56						
pH	8.39	7.44	7.58	8.52	7.88	8.39						
SP. COND.	1352	1352	2290	1375	1547	1442						
2) TEMP. F	57	56	56	56	56	56						
pH	8.41	7.44	7.49	8.48	7.85	8.38						
SP. COND.	1352	1350	2290	1368	1558	1448						
3) TEMP. F	57	56	56	56	56	56						
pH	8.35	7.45	7.52	8.47	7.83	8.38						
SP. COND.	1359	1357	2310	1360	1558	1429						
4) TEMP. F	57	56	56	56	56	56						
pH	8.36	7.44	7.51	8.50	7.82	8.38						
SP. COND.	1346	1356	2310	1378	1550	1432						

32.75

Volume of Product Recovered

RW-1 HYDROCARBON RECOVERY LOG
2/22/05 TO 6/14/07

Date of measurement	Time	Quarter	Well #	Depth to Product (feet)	Depth to Water (feet)	Product Level Thickness (feet)	Volume of Product Bailed/ Pumped (gallons)	Water Gallons
2/22/2005	0830	1st.	RW-1	32'-5 1/2"	36'-6"	4'-0 1/2"	14	
3/2/2005	0745	1st.	RW-1	32'-5"	36'-5 1/4"	4'-0 1/4"	9	
3/8/2005	0830	1st.	RW-1	31'-11"	36'-4 1/4"	4'-5 1/4"	15	
3/9/2005	0830	1st.	RW-1	31'-11"	37'-6"	5'-7"	4	
3/11 to 3/18/05		1st.	RW-1	Started Pumping Well on 3/11/05			74	
3/18 to 3/23/05		1st.	RW-1	Continue Pumping			48	
3/23 to 4/1/05		1st.	RW-1	Continue Pumping			62	
4/1 To 4/4/05		2nd	RW-1	Pump shut down to measure well			27	
4/5/2005	11:30Hrs	2nd	RW-1	34'-9"	38'-11"	4'-2"		
4/4 TO 4/15/05	11:00Hrs	2nd	RW-1	Continue Pumping			50	
4-15 to 5-5-05	1230 Hrs	2nd	RW-1	Continue Pumping			45	154
5-5 to 6-17-05	1130 Hrs	2nd	RW-1	Continue Pumping			24	196
6/27/2005	1400 Hrs	2nd	RW-1	Pump shut down to measure well				
6/28/2005	1100 Hrs	2nd	RW-1	32' 5 1/2"	33' 3"	0' 9 1/2"		
6/28/2005		2nd	RW-1	Continue Pumping				
6/17 to 7/8/2005	1030 Hrs	2nd	RW-1	Continue Pumping			18	146
7/8 to 8/9/2005	1330 Hrs	3rd	RW-1	Continue Pumping			28	350
8/9 to 9/16/2005	1135 Hrs	3rd	RW-1	36'- 5 1/2"	36' - 6 1/2"	0' - 1"	8	240
12/5/2005	1315 Hrs	4th	RW-1	31'-11"	34'-8 1/2"	2'-9 1/2"		
12/8/2005	1400 Hrs	4th	RW-1	Start Pumping				
12/22/2005	1530 Hrs	4th	RW-1	Pulled Pump			5	120
12/29/2005	1400 Hrs	4th	RW-1	Hand Bailed			0.5	4.5
3/16/2006	1300 Hrs.	1st.	RW-1	32'-2 3/4"	34'-5 3/4"	2'-3"		
3/16/2006	1430 Hrs.	1st.	RW-1	Start Pumping				
3/23/2006	1430 Hrs.	1st.	RW-1	Shut Off Pump				
3/27/2006	1530 Hrs.	1st.	RW-1	Start Pumping				
3/31/2006	1130 Hrs.	1st.	RW-1	Continue Pumping			7	174
4/3/2006	1130 Hrs.	2nd	RW-1	Stopped Pumping			1	38
4/4/2006	1100 Hrs.	2nd	RW-1	32'-9"	33'-1"	0'-4"		
6/6/2006	1300 Hrs.	2nd	RW-1	32'-4 3/4"	34'-6 1/2"	2'-1 3/4"		
6/8/2006	1500 Hrs.	2nd	RW-1	Start Pumping (Intermittingly)				
6/29/2006	1000 Hrs.	2nd	RW-1	Stopped Pumping			8	365
7/31/2006	1145 Hrs	3rd	RW-1	33'-0 3/4"	33'-5 3/4"	0'-5"		
7/31/2006	1145 Hrs	3rd	RW-1	Start Pumping				
8/3/2006	1420 Hrs	3rd	RW-1	Stopped Pumping			2	87
8/8/2006	0900 Hrs.	3rd	RW-1	Start Pumping				
8/10/2006	1530 HRS	3rd	RW-1	Start pumping				
8/22/2006	0900 Hrs.	3rd	RW-1	Pulled pump			4.9	373
8/22/2006	0945 HRS	3rd	RW-1	33'10"	33'4"	0.6"		
12/21/2006	1555	4th	RW-1	35'2"	36'	1'1/4"	1.5	70
2/21/2007	1015	1st.	RW-1	33'5"	34' 6"	1' 11"	0.625	53.5
6/5/2007	1000	2nd	RW-1	32' 5"	32' 8-1/2"	2-1/2"		
6/5/2007	1010			Hand Bailed			0.125	9
6/6/2007	840			Hand Bailed			0.25	11
6/13/2007	1400			Hand Bailed			0.25	12
6/14/2007	1040			Hand Bailed			0.125	8
					Total Gallons		457.275	2411

WELL VOLUME SHEET

WELL	TOTAL DEPTH	DEPTH TO WATER	CAPACITY GALLON PER FOOT	ONE WELL VOLUME	THREE WELL VOLUME
MW-1	132.02		1.02		
MW-2	140.24		1.02		
MW-4	122.14		1.02		
MW-5	133.02		0.74		
SMW-1			0.163		
SMW-2			0.163		
SMW-3	45.86		0.163		
SMW-4	72.22		0.163		
SMW-5	76.22		0.163		
SMW-6	73.11		0.163		
OW-1	94.04		0.74		
OW-2	61.0		0.74		
OW-3	66.73		0.74		
OW-11	66.62		0.74		
OW-29	52.00		0.74		
OW-30	48.00		0.74		
OW-24	65.0		0.74		

GIANT CINIZA REFINERY

Permit Requirement: GW-032

Condition Permit ID # : OCD Sect. 9, Item 4

Monitoring Required: Quarterly measurement of product layer thickness and bailing of product.

Equipment Identification: RW-1, RW-2, RW-5, & RW-6

Date of measurement	Time	Quarter	Well #	Depth to Product (feet)	Depth to Water (feet)	Product Level Thickness (feet)	Volume of Product Bailed (gallons)
3/16/2006	1300 Hrs.	1st	**RW-1**	32'-2 3/4"	34'-5 3/4"	2'-3"	* 7
3/16/2006	1430 Hrs.	1st	**RW-2**	No Product	27'-10 3/4"	0	0
3/16/2006	1450 Hrs.	1st	**RW-5**	32'-7"	33'-0"	0'-5"	1
3/17/2006	1245Hrs	1st	**RW-6**	32'-8"	33'-9"	1'-1"	2 1/2
Name and Title of person who performed measurement: Johnny Sanchez (Environmental Specialist)							

* Started pumping 3-16-06 at 1430 Hrs. Shut Off pump 3/23/06 at 1430 Hrs. Start Pumping 3/27/06 at 1530 Hrs. 3/31/06 at 1130 Hrs. Pumped 174 Gallons of water and 7 Gallons of Product.

Signature: Johnny Sanchez

CC: Ed Riege

GIANT CINIZA REFINERY

Permit Requirement: GW-032

Condition Permit ID # : OCD Sect. 9, Item 4

Monitoring Required: Quarterly measurement of product layer thickness and bailing of product.

Equipment Identification: RW-1, RW-2, RW-5, & RW-6

Date of measurement	Time	Quarter	Well #	Depth to Product (feet)	Depth to Water (feet)	Product Level Thickness (feet)	Volume of Product Bailed (gallons)
6/6/2006	1330 Hrs.	2nd.	**RW-1**	32'-4 3/4"	34'-6 1/2"	2'-1 3/4"	***
6/1/2006	1500 Hrs.	2nd.	**RW-2**	No Product	27'-11 3/4"	0	0
6/1/2006	1540 Hrs.	2nd.	**RW-5**	32'-9 1/2"	33'-2"	0'-4 1/2"	1
6/7/2006	1505 Hrs.	2nd.	**RW-6**	32'-11"	34'-0 1/2"	1'-1 1/2"	2 1/2
Name and Title of person who performed measurement: Johnny Sanchez (Environmental Specialist)							
*** Pumped RW-1 from 6-8-06 to 6-29-06 intermittingly, 365 gallons of water and 8 gallons of product.							

Signature: Johnny Sanchez

GIANT CINIZA REFINERY

Permit Requirement: GW-032

Condition Permit ID # : OCD Sect. 9, Item 4

Monitoring Required: Quarterly measurement of product layer thickness and bailing of product.

Equipment Identification: RW-1, RW-2, RW-5, & RW-6

Date of measurement	Time	Quarter	Well #	Depth to Product (feet)	Depth to Water (feet)	Product Level Thickness (feet)	Volume of Product Bailed (gallons)
7/31/2006	1050 hrs	3rd	**RW-1**	33'-0 3/4"	33'-5 3/4"	0'-5"	*4.9
7/26/2006	1145 hrs	3rd	**RW-2**	No Product	28'-2 3/4"	0	0
7/26/2006	1435 Hrs.	3rd	**RW-5**	32'-10 3/4"	33'-3 3/4"	0'-7"	3/8
7/26/2006	1500 Hrs.	3rd	**RW-6**	33'-0"	34'-1 1/2"	1'-1 1/2"	1 1/2
Name and Title of person who performed measurement: Johnny Sanchez & Cheryl Johnson (Environmental Specialist)							
Measured to top of steel casings on all wells. * started pumping at 11:45AM 7/31/06. Completed pumping to all 8 drums on 8/22/06. Total gallons pumped 373 gallons; 4.9 gals of product.							

Signature: _____

GIANT CINIZA REFINERY

Permit Requirement: GW-032

Condition Permit ID # : OCD Sect. 9, Item 4

Monitoring Required: Quarterly measurement of product layer thickness and bailing of product.

Equipment Identification: RW-1, RW-2, RW-5, RW-6

Date of measurement	Time	Quarter	Well #	Depth to Product (feet)	Depth to Water (feet)	Product Level Thickness (feet)	Volume of Product Bailed (gallons)
12/21/2006	1055 hrs	4th	**RW-1**	32' 5-1/2"	32' 4-3/4"	0' 0-3/4"	1.5
10/13/2006	1540 hrs	4TH	**RW-2**	No Product	28' 2-3/4"	0	0
10/16/2006	0915 hrs	4th	**RW-5**	32' 8 3/4"	33' 5"	0' 6-1/4"	1/4
10/16/2006	0955 hrs	4th	**RW-6**	33' 8 1/2"	34' 7 5/8"	1' 1/8"	3/4
Name and Title of person who performed measurement: **Cheryl Johnson (Environmental Specialist)**							

Signature: 

CC: Ed Riege

Well Data Summary Table

Well Data Summary Table - REVISED
2006 Annual Groundwater Discharge Report
Giant Refining - Ciniza Refinery
August 2007 by Jim Lieb

Well ID Number	Measurement Date	A Well Casing Rim Elevations (ft)	Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)*	B SPH Thickness (ft)	C Depth to Water (ft)	D = A - C Groundwater Elevation (ft)	= 0.8B + D Corrected Water Table Elevation (ft)**
BW-1A	24-Oct-06	6,876.73	6,836.73	40.00	na	na	dry	dry	na
BW-1B	24-Oct-06	6,876.91	6,811.71	67.55	na	na	67.55	6,809.36	na
BW-1C	24-Oct-06	6,876.75	6,719.75	157.00	na	na	7.55	6,869.20	na
BW-2A	24-Oct-06	6,874.72	6,809.22	65.50	na	na	23.03	6,851.69	na
BW-2B	24-Oct-06	6,874.58	6,784.08	90.50	na	na	27.78	6,846.80	na
BW-2C	24-Oct-06	6,875.40	6,724.40	151.00	na	na	20.25	6,855.15	na
BW-3A	24-Oct-06	6,878.22	6,828.22	52.60	na	na	dry	dry	na
BW-3B	24-Oct-06	6,878.79	6,803.79	75.00	na	na	32.78	6,846.01	na
BW-3C	24-Oct-06	6,878.08	6,723.08	155.00	na	na	8.40	6,869.68	na
OW-1	9-Mar-06	6,868.00	6,773.96	94.04	na	na	0.00	6,868.00	na
OW-1	27-Jun-06	6,868.00	6,773.96	94.04	na	na	0.40	6,867.60	na
OW-1	26-Jul-06	6,868.00	6,773.96	94.04	na	na	0.83	6,867.17	na
OW-1	13-Oct-06	6,868.00	6,773.96	94.04	na	na	0.25	6,867.75	na
OW-10	9-Mar-06	6,872.00	6,804.00	68.00	na	na	2.70	6,869.30	na
OW-10	27-Jun-06	6,872.00	6,804.00	68.00	na	na	3.43	6,868.57	na
OW-10	26-Jul-06	6,872.00	6,804.00	68.00	na	na	3.95	6,868.05	na
OW-10	13-Oct-06	6,872.00	6,804.00	68.00	na	na	2.90	6,869.10	na
OW-11	24-Oct-06	6,923.89	6,857.27	66.62	na	na	21.05	6,902.84	na
OW-12	24-Oct-06	6,940.43	6,795.43	145.00	na	na	49.17	6,891.26	na
OW-13	24-Oct-06	6,920.12	6,820.12	100.00	na	na	24.36	6,895.76	na
OW-14	24-Oct-06	6,926.64	6,881.64	45.00	na	na	27.38	6,899.26	na
OW-29	24-Oct-06	6,913.50	6,864.50	49.00	na	na	21.95	6891.55	na
OW-30	24-Oct-06	6,921.60	6,873.20	48.4	na	na	26.43	6,895.17	na
MW-1	24-Oct-06	6,878.52	6,746.50	132.02	na	na	7.58	6,870.94	na
MW-4	not sampled	6,882.54	6,760.40	122.14	na	na	not sampled	not sampled	na
MW-5	not sampled	6,883.32	6,750.30	133.02	na	na	not sampled	not sampled	na
RW-1 (OW-27)	16-Mar-06	6,943.50			32.23	4.04	34.48	6,909.02	6912.252
	6-Jun-06				32.40	4.02	34.54	6,908.96	6912.176
	31-Jul-06				31.92	4.44	33.48	6,910.02	6913.572
	21-Dec-06				32.46	5.58	32.40	6,911.10	6915.564
RW-2 (OW-28)	16-Mar-06	6,927.20			na	0	27.90	6,899.30	6899.3
	June 1,2006				na	0	27.98	6,899.22	6899.22
	26-Jul-06				na	0	28.23	6,898.97	6898.97
	13-Oct-06				na	0	28.23	6,898.97	6898.97

Well ID Number	Measurement Date	A Well Casing Rim Elevations (ft)	Well Casing Bottom Elevations (ft)	Total Well Depth (ft)	Depth to SPH (ft)*	B SPH Thickness (ft)	C Depth to Water (ft)	D = A - C Groundwater Elevation (ft)	= 0.8B + D Corrected Water Table Elevation (ft)**
RW-5	16-Mar-06	6,942.50	40.00		32.58	1.17	33.00	6,909.50	6910.436
	June 1,2006				32.79	0.75	33.17	6,909.33	6909.93
	26-Jul-06				32.90	0.33	33.31	6,909.19	6909.454
	16-Oct-06				32.73	1.08	33.42	6,909.08	6909.944
RW-6	17-Mar-06	6,972.60	38.80		32.67	1.38	33.75	6,938.85	6939.954
	June 7,2006				32.92	1.19	34.04	6,938.56	6939.512
	26-Jul-06				33.00	0.85	34.12	6,938.48	6939.16
	16-Oct-06				33.71	1.19	34.64	6,937.96	6938.912
SMW-2	not sampled	6,884.44	6,827.10	57.34	na	na	not sampled	not sampled	na
SMW-4	not sampled	6,882.54	6,760.40	122.14	na	na	not sampled	not sampled	na
SMW-6	not sampled	6,880.71	6,807.60	73.11	na	na	not sampled	not sampled	na
GWM-1	9-Mar-06	6,912.65	6,888.95	23.7	na	na	20.25	6892.4	na
	26-May-06	6,912.65	6,888.95	23.7	na	na	20.16	6892.49	na
	26-Jul-06	6,912.65	6,888.95	23.7	na	na	20.72	6891.93	na
	13-Oct-06	6,912.65	6,888.95	23.7	na	na	20.61	6892.04	na
GWM-2	9-Mar-06	6,913.17	6,896.97	18.97	na	na	DRY	DRY	DRY
	26-May-06	6,913.17	6,896.97	18.97	na	na	DRY	DRY	DRY
	26-Jul-06	6,913.17	6,896.97	18.97	na	na	DRY	DRY	DRY
	13-Oct-06	6,913.17	6,896.97	18.97	na	na	DRY	DRY	DRY
GWM-3	9-Mar-06	6,912.65	6,896.15	17.94	na	na	DRY	DRY	DRY
	26-May-06	6,912.65	6,896.15	17.94	na	na	DRY	DRY	DRY
	26-Jul-06	6,912.65	6,896.15	17.94	na	na	DRY	DRY	DRY
	13-Oct-06	6,912.65	6,896.15	17.94	na	na	DRY	DRY	DRY

*SPH = Separate Phase Hydrocarbons
**Corrected water table elevations are only provided if SPH was detected.
na = If no SPH was detected then this is shown on the table as *na* (not applicable).
Water was not observed in GWM-2, and GWM-3 in 2006.

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on GWM-1

Date	Time	Quarter	Depth to Water (feet)	Comments
3/9/2006	1:10PM	1st	20.25'	To top of plastic casing
Name & Title of person who performed measurement: Johnny Sanchez (Environmental Specialist)				

Signature: Johnny Sanchez

CC: Ed Riege

File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

GIANT CINIZA REFINERY

GROUNDWATER DISCHARGE PERMIT

GWM-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on GWM-1

Date	Time	Quarter	Depth to Water (feet)	Comments
5/26/2006	1350 Hrs.	2nd	20.16'	To top of plastic casing
Name & Title of person who performed measurement: Johnny Sanchez (Environmental Specialist)				

Signature: Johnny Sanchez

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on GWM-1

Date	Time	Quarter	Depth to Water (feet)	Comments
7/26/2006	1110 hrs	3rd	20.72'	To top of plastic casing
				Collected annual water samples
Name & Title of person who performed measurement: Johnny Sanchez & Cheryl Johnson (Environmental Specialist)				

Signature: Johnny Sanchez

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on GWM-1

Date	Time	Quarter	Depth to Water (feet)	Comments
10/13/2006	1505 hrs	4th	20'61"	To top of plastic Casing.
Name & Title of person who performed measurement: Cheryl Johnson / Environmental Specialist				

Signature: 

CC: Ed Riege

File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-2 WELL INSPECTION

Permit Requirement: OCD, Section 9; Item 3

Monitoring Requirement: Monthly Through 2005 QTR. START 2006

Date	Time	Month	Depth to Bottom (feet)	Comments (Dry?)
1-18-06	0955A	JAN	18.97	DRY

Name & Title of person who performed measurement: Johnny Sanchez (EMV Specialist)

Signature: Johnny Sanchez

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-2 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 3

Monitoring Requirement: Quarterly Start 2006

Date	Time	Qtr.	Depth to Bottom (feet)	Comments (Dry?)
5/26/2006	1400Hrs.	2nd	18.97'	To top of plastic. Dry.
Name & Title of person who performed measurement: Johnny Sanchez (Environmental Specialist)				

Signature: Johnny Sanchez

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-2 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 3

Monitoring Requirement: Quarterly Start 2006

Date	Time	Qtr.	Depth to Bottom (feet)	Comments (Dry?)
7/26/2006	1105Hrs.	3rd	18.97'	To top of plastic. Dry.
Name & Title of person who performed measurement: Johnny Sanchez & Cheryl Johnson (Environmental Specialist)				

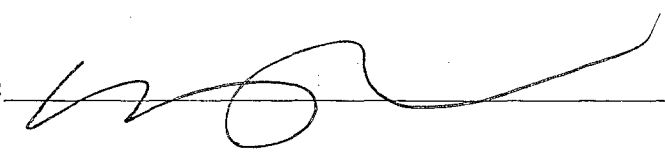
Signature: J. Sanchez

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-2 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 3

Monitoring Requirement: Quarterly Start 2006

Date	Time	Quarter	Depth to bottom (feet)	Comments (Dry?)
10/13/2006	1510 hrs	4th	18' 97"	DRY: (To top of plastic casing)
Name & Title of person who performed measurement: Cheryl Johnson / Environmental Specialist				

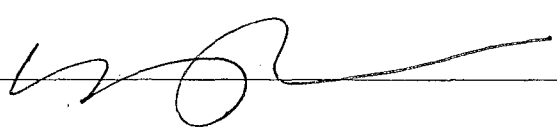
Signature: 

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
GWM-3 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 3

Monitoring Requirement: Quarterly Start 2006

Date	Time	Quarter	Depth to bottom (feet)	Comments (Dry?)
10/13/2006	1500 hrs	4th	17' 94"	DRY: (To top of plastic casing)
Name & Title of person who performed measurement: Cheryl Johnson / Environmental Specialist				

Signature: 

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Check well OW-1 for artesian flow condition

Date	Time	Quarter	Depth to Water (feet)	Comments
3/9/2006	1:45PM	1st	0	
Name & Title of person who performed measurement: Johnny Sanchez (Environmental Specialist)				

Signature: Johnny Sanchez

CC: Ed Riege

File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Check well OW-1 for artesian flow condition

Date	Time	Quarter	Depth to Water (feet)	Comments
6/27/2006	1420 Hrs.	2nd	0' - 4 3/4"	To top of plastic casing.
Name & Title of person who performed measurement: Johnny Sanchez (Environmental Specialist)				

Signature: Johnny Sanchez

CC: Ed Riege

~~File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form~~

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Check well OW-1 for artesian flow condition

Date	Time	Quarter	Depth to Water (feet)	Comments
7/26/2006	1125	3rd	0' - 10"	To top of plastic casing.
Name & Title of person who performed measurement: Johnny Sanchez & Cheryl Johnson (Environmental Specialist)				

Signature: Johnny Sanchez

CC: Ed Riege

File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-1 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Check well OW-1 for artesian flow condition

Date	Time	Quarter	Depth to Water (feet)	Comments
10/13/2006	1455 hrs	4th	0' 3"	to top of plastic casing
Name & Title of person who performed measurement: Cheryl Johnson, Environmental Specialist				

Signature: _____

CC: Ed Riege

File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-10 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on OW-10

Date	Time	Quarter	Depth to Water (feet)	Comments
3/9/2006	1:40PM	1st	2.7'	To Top of Plastic Casing
Name & Title of person who performed measurement: Johnny Sanchez (Environmental Specilist)				

Signature: Johnny Sanchez

CC: Ed Riege

File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-10 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on OW-10

Date	Time	Quarter	Depth to Water (feet)	Comments
6/27/2006	1405 Hrs.	2nd	3.43'	To Top of Plastic Casing
Name & Title of person who performed measurement: Johnny Sanchez (Environmental Specilist)				

Signature: Johnny Sanchez

CC: Ed Riege

~~File: (S:)\env-share\Wells-OW-1,OW-10 GWM-1 Form~~

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-10 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on OW-10

Date	Time	Quarter	Depth to Water (feet)	Comments
7/26/2006	1120	3rd	3.95'	To Top of Plastic Casing
Name & Title of person who performed measurement: Johnny Sanchez & Cheryl Johnson (Environmental Specialist)				

Signature:

CC: Ed Riege

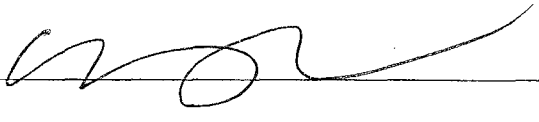
File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

GIANT CINIZA REFINERY
GROUNDWATER DISCHARGE PERMIT
OW-10 WELL INSPECTION

Permit Requirement: OCD, Section 9, Item 4

Monitoring Requirement: Quarterly water level on OW-10

Date	Time	Quarter	Depth to Water (feet)	Comments
10/13/2006	1440 hrs	4th	2'.9"	To top of plastic casing
Name & Title of person who performed measurement: Cheryl Johnson, Environmental Specialist				

Signature: 

CC: Ed Riege

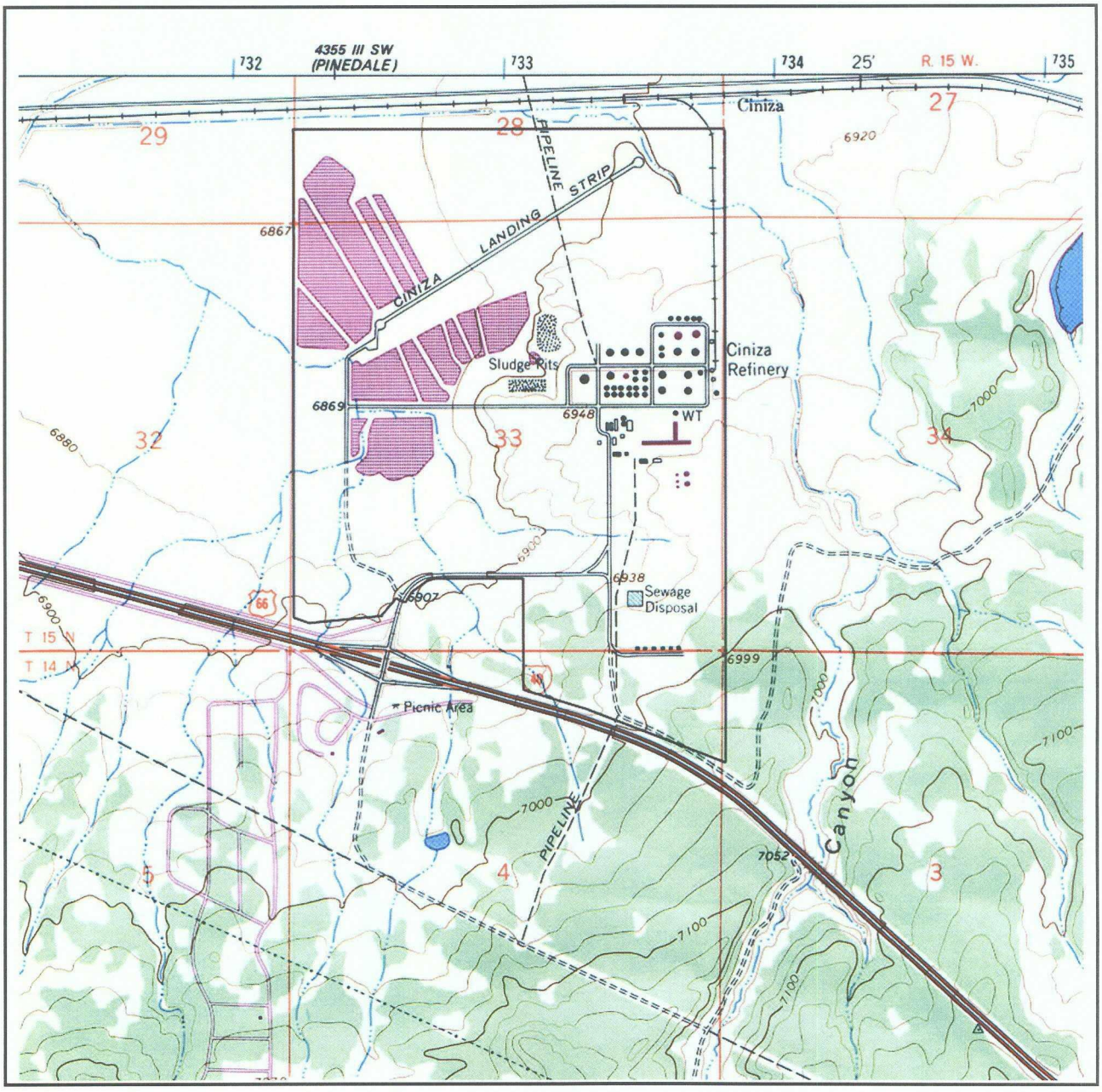
File: (S:)\env-share\Wells OW-1,OW-10 GWM-1 Form

8. List of Figures

Figure 1
Regional Map

Figure 2 - Topographic Map of the Refinery Site

Locality Map
USGS Topographical Map - Gallup Quadrangle (Revised 1980)



Well and Boring Locations Map

Potentiometric Elevation Map
(Alluvium - Chinle Group Interface Water Levels)

Annual Product Thickness Map
(Separate Phase Hydrocarbon Thickness)

Sonsela Water Piezometric Surface

Groundwater Elevation Map

Appendix A: Gallup Field Sampling Collection and Handling Procedures

Field Data Collection

All facility monitoring wells and recovery wells were gauged in January, March, May, June, July, October, and December of 2005. Gallup does not have any recovery well pumps that need to be shut off and removed prior to water elevation measurements.

All water/product levels are measured to an accuracy of the nearest 0.01 foot using an electrical conductance based meter. After determining water levels, well volumes are calculated using the conversion factors listed (under the heading *Capacity gallons per foot*) in Table 1 in Section 7.

Generally, at least three well volumes are purged from each well prior to sampling. Wells that don't have sufficient recovery to obtain 3 well volumes are pumped until loss of suction then sampled.

Electrical conductance (E.C.), pH, and temperature are monitored during purging using a meter. The wells are considered satisfactorily purged when the pH, E.C., and temperatures values did not vary by more than 10 percent for at least three measurements.

Filed data and well elevations can be found in Section 8 - Well Data Summary Table.

Purged well water from wells that have shown prior contamination is collected in fifty five gallon drums. The water is treated in the refinery's waste water treatment system. Purged water from historically non-contaminated wells is drained onto the ground.

Sampling Equipment at Gallup

The following sampling equipment is maintained at Gallup and used by the sampling personnel:

- Heron Instruments 100 ft. DipperT electric water depth tape complying with US GGG-T-106E, EEC Class II.
- Pall Corporation Acro 50A 0.45 micron disposable filter used with 60 ml. disposable syringe for filtering water in the field.
- Myron L Company Model DCH4 pH 4 & 10 for gain, and Hach NaCl 1990 Micro-siemens for conductivity calibration.
- Grundfos 2-inch pumps with Grundfos 115-volt AC-to-Dc converter.

Groundwater Elevation

All water/product levels are measured using DipperT electric water depth tape. The technician records separate phase hydrocarbon (SPH), depth to water (DTW), and total well depth using the tape. Wash probe on DipperT electric water depth tape first with non-phosphate soap water

then with deionized or distilled water before lowering into the well casing. Recovery wells with free product are checked using a reel gauge with water and hydrocarbon finding paste.

Water Quality/Groundwater Sampling

Water quality parameters are measured using a meter. Electrical conductance, pH, and temperature are monitored during purging.

Field Procedure for Purging Monitor Wells

In order to assure that the sample collected is representative of actual aquifer conditions, it is necessary to purge the well of stagnant water in the casing. This is accomplished by pumping three casing volumes of water from the well or until it is bailed dry, whichever occurs first. If a well can be pumped dry, it requires only that sufficient time elapse for an adequate volume of water to accumulate for the sampling event.

The casing volume is calculated according to the following formula:

One casing volume = L x F where

L = Length of water column = total depth - depth to water

F = gallons water per foot of well, based on the well casing diameter

F is provided on the *Well Volume Sheet* for the monitoring wells at Gallup provided at the end of this appendix.

The volume to be purged from each well is determined as follows:

Purge volume = casing volume x 3

Document the following information:

a. The amount of water purged from each well.
b. Weather conditions (dry or wet).
c. Depth to Water (DTW).
d. Purge date.
e. Purge time.

Well Evacuation

Before sample collection can begin, the water collected from each monitoring well must be fresh aquifer water. Well evacuation replaces stagnant well water with fresh aquifer water. The water level in the well, total depth of well and thickness of floating product (if any) will be measured using the DipperT electric water depth tape. A transparent bailer will be used to check for the presence and measure the thickness of floating product. If product is present, a ground water sample is typically not obtained.

Recovery wells are evacuated by use of an air driven pump. Wells MW-1, MW-2, MW-4, MW-5, BW-1C, BW-2A, BW-2B, BW-3B, and SMW-4 are each equipped with a dedicated electrical pump. The remaining wells were purged using a portable Grundfos pump in 2006.

In low yielding wells, the standing water will be removed until the well is essentially dry. The water level in the well will be allowed to recover until a sufficient volume is present to obtain a sample.

The first sample should be tested for pH, temperature, and specific conductance. Samples should then be collected and containerized in the order of the parameter's volatilization sensitivity (see *Order of Collection* below). The well should be retested for pH, temperature and specific conductance after sampling as a measure of purging efficiency and as a check on the stability of the water samples over time. All well evacuation information should be recorded in a log book.

Hand Bailing

Hand bailing is only used to remove free product from recovery wells. Hand bailing is performed by lowering a Teflon™ bailer slowly into the well, allowing water to enter the bailer, and lifting the bailer out of the well. The bailer is positioned just below the top of the standing water in the well, so that the bailed product is removed from the top of the water column.

Pumping

An electric pump is used to remove water from all wells other than recovery wells with free product in them. Wells MW-1, MW-2, MW-4, MW-5, BW-1C, BW-2A, BW-2B, BW-3B, and SMW-4 are each equipped with a dedicated electrical pump. The other wells, except for recovery wells, are pumped using a portable 2-inch Grundfos pump. During sample collection, a maximum flow rate of 100 milliliters/minute should be used. The actual flow rate should be measured using a graduated container and timed using a stop watch or a watch with a second hand. This rate can change as the water level in the well drops. The flow rate can be determined by:

$$\text{Flow rate (gpm)} = \frac{\text{volume collected (gallons) x 60 seconds per minute}}{\text{Time to fill container (seconds)}}$$

Bottle Filling Procedure

If the well was not bailed dry and the water level is recovering to provide sufficient water to fill all the sample bottles, then samples should be collected immediately. If the well was completely evacuated and/or recovery is slow, wait for a sufficient volume of water to recover in the well to fill all of the sample bottles before beginning to collect samples. Do not overfill the bottles as this will dilute the preservative. When filling VOA and TOX containers, slowly fill the container until the meniscus is just above the lip of the container. Place the cap on the container and tighten. Check for air bubbles by inverting the container and tapping gently. There should be no headspace (air) in the container. If headspace is present, the sample should be discarded and the container refilled (add sufficient preservative if required by sample test).

Do not touch the inside of bottle caps or the inside of the containers. If a cap is accidentally dropped, it should be rinsed with de-ionized or distilled water followed by a rinse with the sample prior to being placed on the container. Record in the field notes whether this happens. Filled containers should be placed on ice in the coolers immediately upon collection. Replace well cap and lock the cap.

Order of Collection

Samples should be collected in the order listed below:

Parameter	Bottle Type
Volatile Organics	VOA vials with septa cap of Teflon™
TOX	Pint amber glass with septa cap, H2SO4
TOC, Phenols, Nitrate, Ammonia	Quart glass jar, H2SO4
Extractable Organics	Quart glass jar with Teflon™ cap
Chloride and Sulfate	Quart plastic, no preservative
Cyanide	Quart glass, NaOH
Radionuclides	Quart plastic, HNO3
Metals*	Pint plastic

* Prefiltration bottle for dissolved metals which is subsequently filtered and transferred to a pint Plastic with HNO3.

Filtration

Ground water samples are filtered prior to *dissolved metals* analysis. For dissolved metals, sample water is poured into a jar and then extracted with a syringe. The syringe is then used to force the sample water through a 0.45 micron pore filter paper filter into the proper sample bottle to collect dissolved metals samples. Filtration must be performed within two hours of sample collection. Pour the filtrate into a sample bottle containing HNO3 preservative.

For samples destined for *total metals* analysis, do not filter the sample, and preserve with HNO3 to pH <2 in the field.

Gallup sampling personnel carry a cell phone when gathering groundwater and other water samples. While sampling procedures are generally well known and the appropriate sample bottles are ordered to match each sampling event, occasional questions do arise from unforeseen circumstances which may develop during sampling. At such times, sampling personnel contact Hall Environmental Analytical Laboratory to verify that sampling is correctly performed.

General Well Sampling and Sample Handling Procedures

For safety protection and sampling purity, rubber gloves are worn and changed between each activity.

Prepare for sampling event by making out sample bottle labels and have bottles separated into plastic bags for each well to be sampled and place in ice chest ready to take into the field.

Bring along a note book and sample log.

Starting with well MW-1, document weather conditions, sample date and time.

Fill in label with location, date, time, analysis, preservative, and your name.

Start sampling by adjusting converter speed for each well.

Affix sample label and fill bottle according to lab instructions. For samples intended for VOC analysis, use bottles with septa lids, fill bottle to neck and add final amount of water with cap to form meniscus. Turn bottles upside down to examine for bubbles. If bubbles show repeat previous sentence. If no bubbles show, secure lids and pack in bubble wrap and place in cooler until sampling is completed.

Decontaminate equipment that is not dedicated for use in a particular well. Decontaminate by first washing with a non-phosphate soapy water mixture then triple rinse with distilled or deionized water.

Refrigerate completed samples until shipping to lab. Be sure to check holding times and arrange the appropriate shipping.

Equipment Calibration Procedures

Myron L Digital PH and Conductivity Meter:
Conductivity Calibration:
1. Select 20 mS (micro Siemens) range. Remove bottom cover of instrument.
2. Rinse the cell cup three times with 442-15,000 standard solution and refill.
3. Press and hold the black button on instrument.
4. Adjust the calibration control the reading is correct. Discard the used solution.

pH Calibration:
1. Using pH 7 buffer, adjust "zero" control to read 7.00
2. Using pH 4 or 10 buffer, adjust "gain" control to read 4.00 or 10.00

Appendix C: Statistical Analysis