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: _______, Date: _______ Certified By: Ed Rios, General Manager, Giant Refining – Gallup Refinery Signature: _______, Date: ________, Date: _______

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Giant Refining – Gallup Refinery, 2006 Groundwater Report

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

• The <u>sulfur recovery unit</u> 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 windeffect 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	s 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-toyear 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 SEPA National Primary Drinking Water Standards

	Contaminant	MCL or TT1	Potential health effects from	Common sources of	Public
And a second second		(mg/L)2	exposure above the MCL	contaminant in drinking water	Health Goal
30	Acrylamide	TT8	Nervous system or blood problems;	Added to water during sewage/wastewater increased risk of cancer treatment	zero
ભર	Alachior	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
10C	Antimony	0.006	Increase in blood cholesterol; decrease in blood sugar	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder	0.006
100	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
106	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
-00	Atrazine	0.003	Cardiovascular system or reproductive problems	Runoff from herbicide used on row crops	0.003
100	Barium	2 -	Increase in blood pressure	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	2
00	Benzene	0.005	Anemia; decrease in blood platelets; increased risk of cancer	Discharge from factories; leaching from gas storage tanks and landfills	zero
0C	Benzo(a)pyrene (PAHs)	0.0002	Reproductive difficulties; increased risk of cancer	Leaching from linings of water storage tanks and distribution lines	zero
loc	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
DEP	Bromate	0.010	Increased risk of cancer	Byproduct of drinking water disinfection	zero
loc	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 (B)B(P) Disinfection Byproduct





Organic Chemical

	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
00	Chlordane	0.002	Liver or nervous system problems; increased risk of cancer	Residue of banned termiticide	zero
D	Chlorine (as Cl2)	MRDL=4.01	Eye/nose irritation; stomach discomfort	Water additive used to control microbes	MRDLG=41
D	Chlorine dioxide (as CIO ₂)	MRDL=0.81	Anemia; infants & young children: nervous system effects	Water additive used to control microbes	MRDLG=0.81
D:P	Chlorite	1.0	Anemia; infants & young children: nervous system effects	Byproduct of drinking water disinfection	0.8
00	Chlorobenzene	0.1	Liver or kidney problems	Discharge from chemical and agricultural chemical factories	0.1
00	Chromium (total)	0.1	Allergic dermatitis	Discharge from steel and pulp mills; erosion of natural deposits	0.1
100	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	TT3	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
.00	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
œ	1,2-Dibromo-3-chloropropa ne (DBCP)	0.0002	Reproductive difficulties; increased risk of cancer	Runoff/leaching from soil fumigant used on soybeans, cotton, pineapples, and orchards	zero
œ	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
0 C	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
00 .	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
00	Diquat	0.02	Cataracts	Runoff from herbicide use	0.02
聞 0 の 前 0 の 前	. ⊨nαothall	0.1	Stomach and intestinal problems	Kunott from herbicide use	(0.1

LEGEND





Microorganism

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Inorganic Chemical



	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
(0)04	Endrin	0.002	Liver problems	Residue of banned insecticide	0.002
OC	Epichlorohydrin	тт8	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
10	Ethylbenzene	0.7	Liver or kidneys problems	Discharge from petroleum refineries	0.7
૦૯	Ethylene dibromide	0.00005	Problems with liver, stomach, reproductive system, or kidneys; increased risk of cancer	Discharge from petroleum refineries	zero
00	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
.00	Glyphosate	0.7	Kidney problems; reproductive difficulties	Runoff from herbicide use	0.7
DÈP	Haloacetic acids (HAA5)	0.060	Increased risk of cancer	Byproduct of drinking water disinfection	n/a6
୍ରତ୍ର	Heptachlor	0.0004	Liver damage; increased risk of cancer	Residue of banned termiticide	zero
00	Heptachlor epoxide	0.0002	Liver damage; increased risk of cancer	Breakdown of heptachlor	zero
M	Heterotrophic plate count (HPC)	тт3	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
0C	Hexachlorobenzene	0.001	Liver or kidney problems; reproductive difficulties; increased risk of cancer	Discharge from metal refineries and agricultural chemical factories	zero
OC.	Hexachlorocyclopentadien e	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
.06	Lindane	0.0002	Liver or kidney problems	Runoff/leaching from insecticide used on cattle, lumber, gardens	0.0002
100	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
(BC)	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	

LEGEND



Disinfection Byproduct

Dinsinfectant

Microorganism

1010

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Inorganic Chemical



	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
œ	Oxamyl (Vydate)	0.2	Slight nervous system effects	Runoff/leaching from insecticide used on apples, potatoes, and tomatoes	0.2
œ	Pentachlorophenol	0.001	Liver or kidney problems; increased cancer risk	Discharge from wood preserving factories	zero
09	Picloram	0.5	Liver problems	Herbicide runoff	0.5
00	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
00	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
08	Simazine	0.004	Problems with blood	Herbicide runoff	0.004
00	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
100	I hallium	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
00	Toluene	1	Nervous system, kidney, or liver problems	Discharge from petroleum factories	1
M	Total Coliforms (including fecal coliform and <i>E. coli</i>)	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 <i>E. coli</i> 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/a6
00	Toxaphene	0.003	 Kidney, liver, or thyroid problems; increased risk of cancer 	Runoff/leaching from insecticide used on cotton and cattle	zero
08	2,4,5-TP (Silvex)	0.05	Liver problems	Residue of banned herbicide	0.05
.œ.	1,2,4-Trichlorobenzene	0.07	Changes in adrenal glands	Discharge from textile finishing factories	0.07
00	1,1,1-Irichloroethane	0.2	Liver, nervous system, or circulatory problems	Discharge from metal degreasing sites and other factories	0.20
00	1,1,2-Trichloroethane	0.005	Liver, kidney, or immune system problems	Discharge from industrial chemical factories	0.003
00	Trichloroethylene	0.005	Liver problems; increased risk of cancer	Discharge from metal degreasing sites and other factories	zero
M			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		n/a
R	Uranium	30 ug/L as of	Increased risk of cancer, kidney toxicity	Erosion of natural deposits	zero
	1	12/08/03			

LEGEND



Dinsinfectant 0)5)5 Disinfection Byproduct



Organic Chemical



	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
୍ ୦୦	Vinyl chloride	0.002	Increased risk of cancer	Leaching from PVC pipes; discharge from plastic factories	zero
Ŵ	Viruses (enteric)	TT3	Gastrointestinal illness (e.g., diarrhea, vomiting, cramps)	Human and animal fecal waste	zero
. 00	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 Contarrinant Level (MCL)-The highest level of a contarrinant 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 (IT) --- 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 Glardia 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 on o 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, in January 14, 2005, for systems servicing <0,000, turbidity may never exceed 1 NTU, and must not exceed 0.3 NTU 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 per 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 Disinfection Byproduct 16 6 Inorganic Chemical Microorganism



Organic Chemical

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.

Contaminal	nt	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	1	0.5 mg/L
Iron	1	0.3 mg/L
Manganese	s 4	0.05 mg/L
Odor	<u></u>	3 threshold odor number
рН		6.5-8.5
Silver		0.10 mg/L
Sulfate		250 mg/L
Total Dissolved Solids		500 mg/L
Zinc		5 mg/L

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Office of Water (4606M) EPA 816-F-03-016 www.epa.gov/safewater June 2003 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/I 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/1
(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	
(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/1
(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
В.	Other Standards for Domestic Water Supply	
(1)	Chloride (Cl)	
(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)	
(9)	Zinc (Zn)	
(10)	pH	between 6 and 9
С.	Standards for Irrigation Use - Ground water shall meet	the standards of Subsection A, B,
and C of this sec	tion unless otherwise provided.	
(1)	Aluminum (Al).	

(*)		
(2)	Boron (B)	0.75 mg/l
(3)	Cobalt (Co)	0.05 mg/l
(4)	Molvbdenum (Mo)	1.0 mg/l
(5)	Nickel (Ni)	
[2-18-77, 1-29-82	2, 11-17-83, 3-3-86, 12-1-95; 20.6.2.3103 NMA	AC - Rn, 20 NMAC 6.2.III.3103, 1-15-01; A, 9-26-

041

[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

NEW MEXICO ENVIRONMENT DEPARTMENT TPH SCREENING GUIDELINES November 2005

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.

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 TRACE OF TRACE OF TRACE AND THE PERCENCE AND THE CONTRACT OF THE PERCENCE AND THE PERCENC	Table 1.	TPH Com	positional	Assum	ptions	in Soil	
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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.

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.

November 2005 Page 1 of 5 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.

Petroleum Product	Residential Direct Exposure (mg/kg)	Industrial Direct Exposure (mg/kg)	Concentration in Groundwater (mg/L)	
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	2500	5000	Petroleum-Related Contaminants	
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants	

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

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.

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

November 2005 Page 2 of 5 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.

Petroleum Product	Residential Direct Exposure (mg/kg)	Industrial Direct Exposure (mg/kg)	Concentration in Groundwater (mg/L)		
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	800	2000	50.0		
Waste Oil	2500	5000	Petroleum-Related Contaminants		
Gasoline	Not applicable	Not applicable	Petroleum-Related Contaminants		

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

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.

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 screening levels (SSLs) soil 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

November 2005 Page 3 of 5 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.

Petroleum-Related	Values for Dire So	ct Exposure to il	NMED DAF ^a 20 GW	NMED DAF ^b 1 GW protection (mg/kg in soil)		
Contaminantis	NMED residential SSL (mg/kg)	NMED Industrial SSL (mg/kg)	protection (mg/kg in soil)			
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	· 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	2.50E+03	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						
BAF – Dilution Attenuation Factor For contaminated soil in contact with groundwater						

Table 3. Petroleum-Related Contaminants Screening Guidelines

References

No NMED value available, value taken from MADEP 2002

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."

November 2005 Page 4 of 5 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.

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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.

РОТА				ABLE WELLS #2, #3, AND #4				
	mg/L	DATE	PW	PW	PW	WQCC 20 NMAC	MCL'S	EPA
		SAMPLED	Well #2	Well #4	Well #3	6.2.3103		sug. tor MTBE
		27-Oct-06			< 0.001			
	Benzene	Not sampled in 2005*		×				
		04-Aug-04		<0.001		0.01	0.005	
		09-Dec-04	<0.001					
		27-Oct-06			<0.001			
	Toluene	Not sampled in 2005*						
		04-Aug-04		<0.001		0.75	1	
		09-Dec-04	< 0.001					
	EthylBen	27-Oct-06			<0.001			
		Not sampled in 2005*						
		04-Aug-04		<0.001		0.75	0.7	
		09-Dec-04	<0.001					
	Xylene	27-Oct-06			<0.001			
		Not sampled in 2005*						
		04-Aug-04		<0.001		0.62	10	
		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.
	IN	IFLUENT TO EVA	APORATION	POND 1		
	mg/L	DATE	EP1	WQCC20 NMAC	MCL'S	EPA
		SAMPLED	INFLUENT	6.2.3103		sug. for MTBE
	Benzene	March 30, 2006	0.210	0.01	0.005	
	2	October 30, 2006	<0.010			
	Ethyl Benzene	March 30, 2006	0.060	0.75	0.7	
		October 30, 2006	<0.010			-
	MTBF	March 30, 2006	<0.075			0.2
		October 30, 2006	<0.015			0.2
EPA	Toluene	March 30, 2006	0.440	0.75	1	
ME	Tordene	October 30, 2006	<0.010	0.75	1	
ГНО	Yylones	March 30, 2006	0.430	0.62	10	
D 82	Aylenes	October 30, 2006	0.062	0.02	10	
260B	1-Mathylnanhthalana	March 30, 2006	0.410			
VO	1-Wentymaphinalene	October 30, 2006	0.440			
LAT	2-Methylpanhthalene	March 30, 2006	0.620	0.03		
ILES	2-Ivietitymapitmatene	October 30, 2006	0.550	0.05		
	124 trimothylbonzono	March 30, 2006	0.170			
	1,2,4-trimetityibenzene	October 30, 2006	0.110			
	2 hutanono	March 30, 2006	0.820			
	2-Dutanone	October 30, 2006	0.110			
	Nanhthalana	March 30, 2006	0.200			
	Napittiaiene	October 30, 2006	0.054			
-	На	March 30, 2006	0.0017	0.002	0.002	
EPA N	ng	October 30, 2006	0.0011	0.002	0.002	
METH	Ba	March 30, 2006	0.22		2	
đOĐ	Da	October 30, 2006	0.16		2	
6010]	Cr	March 30, 2006	0.010		0.1	
B ME		October 30, 2006	0.011			
TAL	Dh	March 30, 2006	0.011		0.015	
S	10	October 30, 2006	0.018		0.015	

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

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					V	OLAT	ILES 802	21B				
	mg/L	DATE SAMPLE D	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
		28-Dec-06			0.0042							
		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			
	Benzene	28-Jun-05							0.010	0.01	0.005	
		15-Feb-05							0.005			
		08-Dec-04	<0.0005	<0.0005		<0.0005	<0.0005					
		09-Dec-04			0.23				0.0044			
		28-Dec-06			<0.001							
		27-Oct-06	<0.001	<0.001	<0.001	<0.001	<0.001	0.022	<0.010			
	TT - 1	27-Sep-05	<0.0005	<0.0005	0.0022	<0.0005	< 0.0005		0.0046	0.75	1	
H	loiuene	28-Jun-05							<.0025	0.75	L	
PAN		15-Feb-05							0.0024			
MET	0	08-Dec-04	<0.0005	<0.0005	0.0025	<0.0005	<0.0005		0.0032			
HOL		28-Dec-06			0.0025							
802		27-Oct-06	<0.001	<0.001	<0.001	<0.001	<0.001	<0.010	<0.010			
1B V	FthylBon	27-Sep-05	<0.0005	<0.0005	0.0023	<0.0005	<0.0005		0.0028	0.75	0.7	
OL/	Linyiben	28-Jun-05							0.0035	0.75	0.7	
TIL		15-Feb-05							0.0026			
ES		08-Dec-04	<0.0005	<0.0005	0.0029	<0.0005	<0.0005		0.0021			
		28-Dec-06			<0.003							
		27-Oct-06	< 0.003	< 0.003	<0.003	<0.003	<0.003	0.045	<0.030			
	Verlage -	27-Sep-05	<0.0005	<0.0005	0.0014	<0.0005	<0.0005		0.010	0.02	10	
	Aylene	28-Jun-05							0.041	0.62	10	
		15-Feb-05							0.031			
		08-Dec-04	<0.0005	<0.0005	0.003	<0.0005	<0.0005		0.0024			
		28-Dec-06			0.180							
	MTDE	27-Oct-06	<0.0025	<0.0025	0.016	<0.0025	0.018	<0.0025	0.160			
	IVIIDE	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.

		<u></u>			0	VC	DLAT	TILES	5 8260)B					
	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 MTE
EPA		28/29-Oct- 06	<0.00 1	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
METH	Benzene	17/20-Oct- 05	<0.00 1	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001	0.01	0.005	
(OD 82		08-Dec-04	<0.00 1	DRY	DRY			DRY							
260B V		04-Aug-04	<0.00	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	0.0052			
'OLA'		06 17/20 Oct	1	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
TILES	Toluene	05	<0.00	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001	0.75	1	
		08-Dec-04	1	DRY	DRY			DRY							
		04-Aug-04 28/29-Oct-	<0.00	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	0.001			
		06	1	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
	EthylBe n	05	1	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001	0.75	0.7	
		08-Dec-04	1	DRY	DRY			DRY							
		04-Aug-04 28/29-Oct-	< 0.00	DRY	DRY	<0.001	<0.001	DRY	< 0.001	< 0.001	< 0.01	<0.001			
		06	3	DRY	DRY	<0.003	<0.003	DRY	< 0.003	<0.003	< 0.003	<0.003			
	Xylene	05	1	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001	0.62	10	
		08-Dec-04	<0.00 1	DRY	DRY			DRY				 			
		04-Aug-04		DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.01	0.0015			4
		06 17/20 Oct	<0.0015	DRY	DRY	<0.0015	<0.0015	DRY	<0.0015	<0.0015	<0.0015	<0.0015			
	MTBE	05	<0.00	DRY	DRY	<0.001	<0.001	DRY	<0.001	<0.001	<0.001	<0.001			
		08-Dec-04	<0.00 1	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.

		_			VOI	LATILI	E S 8260 E	}			
1		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		26-Oct-06	<0.001					0.01	0.005	
	METI	Benzene	12-Oct-05	< 0.001	<0.001	< 0.001	<0.001	<0.001	0.01	0.005	
	HOD		26-Oct-06	<0.001					0.75		-
	8260]	Toluene	12-Oct-05	< 0.001	<0.001	<0.001	<0.001	<0.001	0.75	1	
	BVC	rd-m	26-Oct-06	< 0.001					0.77	0 7	
	ITAJ	EthylBen	12-Oct-05	<0.001	<0.001	<0.001	<0.001	<0.001	0.75	0.7	·
	LES		26-Oct-06	< 0.003					0.62	10	
		Xylene	29-Sep-05	< 0.001	< 0.001	<0.001	< 0.001	< 0.001	0.02		
		MTDE	26-Oct-06	<0.0015							0.00
		MIBE	29-Sep-05	<0.001	< 0.001	<0.001	0.0083	<0.001			0.20

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

the second second		II'A,	WIETALS,	AINDGE	INEINALU				WOCC	
	mg/L	DATE SAMPLED	GW M-1	MW- 1	MW- 4*	MW- 5*	SMW- 2*	SMW- 4*	20 NMAC 6.2.3103	MCL
EP/ 801.	DRO	October 26, 2006		<1.0						
5B	MRO	October 26, 2006		<5.0	•			· · · · · · · · · · · · · · · · · · ·		
hod	GRO	October 26, 2006		<0.05	,					
	Fluoride	October 26, 2006	2.0	0.84					1.6	4.0
Ξ P /	Chloride	October 26, 2006	3,700	46					250**	
30	Phosphorus	October 26, 2006	<2.5	< 0.5						
1et	Sulfate	October 26, 2006	120	150					600**	
nod EP/	Nitrogen- Nitrate+Nitrite	October 26, 2006	<2.0	<0.5					10 nitrate	10 nitrate 1 nitrite
EPA 245.1	Hg	October 26, 2006	<0.000 2	<0.000 2					0.002	0.002
	Total Recoverable Metals									
	Ar	October 26, 2006	0.077	<0.020					0.1	0.010
	Ва	October 26, 2006	0.53	<0.020					1.0	2
	Ca	October 26, 2006	380	23						
EP	Cd	October 26, 2006	<0.002	<0.002	-				0.01	0.005
A	Со	2006							0.05***	
Met	Cr	October 26, 2006	<0.006	<0.006					0.05	0.1
tho	К	October 26, 2006	4.2	<1.0						
d 6	Pb	October 26, 2006	<0.005	<0.005					0.05	0.015
010	Mg	October 26, 2006	93	<1.0						
<u> </u>	Na	October 26, 2006	1,400	280						
	Ni	2006				ļ			0.2***	
	Se	October 26, 2006	< 0.05	< 0.05					0.05	0.05
	Ag	October 26, 2006	<0.005	<0.005					0.05	ļ
	Va	2006								ļ
	Zn	2006								
EPA Method 15.1	рН	October 26, 2006	6.87	8.98	-				6 <ph<9< td=""><td></td></ph<9<>	

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															
	mg/L	DATE	ow	BW	POND	WELL	WQCC 20 NMAC	MCL'S								
		SAMPLED	11**	1A	1B	2A	2B	3A	3B	1C	2C	3C	#7	#3	6.2.3103	
	Fluoride	Oct-06 17/20-Oct- 05	2.5 2.3	DRY DRY	DRY DRY	1.3 1.1	1.9 1.7	DRY DRY	1.7 1.4	2.7 2.2	2.4 1.5	1.9 1.6	31	0.19	1.6	4
	Thuomue	08-Dec-04	2.3	DRY	DRY										1.0	-
		04-Aug-04		DRY	DRY	1.2	1.7	DRY	1.4	2	2.2	0.95		0.21		
		Oct-06	86	DRY	DRY	39	31	DRY	33	36	42	38	42,000	14		
	Chloride	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				
0		Oct-06	<.50	DRY	DRY	⊲050	<0.50	DRY	<0.50	<0.50	<0.50	<0.50	<0.10	<0.50		
od 300	Nitrogen-	17/20-Oct- 05	⊲0.1	DRY	DRY	⊲050	⊲0.50	DRY	⊲0.10	<0.50	<0.50	<0.10				
etho	Nitrite	08-Dec-04	<.50	DRY	DRY											1
Μ		04-Aug-04		DRY	DRY	<0.10	⊲0.10	DRY	<0.10	<0.10	<0.10	<0.10				
EP/		09-Dec-04														
		28-Oct-06		DRY	DRY											
	Bromide	17/20-Oct- 05		DRY	DRY											
		08-Dec-04	<0.10	DRY	DRY						×.					
1		04-Aug-04		DRY	DRY	0.4	1.3	DRY	0.49	0.32	0.78	1.2				
		Oct-06	<.50	DRY	DRY	<0.50	<0.50	DRY	<0.50	<0.50	<0.50	<0.50	<0.10	<0.50		
	Nitrogen-	17/20-Oct- 05	0.72	DRY	DRY	<0.50	<0.5 0	DRY	<0.10	<0.50	<0.50	<0.10			10	
	Nitrate	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		
1		09-Dec-04														
		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				
	Р	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														



						•	GE	NERA	L CH	EMIS	ΓRY					
	mg/L	DATE SAMPLED	OW 11**	BW 1A	BW 1B	BW 2A	BW 2B	BW 3A	BW 3B	BW 1C	BW 2C	BW 3C	PON D #7	WEL L #3	WQCC 20 NMAC 6.2.3103	MCL'S
		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				
	Sulfate	08-Dec-04	1100	DRY	DRY										600	:
		04-Aug-04		DRY	DRY	9.6	140	DRY	63	210	230	440				
		09-Dec-04														,
		31-Oct-06		DRY	DRY											
	TDS	17/20-Oct-05		DRY	DRY										1000	500
	120	08-Dec-04	1900	DRY	DRY										1000	
		04-Aug-04		DRY	DRY	1100	1500	DRY	1000	970	970	940	3800			
EPA		Oct-06	8.40	DRY	DRY	8.27	8.10	DRY	8.12	8.39	8.52	8.39	7.46	7.89		i
ME	υH	29-Sep-05	8.44	DRY	DRY							•			6.5 - 8.5	Betwee
TH	I	08-Dec-04	8.48	DRY	DRY											6 and 9
B		04-Aug-04		DRY	DRY	8.4	8.35	DRY	8.5	9.36	8.84	8.87				
160.		Oct-06	3100	DRY	DRY	1400	2400	DRY	1500	1400	1300	1400	150000	1200		
	SP COND	17-Oct-05		DRY	DRY	1400	2500	DRY	1600	1400	1500	1400				
		04-Aug-04		DRY	DRY	1447	2280	DRY	1534	1280	1401	1380				
	Tem	p (°F)	56	DRY	DRY	56	56	56		57	56	56				
	Depth to	water (ft)	21.10	DRY	DRY	31.9 8	27.78	32.75		7.55	20.26	8.40				

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

1

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

0					Ι	DISSOI	.VED	META	LS						
mg/L	DATE SAMPLE D	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	<0.020	DRY	DRY	<0.020	<0.020	DRY	0.021	<0.020	<0.020	< 0.020		<0.020		
	29-Sep-05	<0.020				,									
Arsenic	08-Dec-04	<0.020												0.1	0.01
	04-Aug-04		DRY	DRY	<0.020	<0.020	DRY	<0.020	<0.020	<0.020	<0.020				
	19-Nov-04											<0.020			
	28-Oct-06	<0.020	DRY	DRY	0.15	0.071	DRY	0.11	<0.020	0.031	0.029		< 0.020]
	29-Sep-05	<0.020													
Barium	08 - Dec-04	<0.020												1.0	2
	04-Aug-04		DRY	DRY	0.12	<0.0020	DRY	0.13	<0.0020	0.047	0.051				
	19-Nov-04											0.14			-
	28-Oct-06	0.0020	DRY	DRY	< 0.002	< 0.002	DRY	< 0.002	<0.002	<0.002	< 0.002		< 0.002		
	29-Sep-05	0.0020													
Cadmium	08-Dec-04	0.0020												0.01	0.005
	04-Aug-04		DRY	DRY	< 0.002	<0.0020	DRY	<0.0020	<0.0020	< 0.0020	<0.0020				
	19-Nov-04											< 0.002			
	28-Oct-06	12	DRY	DRY	97	20	DRY	9.0	34	58	60		190		
	17-Oct-05	10	DICI		10	23	DRY	9.9	31	140	6.1		170		
Calcium	08-Dec-04	96									0.1		ļ		
	04-Aug-04		DRY	DRY	6.7	14	DRY	11	3.8	5.6	45				
	28-Oct-06	<0.0060	DRY	DRY	<0.0060	<0.0060	DRY	<0.0060	0.011	<0.0060	<0.0060				
	29-Sep-05	<0.0060													
Cr	08-Dec-04	<0.0060												0.05	0.1
	04-Aug-04		DRY	DRY	<0.0060	<0.0060	DRY	<0.0060	<0.0060	<0.0060	<0.0060				
	19-Nov-04											0.012			
	28-Oct-06	<0.0050	DRY	DRY	<0.0050	<0.0050	DRY	<0.0050	<0.0050	0.0054	<0.0050		< 0.006		
	29-Sep-05	<0.0050													
Lead	08-Dec-04	<0.0050												0.05	0.015
	04-Aug-04		DRY	DRY	0.0059	0.0064	DRY	0.006	<0.0050	<0.0050	< 0.0050				
	19-Nov-04)	0.0075			
Cury	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

Giant Refining - Gallup Refinery, 2006 Groundwater Report

						DISS	OLVI	ED MET	ALS						
€ ∕L	DATE SAMPLE D	OW 11	BW 1A	BW 1B	BW 2A	BW 2B	BW 3A	BW 3B	BW 1C	BW 2C	BW 3C	PON D #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													
U	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		
К	17-Oct-05	1.7			1.1	2.1	DRY	1.4	1.5	2.5	1.8				
	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													
Se	08-Dec-04	0.005			10.050						0.050			0.05	0.05
	04-Aug-04		DRY	DRY	<0.050	0.069	DRY	<0.050	<0.050	<0.050	<0.050	<0.05		0100	
	19-Nov-04											0			
	09-Dec-04														
E.	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	<0.005 0													
Silver	08-Dec-04	<0.005 0											•••••	0.05	0.10
	04-Aug-04		DRY	DRY	<0.0050	<0.0050	DRY	<0.0050	DRY	DRY	<0.0050	<0.00 5	DRY		
	19-Nov-04											0.000			
	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														
Iranium	08-Dec-04													0.02	0.020
Jiannum	04-Aug-04		DRY	DRY	<0.10	<0.10	DRY	<0.10	<0.10	<0.10	<0.10			0.05	0.050
	09-Dec-04	<u> </u>													

Giant Refining – Gallup Refinery, 2006 Groundwater Report

*******************************	BOD - PILOT TRAVE	CENTER AND TRUC	K STOP	
		Date of Analysi	s BOD Results (mg/l)	Detection Limit (mg/l)
		3-30-06	886	2
		6-9-06	472	2
	IP A			
	405.			
	- 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 199 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997			
- 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995 - 1995	ar a statistic			

Giant Refining - Gallup Refinery, 2006 Groundwater Report

















Giant Refining – Gallup Refinery, 2006 Groundwater Report



5. Groundwater Chemical Analytical Data



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



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

CLIENT.	Giant Refining Co		 C	lient Sample ID:	OW-1	2
Lab Order:	0611014			Collection Date:	10/27	/2006 9:15:00 AM
Project:	Annual Ground Water 2	006-Ciniza		Date Received:	11/1/2	2006
Lab ID:	0611014-01			Matrix:	AQUI	EOUS
Analyses		Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD	8021B: VOLATILES					Analyst: NSE
Methyl tert-buty	/I ether (MTBE)	ND	2.5	µg/L	1	11/3/2006 11:26:32 AN
Benzene		ND	1.0	µg/L	1	11/3/2006 11:26:32 AN
Toluene		ND	1.0	µg/L	1	11/3/2006 11:26:32 AM

1.0

3.0

72.2-125

µg/L

µg/L

%REC

ND

ND

82.7

Hall Environmental Analysis Laboratory, Inc.

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

Date: 17-Nov-06

1

1

1

11/3/2006 11:26:32 AM

11/3/2006 11:26:32 AM

11/3/2006 11:26:32 AM

Oualifiers:	*	Value	exceed
Quanner 5.		+ arac	CACCCO

- 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 Envir	Hall Environmental Analysis Laboratory, Inc.			Date:	17-Nov-06		
CLIENT:	Giant Refining Co			Client Sample ID:	OW-1	13	
Lab Order:	0611014			Collection Date:	10/27	/2006 10:30:00 AM	
Project:	Annual Ground Wate	r 2006-Ciniza		Date Received:	11/1/2	2006	
Lab ID:	0611014-02			Matrix:	AQU	EOUS	
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed	
EPA METHOD	8021B: VOLATILES					Analyst: NSE	
Methyl tert-buty	/I ether (MTBE)	ND	2.5	µg/L	1	11/3/2006 11:56:36 AN	
Benzene		ND	1.0	µg/L	1	11/3/2006 11:56:36 AN	
Toluene		ND	1.0	µg/L	1	11/3/2006 11:56:36 AN	
Ethylbenzene		ND	1.0	µg/L	1	11/3/2006 11:56:36 AN	
Xvlenes, Total		ND	3.0	µg/L	1	11/3/2006 11:56:36 AM	

72.2-125

%REC

1

83.8



Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

Surr: 4-Bromofluorobenzene

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

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

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11/3/2006 11:56:36 AM

	Unnental Ana	YSIS Laborati	<i>J</i> y , mc .	2 410		
CLIENT:	Giant Refining Co			Client Sample ID:	: OW-2	14
Lab Order:	0611014			Collection Date:	: 10/29	/2006 1:30:00 PM
Project:	Annual Ground W	ater 2006-Ciniza		Date Received:	: 11/1/2	2006
Lab ID:	0611014-03			Matrix	AQU	EOUS
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Methyl tert-buty	/I 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

3.0

72.2-125

µg/L

%REC

ND

84.9

Hall Environmental Analysis Laboratory Inc.

Xylenes, Total

Surr: 4-Bromofluorobenzene

Date: 17-Nov-06

1

1

11/3/2006 12:29:21 PM

11/3/2006 12:29:21 PM

Qualifiers: *	Value exceeds I	Maxi
---------------	-----------------	------

imum Contaminant Level Ε Value above quantitation range

- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit

- Spike recovery outside accepted recovery limits 3 / 34 S
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit 100

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		· · · · · · · · · · · · · · · · · · ·			···	
CLIENT:	Giant Refining Co			Client Sample	ID: OW-2	.9
Lab Order:	0611014			Collection I	ate: 10/27	/2006 12:30:00 PM
Project:	Annual Ground Wa	ter 2006-Ciniza		Date Recei	ved: 11/1/2	2006
Lab ID:	0611014-04			Ma	trix: AQUI	EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8021B: VOLATILES					Analyst: NSB
Methyl tert-buty	/I 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-Brom	ofluorobenzene	84.2	72.2-125	%REC	1	11/3/2006 1:29:18 PM

Date: 17-Nov-06

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits 4/34

B Analyte detected in the associated Method Blank

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

CLIENT:	Giant Refining Co			Client Sam	ole ID: (DW-3	0	
Lab Order:	0611014			Collection	Date: 1	0/27/	2006 2:00:00 PM	
Project:	Annual Ground Wat	ter 2006-Ciniza		Date Rec	eived: 1	1/1/2	006	
Lab ID:	0611014-05		Matrix:			AQUEOUS		
Analyses		Result	PQL	Qual Units	Ι	DF	Date Analyzed	
EPA METHOD	8021B: VOLATILES						Analyst: NSB	
Methyl tert-buty	/I ether (MTBE)	18	2.5	µg/L	1	1	11/3/2006 1:59:29 PM	
Benzene		ND	1.0	µg/L	1	t	11/3/2006 1:59:29 PM	
Toluene		ŃD	1.0	µg/L	1	1	11/3/2006 1:59:29 PM	
Ethylbenzene		ND	1.0	µg/L	1	1	11/3/2006 1:59:29 PM	
Xylenes, Total		ND	3.0	µg/L	1	1	11/3/2006 1:59:29 PM	
Surr: 4-Brom	ofluorobenzene	86.2	72.2-125	%REC	1	1	11/3/2006 1:59:29 PM	

Date: 17-Nov-06

Qualifiers: *

- Value exceeds Maximum Contaminant Level
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits 5 / 34 S
- B Analyte detected in the associated Method Blank
- Holding times for preparation or analysis exceeded Н

- MCL Maximum Contaminant Level
- RL Reporting Limit

CLIENT:	Giant Refining	; Co		C	lient Sample ID	: OW-1	1
Lab Order:	0611014				Collection Date	: 10/26	/2006 2:00:00 PM
Project:	Annual Groun	d Water 2006-Ciniza			Date Received	· 11/1/2	2006
Lab ID:	0611014-06				Matrix	: AQUI	EOUS
Analyses	·	Result	PQL	Qual	Units	DF	Date Analyzed
	D 300 0' ANIONS				<u> </u>		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	н	mg/L	1	11/3/2006 11:57:39 PM
Sulfate		1100	10		mg/L	20	11/7/2006 10:40:32 AM
	D 7470: MERCURY						Analyst: MAI
Mercury		ND	0.00020		mg/L	1	11/9/2006
EPA 6010B: ⁻	TOTAL RECOVERA	ABLE METALS					Anaivst: NM
Arsenic		ND	0.020		mg/L	1	11/15/2006 8:13:48 PN
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 A
EPA METHO	D 8270C: SEMIVOI	ATILES					Analyst: BL
Acenaphthen	ie	ND	10		µg/L	1	11/14/2006
Acenaphthyle	ene	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)anthr	acene	ND	15		µg/L	1	11/14/2006
Benzo(a)pyre	ene	ND	15		µg/L	1	11/14/2006
Benzo(b)fluo	ranthene	ND	15		µg/L	1	11/14/2006
Benzo(g,h,i)p	perylene	ND	10		µg/L	1	11/14/2006
Benzo(k)fluo	ranthene	ND	10		µg/L	1	11/14/2006
Benzoic acid		ND	50		µg/L	1	11/14/2006
Benzyl alcoh	ol	ND	20		µg/L	1	11/14/2006
Bis(2-chloroe	ethoxy)methane	ND	10		µg/L 	1	11/14/2006
Bis(2-chloroe	ethyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-chloroi	sopropyl)ether	ND	15		µg/L	1	11/14/2006
Bis(2-ethylhe	exyl)phthalate	ND	15 	· · · · · · · · · · · · · ·	µg/L	1	11/14/2006
Qualifiers:	* Value exceeds M	Aaximum Contaminant Leve	ł		B Analyte detect	ed in the a	ssociated Method Blank
	E Value above qua	nutation range			H Holding times	tor prepar	ation or analysis exceeded
	J Analyte detected	i below quantitation limits		ſ	MCL Maximum Cor	itaminant :	Level
	ND Not Detected at	the Reporting Limit			RL Reporting Lim	it	7

S Spike recovery outside accepted recovery limits 6 / 34



Hall Environmental Analysis Laboratory, Inc.				Date:	17-No	ov-06
CLIENT: Lab Order: Project:	Giant Refining Co 0611014 Annual Ground Water (2006-Ciniza	(Client Sample ID: Collection Date: Date Received:	OW-1 10/26, 11/1/2	1 /2006 2:00:00 PM 2006
Lab ID:	0611014-06			Matrix:	AQUI	EOUS
Analyses		Result	PQL Qual	Units	DF	Date Analyzed
EPA METHOD	8270C: SEMIVOLATILES					Analyst: BL
4-Bromopheny	l phenyl ether	ND	10	µg/L	1	11/14/2006
Butyl benzyl pl	nthalate	ND	15	µg/L	1	11/14/2006
Carbazole		ND	10	µg/L	1	11/14/2006
4-Chloro-3-me	thylphenol	ND	20	µg/L	1	11/14/2006
4-Chloroaniline	3	ND	20	µg/L	1	11/14/2006
2-Chloronaphtl	halene	ND	10	µg/L	1	11/14/2006
2-Chlorophend	bl	ND	10	µg/L	1	11/14/2006
4-Chloropheny	l phenyl ether	ND	15	µg/L	1	11/14/2006
Chrysene		ND	15	µg/L	1	11/14/2006
Di-n-butyl phth	alate	ND	10	µg/L	1	11/14/2006
Di-n-octyl phth	alate	ND	15	µg/L	1	11/14/2006
Dibenz(a,h)ant	thracene	ND	10	µg/L	1	11/14/2006
Dibenzofuran		ND	10	µg/L	1	11/14/2006
1,2-Dichlorobe	enzene	ND	10	µg/L	1	11/14/2006
1,3-Dichlorobe	enzene	ND	10	µg/L	1	11/14/2006
1,4-Dichlorobe	enzene	ND	10	µg/L	1	11/14/2006
3,3'-Dichlorob	enzidine	ND	15	µg/L	1	11/14/2006
Diethyl phthala	ate	ND	10	µg/L	1	11/14/2006
Dimethyl phtha	alate	ND	10	µg/L	1	11/14/2006
2,4-Dichloroph	enol	ND	10	µg/L	1	11/14/2006
2,4-Dimethylph	henol	ND	10	µg/L	1	11/14/2006
4,6-Dinitro-2-m	nethylphenol	ND	50	µg/L	1	11/14/2006
2,4-Dinitrophe	nol	ND	50	µg/L	1	11/14/2006
2,4-Dinitrotolu	ene	ND	10	µg/L	1	11/14/2006

10

10

10

10

10

10

10

10

10

10

15

20

10

10

10

10

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/Ľ

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L





2,6-Dinitrotoluene

Hexachlorobenzene

Hexachlorobutadiene

Hexachloroethane

Isophorone

Indeno(1,2,3-cd)pyrene

2-Methylnaphthalene

N-Nitrosodi-n-propylamine

J

N-Nitrosodimethylamine

2-Methylphenol

Naphthalene

Qualifiers:

3+4-Methylphenol

Hexachlorocyclopentadiene

Fluoranthene

Fluorene



. В Analyte detected in the associated Method Blank

MCL Maximum Contaminant Level

RL Reporting Limit

Н Holding times for preparation or analysis exceeded

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

11/14/2006

11/14/2006

11/14/2006

11/14/2006

11/14/2006

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11/14/2006

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11/14/2006

11/14/2006

- Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit S
 - Spike recovery outside accepted recovery limits

ND

Page 7 of 22

CLIENT:	Giant Refining Co			С	lient Sample ID:	OW-1	1
Lab Order:	0611014				Collection Date:	10/26	/2006 2:00:00 PM
Project:	Annual Ground Water	2006-Ciniza			Date Received:	11/1/2	2006
Lab ID:	0611014-06				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
PA 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		jµg/L	1	11/14/2006
2-Nitrophenol		ND	15		µg/L	1	11/14/2006
4-Nitrophenol		ND	50		hð\r	1	11/14/2006
Pentachloroph	enol	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-Trichloro	benzene	ND	10		µg/L	1	11/14/2006
2.4.5-Trichloro	phenol	ND	10		µg/L	1	11/14/2006
2.4.6-Trichloro	phenol	ND	15		µg/L	1	11/14/2006
Surr: 2.4.6-1	Fribromophenol	63.0	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluo	robinhenvl	63.7	19.6-134		%REC	1	11/14/2006
Surr: 2-Eluo	rophenol	48.1	9.54-113		%REC	1	11/14/2006
Surr: 4-Terp	henvi-d14	72.9	22.7-145		%REC	1	11/14/2006
Surr: Nitrobe	enzene-d5	63.4	14 6-134		%RFC	1	11/14/2006
Surr: Pheno	I-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-but	yl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethy	lbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethy	lbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroet	hane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoet	hane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene		ND	2.0		µg/L	1	11/7/2006
1-Methylnapht	halene	ND	4.0		µg/L	1	11/7/2006
2-Methylnapht	halene	ND	4.0		µg/L	1	11/7/2006
Acetone		ND	10		µg/L	1	11/7/2006
Bromobenzen	е	ND	1.0		µg/L	1	11/7/2006
Bromochlorom	nethane	ND	1.0		µg/L	1	11/7/2006
Bromodichlord	omethane	ND	1.0		µg/L	1	11/7/2006
Bromoform		ND	1.0		μg/L	1	11/7/2006
Bromomethan	е	ND	2.0		μg/L	1	11/7/2006
2-Butanone		ND	10		µg/L	1	11/7/2006
Qualifiers:	* Value exceeds Maximum (Contaminant Leve	 el		B Analyte detected	l in the a	ssociated Method Blank
	E Value above quantitation ra	inge			H Holding times for	or prepar	ation or analysis exceeded
	J Analyte detected below qua	intitation limits		Ν	ACL Maximum Cont	aminant	Level
	ND Not Detected at the Report	ng Limit		-	RL Reporting Limit		
	S Spike recovery outside acco	epted recovery lin	mits		-FE		Page 8 c
			8/34	1			

Date: 17-Nov-06

Date: 17-Nov-06

CLIENT: Lab Order:	Giant Refining Co 0611014			Client Sample Collection I	e ID: OW-1 Date: 10/26	1 /2006 2:00:00 PM	
Project: Lab ID:	Annual Ground Water 0611014-06	2006-Ciniza	Date Received: Matrix:			11/1/2006 AQUEOUS	
Analyses		Result	PQL (Qual Units	DF	Date Analyzed	
EPA METHOD	8260B: VOLATILES					Analyst: LMM	
Carbon disulfid	е	ND	10	µg/L	1	11/7/2006	
Carbon Tetrach	hloride	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	
<u></u>		ND					

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8		
		_

E Value above quantitation r	ange		H Holding	times for prepa	ration or analysis exce	eded
Qualifiers: * Value exceeds Maximum (Contaminant Level		B Analyte	detected in the	associated Method Bla	 nk
1,2,3-1101101006126116		1.0	р <u>9</u> , с	ı	11772000	
		1.0	ру/с ug/l) 1	11/7/2000	
		1.0	µg/L	1	11/7/2006	
		1.0	µg/⊾	1	11/7/2006	
		1.0	µg/L	1	11///2006	
		1.0	µg/L	1	11///2006	
	ND	1.0	µg/∟	1	11/7/2006	
Styrene	ND	1.5	µg/L	1	11/7/2006	
sec-Butylbenzene	ND	2.0	µg/L	1	11/7/2006	
n-Propylbenzene	ND	1.0	µg/L	1	11/7/2006	
n-Butylbenzene	ND	1.0	µg/L	1	11/7/2006	
Methylene Chloride	ND	3.0	μg/L	1	11/7/2006	
4-Methyl-2-pentanone	ND	10	hð\r	1	11/7/2006	
4-Isopropyltoluene	ND	1.0	µg/L	1	11/7/2006	
Isopropylbenzene	ND	1.0	µg/L	. 1	11/7/2006	
2-Hexanone	ND	10	µg/L	1	11/7/2006	
Hexachlorobutadiene	ND	2.0	µg/L	1	11/7/2006	
1,1-Dichloropropene	ND	1.0	µg/L	1	11/7/2006	
2,2-Dichloropropane	ND	2.0	µg/L	1	11/7/2006	
1,3-Dichloropropane	ND	1.0	µg/L	1	11///2006	
1,2-Dichloropropane	ND	1.0	µg/L	1	11/7/2006	
	ND	1.0	µg/L	1	11/7/2006	
1,1-Dichloroethane	UN NO	2.0	µg/L	1	11///2006	
	ND	1.0	µg/L	1	11/7/2006	
	UN ND	1.0	µg/L	1	11/7/2006	
	UN ND	1.0	µg/L	1	11/7/2006	
		1.0	µg/L	7	11/7/2006	
		2.0	µg/∟	1	11///2006	
		1.0	µg/L	1	11/7/2006	
		2.0	µg/c	1	11/7/2006	
dis-1,3-Dichloropropene		. 1.0	µg/L	1	11/7/2006	
cis-1,2-DUE		1.0	µg/L	1	11/7/2006	
4-Chlorotoluene	ND	1.0	µg/∟	1	11/7/2006	
2-Chlorotoluene	ND	1.0	µg/L	1	11/7/2006	
	UN	1.0	µg/L	1	11/7/2006	
	ND	1.0	µg/L	1	11/7/2006	
Chloroethane	ND	2.0	µg/L	1	11/7/2006	
Chlorobenzene	ND	1.0	µg/L	1	11/7/2006	
Carbon Tetrachloride	ND	2.0	µg/L	1	11/7/2006	
Carbon disulfide	ND	10	µg/L	1	11/7/2006	
PAINETHOD 8200B. VOLATILES		40			Analysi	t: LMM

Value above quantitation range

Analyte detected below quantitation limits J ND Not Detected at the Reporting Limit

S

Spike recovery outside accepted recovery limits

- MCL Maximum Contaminant Level
- RL Reporting Limit

CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0611014 Annual Ground Water 2 0611014-06	Giant Refining CoClient Sample I611014Collection DaAnnual Ground Water 2006-CinizaDate Receive611014-06Matr		lient Sample ID: Collection Date: Date Received: Matrix:	OW-11 10/26/2006 2:00:00 PM 11/1/2006 AQUEOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: LMM
1,2,4-Trichlorol	benzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroe	ethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroe	ethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene	e (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoror	nethane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloro	propane	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-Dic	chloroethane-d4	85.9	69.9-130		%REC	1	11/7/2006
Surr: 4-Brom	nofluorobenzene	101	75-139		%REC	1	11/7/2006
Surr: Dibrorr	ofluoromethane	90.8	57.3-135		%REC	1	11/7/2006
Surr: Toluen	e-d8	98.2	81.9-122		%REC	1	11/7/2006
EPA 120.1: SP	ECIFIC CONDUCTANCE						Analyst: CMS
Specific Condu	ictance	3100	0.010		µmhos/cm	1	11/1/2006
EPA METHOD	150.1: PH						Analyst: CMS
ρН		8,40	0.010		pH units	1	11/1/2006

Date: 17-Nov-06

Qualifiers:

ers:	*	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

· · ·					
В	Analyte detected in the	he associated l	Method Bl	lank	
11	11-1-1		, .		

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

Page 10 of 22

CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0611014 Annual Ground Water 0611014-07	2006-Ciniza		C	Client Sample ID: Collection Date: Date Received: Matrix:	MW- 10/26 11/1/2 AQUI	1 /2006 11:00:00 AM 2006 EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range (Organics (DRO)	ND	1.0		mg/L	1	11/2/2006 12:35:58 PM
Motor Oil Rang	e 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 RANG	GE					Analyst: NSB
Gasoline Rang	e 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	000.0174.110710	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, C	orthophosphate (As P)	ND	0.50	н	mg/L	1	11/4/2006 1:07:15 AM
Sulfate		150	2.5		mg/L	5	11/6/2006 2:56:48 PM
ΕΡΑ ΜΕΤΗΟ Ω	7470 MERCURY						Analyst: MAP
Mercury		ND	0.00020		mg/L	1	11/9/2006
EPA 6010B: T	OTAL RECOVERABLE M	ETALS					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	5					Analyst: BL
Acenaphthene	2	ND	10		µg/L	1	11/14/2006
Acenaphthyler	ne	ND	10		µg/L	1	11/14/2006
Aniline		ND	20		µg/L	1	11/14/2006
Anthracene		ND	10		hð\r	1	11/14/2006
Azobenzene		ND	10		hð\r	1	11/14/2006
Benz(a)anthra	icene	ND	15		hð\r	1	11/14/2006
Qualifiers:	 Value exceeds Maximum (Value above quantitation r 	Contaminant Leve	el		B Analyte detected	t in the a	ssociated Method Blank
	value above quantitation n	ange		,	MCI Maximum Cont	or prepar	ation of analysis exceeded
	ND Not Detected at the Report	ing Limit		ز	RI Reporting Limit	annnant	LC Y C I
	S Spike recovery outside acc	epted recovery lin	mits				Page 11 of
	-	-					

Date: 17-Nov-06

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	3				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	NÐ	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

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

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- MCL Maximum Contaminant Level
 - RL Reporting Limit

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

CLIENT:	Glain Relining Co
Lab Order:	0611014
Project:	Annual Ground Water 2006-Ciniza
Lab ID:	0611014-07

Collection Date: 10/26/2006 11:00:00 AM **Date Received:** 11/1/2006 Matrix: AQUEOUS

Analyses		Result	PQL	Qual U	nits	DF	Date Analyzed
EPA METHOD 827	0C: SEMIVOLATILES	<u></u>					Analyst: BL
Hexachloroethane		ND	10	hđ	J∕L	1	11/14/2006
Indeno(1,2,3-cd)pyr	ene	ND	10	μg	ĵ/L	1	11/14/2006
Isophorone		ND	10	рd	1/L_	1	11/14/2006
2-Methylnaphthalen	e	ND	10	pq	J/L	1	11/14/2006
2-Methylphenol		ND	15	μg	J∕L	1	11/14/2006
3+4-Methylphenol		ND	20	рd	µ/L	1	11/14/2006
N-Nitrosodi-n-propy	lamine	ND	10	μg)/L	1	11/14/2006
N-Nitrosodimethyla	mine	ND	10	hđ	g/L	1	11/14/2006
N-Nitrosodiphenylar	nine	ND	10	hõ	J∕L	1	11/14/2006
Naphthalene		ND	10	μç	g/∟	1	11/14/2006
2-Nitroaniline		ND	50	μς	g/L	1	11/14/2006
3-Nitroaniline		ND	50	μç	g/L	1	11/14/2006
4-Nitroaniline		ND	20	μς	1/L	1	11/14/2006
Nitrobenzene		ND	10	μc	- a/L	1	11/14/2006
2-Nitrophenol		ND	15	μc	, 1/L	1	11/14/2006
4-Nitrophenol		ND	50	uc	, a/L	1	11/14/2006
Pentachlorophenol		ND	50	uc	, 1/L	1	11/14/2006
Phenanthrene		ND	10		μ	1	11/14/2006
Phenol		ND	10	uc UC	э/L	1	11/14/2006
Pyrene		ND	15		p/L	1	11/14/2006
Pyridine		ND	30		5/_ 5/L	1	11/14/2006
1 2 4-Trichlorobenz	ene	ND	10		- مع ا/د	1	11/14/2006
2.4.5-Trichloropher		ND	10	P: 110	9. – 1/I	1	11/14/2006
2.4.6-Trichloropher		ND	15	P:	9/ - 1/1	1	11/14/2006
Surr: 2.4.6-Tribre	monhenol	63.8	16 6-150	P: %	REC	1	11/14/2006
Surr: 2-Eluorobin	henvl	68.2	19.6-134	%	REC	1	11/14/2006
Surr: 2-Fluoroph	enol	55 1	9 54-113	/0 %	REC	, 1	11/14/2006
Surr: 4-Ternben	1-d14	68.7	22 7-145	%	REC	1	11/14/2006
Surr: Nitrobenze	ne-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 82	OB. VOLATILES						Analyst I MM
Benzene	,	ND	1.0	116	a/L	1	11/7/2006
Toluene		ND	1.0	PS 110	а/L	, 1	11/7/2006
Ethylbenzene		ND	1.0	بر بار	∍: ⊐/I	1	11/7/2006
Methyl tert-hutyl et	her (MTBE)	ND	1.5	на 110	a∕L	1	11/7/2006
1 2 4-Trimethylben		ND	1.0	10	a/L	1	11/7/2006
1.3.5-Trimethylben	zene	ND	1.0	P:	g, ⊑ ⊃/I	1	11/7/2006
1,3,5- Mineutyben		ND	1.0	P:	g/⊑ ⊐/l	1	11/7/2000
1,2-Dibromoethane	e (EDB)	ND	1.0	μί μ	g/L	1	11/7/2006
Oualifiers: *	Value exceeds Maximum Co	ontaminant Leve		В	Analyte detec	cted in the as	ssociated Method Blank
Ē	Value above quantitation rar	nge		н	Holding time	s for prepara	ation or analysis exceeded
]	Analyte detected below onar	- ntitation limits		MCI	. Maximum Co	ontaminant I	_evel
ли Ли	Not Detected at the Reportir	ng Limit		RL.	Reporting Li	mit	
S	Spike recovery outside accept	pted recovery lin	nits				Page 13 of 2
			13/3	54			

Hall Environmental Analysis Laboratory, Inc. Date:						17-Nc	17-Nov-06	
CLIENT:	Giant Refining Co	ing Co Client Sample ID:				MW-1		
Lab Order:	0611014			Coll	ection Date:	10/26	/2006 11:00:00 AM	
Project:	Annual Ground Water	2006-Ciniza		Da	te Received:	11/1/2	2006	
Lab ID:	0611014-07				Matrix:	AQUI	EOUS	
Analyses		Result	PQL	Qual Un	ts	DF	Date Analyzed	
EPA METHOD	8260B: VOLATILES						Analyst: LMM	
Naphthalene		ND	2.0	hð\r		1	11/7/2006	
1-Methylnaphth	alene	ND	4.0	µg/l	-	1	11/7/2006	
2-Methylnaphth	alene	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	
Bromochlorome	ethane	ND	1.0	µg/L		1	11/7/2006	
Bromodichloror	nethane	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	hð/ľ	<u>.</u> .	1	11/7/2006	
Carbon disulfid	e	ND	10	µg/L		1	11/7/2006	
Carbon Tetrach	loride	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	2	ND	1.0	hð\l	-	1	11/7/2006	
2-Chlorotoluene	9	ND	1.0	μg/L		1	11/7/2006	
4-Chlorotoluene	e	ND	1.0	hð\r		1	11/7/2006	
cis-1,2-DCE		ND	1.0	µg/t	_	1	11/7/2006	
cis-1,3-Dichlord	propene	ND	1.0	μg/l	-	1	11/7/2006	

2.0

1.0

µg/L

µg/L

1

1

11/7/2006

11/7/2006

1,2-Dibromo-3-chloropropane

Dibromochloromethane

Dibromometha	ane		ND	2.0	hð\	L 1	11/7/2006
1,2-Dichlorobe	enzer	ne	ND	1.0	hð/	L 1	11/7/2006
1,3-Dichlorobe	enzer	ne	ND	1.0	/gų	L 1	11/7/2006
1,4-Dichlorobe	enzer	ne	ND	1.0	μg/	L 1	11/7/2006
Dichlorodifluor	ome	thane	ND	1.0	μg/	Լ 1	11/7/2006
1,1-Dichloroet	hane	•	ND	2.0	μg/	L 1	11/7/2006
1,1-Dichloroet	hene	•	ND	1.0	hð/	Ն 1	11/7/2006
1,2-Dichloropr	opar	ne	ND	1.0	μg/	L 1	11/7/2006
1,3-Dichloropre	opar	e	ND	1.0	μg/	L 1	11/7/2006
2,2-Dichloropre	opar	ie	ND	2.0	/gų	L 1	11/7/2006
1,1-Dichloropr	oper	ie	ND	1.0	μg/	L 1	11/7/2006
Hexachlorobut	tadie	ne	ND	2.0	μg/	L 1	11/7/2006
2-Hexanone			ND	10	/gų	L 1	11/7/2006
Isopropylbenz	ene		ND	1.0	/gų	L 1	11/7/2006
4-Isopropyltolu	Jene		ND	1.0	µg/	L 1	11/7/2006
4-Methyl-2-per	ntan	one	ND	10	μg/	L 1	11/7/2006
Methylene Chl	lorid	e	ND	3.0	μg/	L 1	11/7/2006
n-Butylbenzen	ne		ND	1.0	γgų	L 1	11/7/2006
Qualifiers:	*	Value exceeds Maximum (Contaminant Level		В	Analyte detected in the	associated Method Blank
	Ε	Value above quantitation n	ange		н	Holding times for prepa	uration or analysis exceeded
	J	Analyte detected below qui	antitation limits		MCL	Maximum Contaminan	Level
	ND	Not Detected at the Report	ing Limit		RL.	Reporting Limit	

ND

ND

S Spike recovery outside accepted recovery limits

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:	11/1/2	006
Lab ID:	0611014-07	Matrix:	AQUE	EOUS
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 1 1 1 1 1 1 1	11/7/2006	
1,1,1-Trichloroethane	ND	1.0	µg/L		11/7/2006	
1,1,2-Trichloroethane	ND ND	1.0 1.0	µg/L		11/7/2006	
Trichloroethene (TCE)			μg/L		11/7/2006	
Trichlorofluoromethane	ND	1.0	µg/L		11/7/2006	
1,2,3-Trichloropropane	ND 2.0	2.0	µg/L		11/7/2006	
Vinyl chloride	ND	1.0	µg/L		11/7/2006	
Xylenes, Total	ND	3.0	µg/L		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	
рH	8.98	0.010	pH units	1	11/1/2006	



* Value exceeds Maximum Contaminant Level Qualifiers:

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- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits 15/34 S

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

. ...

CLIENT:	Giant Refining Co			С	lient	Sample ID:	PW-3	
Lab Order	0611014			Colloction Day			10/27/	/2006 2·45·00 PM
Project:	Annual Ground Water	- 2006 Ciniza			Date Received:	10/2//	2000 2.45.00 1 14	
riojeci;		r 2000-Ciniza				11/1/2006 AOUEOUS		
Lab ID:	0611014-08							
Analyses		Result	PQL	Qual	Unit	S	DF	Date Analyzed
ЕРА МЕТНО	D 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)+Nítrite (As N)	ND	0.50		mg/L		5	11/4/2006 1:59:28 AM
Phosphorus,	Orthophosphate (As P)	ND	0.50	Н	mg/L		1	11/4/2006 1:42:03 AM
Sulfate		490	5.0		mg/L		10	11/6/2006 3:14:12 PM
PA METHO	D 7470' MERCURY							Analyst: MAI
Mercury		ND	0.00020		mg/L		1	11/9/2006
EPA 6010B	TOTAL RECOVERABLE M	IFTAL S						Analyst: NM(
Arsenic		ND	0.020		ma/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		ma/L		1	11/15/2006 8:22:09 PM
Calcium		190	10		ma/L		10	11/16/2006 10:41:19 A
Chromium		ND	0.0060		ma/L		1	11/15/2006 8:22:09 PM
Lead		ND	0.0050		ma/L		1	11/15/2006 8:22:09 PM
Maonesium		43	1.0		ma/L		1	11/15/2006 8:22:09 PM
Potassium		1.1	1.0		ma/L	_	1	11/15/2006 8:22:09 PM
Selenium		ND	0.050		ma/L		1	11/15/2006 8:22:09 PM
Silver		ND	0.0050		ma/L	_	1	11/15/2006 8:22:09 PM
Sodium		28	1.0		mg/L		1	11/15/2006 8:22:09 PM
ΕΡΑ ΜΕΤΗΟ	D 8270C' SEMIVOLATILE	s						Analyst: Bl
Acenaphther		ND	10		ua/L		1	11/14/2006
Acenaphthyle	ene	ND	10		ua/L		1	11/14/2006
Aniline		ND	20		µq/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)anthr	acene	ND	15		µg/L		1	11/14/2006
Benzo(a)pyre	ene	ND	15		µg/L		1	11/14/2006
Benzo(b)fluo	ranthene	ND	15		µg/L		1	11/14/2006
Benzo(g,h,i)	perylene	ND	10		µg/L		1	11/14/2006
Benzo(k)fluo	ranthene	ND	10		µg/L		1	11/14/2006
Benzoic acid		ND	50		µg/L		1	11/14/2006
Benzyl alcoh	ol	ND	20		µg/L		1	11/14/2006
Bis(2-chloroe	ethoxy)methane	ND	10		µg/L		1	11/14/2006
Bis(2-chloroe	ethyl)ether	ND	15		µg/L		1	11/14/2006
Bis(2-chloroi	sopropyl)ether	ND	15		µg/L		1	11/14/2006
Bis(2-ethylhe	exyl)phthalate	ND	15		µg/L		1	11/14/2006
Qualifiers:	* Value exceeds Maximum	Value exceeds Maximum Contaminant Level			B /	Analyte detected in the associated Method Blank		
	E Value above quantitation	Value above quantitation range				Holding times fo	or preparation or analysis exceeded	
J Ne	J Analyte detected below q	ed below quantitation limits			MCL N	Maximum Conta	a Contaminant Level	
	ND Not Detected at the Report	ting Limit			RL I	Reporting Limit		Page 16 g

16/34
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

PA METHOD 8270C: SEMIVOLATILE	S				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

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

Not Detected at the Reporting Spike recovery outside accepted recovery limits 17/34 S

Н Holding times for preparation or analysis exceeded

- MCL Maximum Contaminant Level
- RL Reporting Limit

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Date: 17-Nov-06

CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0611014 Annual Ground W 0611014-08) Vater 2006-Ciniza		C	lient Sa Collect Date	ample ID: tion Date: Received: Matrix:	PW-3 10/27/ 11/1/2 AQUI	/2006 2:45:00 PM 2006 EOUS
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD	8270C: SEMIVOLAT	ILES						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
Pentachloroph	ienol	ND	50		µg/L		1	11/14/2006
Phenanthrene	i	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-Trichlord	obenzene	ND	10		µg/L		1	11/14/2006
2,4,5-Trichlord	phenol	ND	10		µg/L		1	11/14/2006
2,4,6-Trichlord	phenol	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-Fluc	probiphenyl	61.1	19.6-134		%REC		1	11/14/2006
Surr: 2-Fluc	prophenol	43.6	9.54-113		%REC		1	11/14/2006
Surr: 4-Terp	phenyl-d14	67.3	22.7-145		%REC		1	11/14/2006
Surr: Nitrob	enzene-d5	61.4	14.6-134		%REC		1	11/14/2006
Surr: Pheno	bl-d5	33.1	10.7-80.3		%REC		1	11/14/2006
EPA METHO	0 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-bu	tyl ether (MTBE)	ND	1.5		µg/L		1	11/7/2006
1,2,4-Trimethy	ylbenzene	ND	1.0		μg/L		1	11/7/2006
1,3,5-Trimethy	ylbenzene	ND	1.0		μg/L		1	11/7/2006
1,2-Dichloroet	Ihane (EDC)	ND	1.0		µg/L		1	11/7/2006
1,2-Dibromoe	thane (EDB)	ND	1.0		µg/L		1	11/7/2006
Naphthalene		ND	2.0		µg/L		1	11/7/2006
1-Methylnaph	thalene	ND	4.0		µg/L		1	11/7/2006
2-Methylnaph	thalene	ND	4.0		µg/L		1	11/7/2006
Acetone		ND	10		µg/L		1	11/7/2006
Bromobenzer	ie	ND	1.0		μg/L		1	11/7/2006
Bromochloron	nethane	ND	1.0		μg/L		1	11/7/2006
Bromodichlor	omethane	ND	1.0		µg/L		1	11/7/2006
Bromoform		ND	1.0		µg/L		1	11/7/2006
Bromomethar	ne	ND	2.0		μg/L		1	11/7/2006
2-Butanone		ND	10		µg/L		1	11/7/2006
Qualifiers:	* Value exceeds Maxi	mum Contaminant Leve	 21		B An	alyte detected	d in the a	ssociated Method Blank
	E Value above quantita	ation range			Н Но	lding times fo	or prepar	ation or analysis exceeded
	J Analyte detected bel	ow quantitation limits		Ν	1CL Ma	iximum Cont	aminant	Level
	ND Not Detected at the l	Reporting Limit		i	RL Re	porting Limit		
	S Spike recovery outsi	de accepted recovery lin	mits 18/3	34				Page 18 of 2

Date: 17-Nov-06

Analyses	Result	PQL Qual	Units	DF	Date Analyzed
Lab ID:	0611014-08		Matrix:	AQUE	EOUS
Project:	Annual Ground Water 2006-Cini	za	Date Received:	11/1/2	006
Lab Order:	0611014		Collection Date:	10/27/	2006 2:45:00 PM
CLIENT:	Giant Refining Co	C	Client Sample ID:	PW-3	

EPA METHOD 8260B: VOLATILES	*				Analyst: LMI
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	NĎ	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:

J

Value exceeds Maximum Contaminant Level * Е Value above quantitation range

Analyte detected in the associated Method Blank В

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

ND Not Detected at the Reporting Limit

Not Detected at the response Spike recovery outside accepted recovery limits 19/34 Ş

Analyte detected below quantitation limits

CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0611014 Annual Ground Water 2 0611014-08	2006-Ciniza		C	Client Sample ID: Collection Date: Date Received: Matrix:	PW-3 10/27/2006 2:45:00 PM 11/1/2006 AQUEOUS	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: LMM
1,2,4-Trichlorol	penzene	ND	1.0		µg/L	1	11/7/2006
1,1,1-Trichloroe	ethane	ND	1.0		µg/L	1	11/7/2006
1,1,2-Trichloroe	ethane	ND	1.0		µg/L	1	11/7/2006
Trichloroethene	e (TCE)	ND	1.0		µg/L	1	11/7/2006
Trichlorofluoror	methane	ND	1.0		µg/L	1	11/7/2006
1,2,3-Trichloro	propane	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-Dic	chloroethane-d4	85.3	69.9-130		%REC	1	11/7/2006
Surr: 4-Brom	nofluorobenzene	101	75-139		%REC	1	11/7/2006
Surr: Dibrom	ofluoromethane	89.4	57.3-135		%REC	1	11/7/2006
Surr: Toluen	e-d8	89.0	81.9-122		%REC	1	11/7/2006
EPA 120.1: SP	PECIFIC CONDUCTANCE						Analyst: CMS
Specific Cond	ictance	1200	0.010		µmhos/cm	1	11/1/2006
EPA METHOD	150.1: PH						Analyst: CMS
pН		7.89	0.010		pH units	1	11/1/2006



Date: 17-Nov-06



Qualifiers:	*	Value exceeds Maximum Contaminant Level	В	Analyte detected in the associated Method Bla	ank
	E	Value above quantitation range	н	Holding times for preparation or analysis exce	eeded
	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 $20/34$		Pa	age 2

Page 20 of 22

Date: 17-Nov-06

Lan Drder	0611014	Collection Date:		
Project:	Annual Ground Water 2006-Ciniza	Date Received:	11/1/200	6
Lab ID:	0611014-09	Matrix:	TRIP BL	.ANK

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

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Not Detected at the reporting and Spike recovery outside accepted recovery limits 21/34 S

MCL Maximum Contaminant Level

RL Reporting Limit

Date: 17-Nov-06

CLIENI:	Giant Relining Co	Client Sample ID:	Пр Влапк
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-Isopropyitoluene	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
 - Ε Value above quantitation range
 - Analyte detected below quantitation limits J

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- Not Detected at the Reporting Limit ND
- Spike recovery outside accepted recovery limits 22/34 S
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



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
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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



ReportRL - Analyte reporting limit.Definitions:QCL - Quality control limit.



LABORATORY ANALYTICAL REPORT

Analyses		Result	Units	Qualifiers	RL	MCL/ QCL	Method	Analysis Date / By
Client Sample ID	0611014-08E, PW-3						Matrix:	Aqueous
Lab ID:	B06110241-002						DateReceived:	11/03/06
Project:	Proj. 0611014					С	ollection Date:	10/27/06 14:45
Client:	Hall Environmental-Alb	uquerque	9				Report Date:	11/14/06

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INORGANICS					
Cyanide, Total Manual Distillation	ND	mg/L	0.005	E335.4	11/03/06 12:44 / kjp



ReportRL - Analyte reporting limit.Definitions:QCL - Quality control limit.

MCL - Maximum contaminant level. ND - Not detected at the reporting limit.



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						<u> </u>	Batch: A2	2006-11-03_4	_CN01
Sample ID: B06110241-002AMS	Sample Matrix	Spike			Run: AUTO)AN201-B_061	103A	11/03	8/06 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: AUTC	DAN201-B_061	103A	11/03	8/06 12:47
Cyanide, Total Manual Distillation	0.112	mg/L	0.0050	112	90	110	1.3	10	S
Sample ID: LFB	Laboratory Fort	ified Blank			Run: AUTC	DAN201-B_061	103A	11/03	0/06 11:52
Cyanide, Total Manual Distillation	0.0986	mg/L	0.0050	99	90	110			
Sample ID: MBLK	Method Blank				Run: AUTC	AN201-B_061	103A	11/03	06 11:54
Cyanide, Total Manual Distillation	ND	mg/L	0.001						



Qualifiers:

RL - Analyte reporting limit.

S - Spike recovery outside of advisory limits.

ND - Not detected at the reporting limit.

Analyte Result Units POL %Rec LowLimit HighLimit %RPD RPDLIMIt Qual Method: E300 Sample ID: MBLK MBLK Batch ID: R21288 Analysis Date: 11/3/2006 11:11:4' Flooride ND mg/L 0.10 Intrate (As N)+Nitrite (As N) ND mg/L 0.10 Nitrate (As N)+Nitrite (As N) ND mg/L 0.50 Sample ID: MBLK MBLK MBLK Batch ID: R21305 Analysis Date: 11/6/2006 10:00:52 Suffate ND mg/L 0.10 Interview ND mg/L 0.10 Choride ND mg/L 0.10 Sample ID: R21305 Analysis Date: 11/6/2006 10:00:52 Sample ID: LOS ST300-06019 LCS Batch ID: R21288 Analysis Date: 11/6/2006 11:10:0 Suffate 9.897 mg/L 0.10 980 90 110 Choride 4.899 mg/L 0.10 980	Project: Annual Groun	d Water 2	2006-Ciniza					Worl	Order: 0611014
Method: E300 Sample (D: MBLK MBLK Batch (D: R21288 Analysis Date: 11/3/2006 11:11:41 Fluoride ND mg/L 0.10 Intrate (As N)+Nitrite (As N) ND mg/L 0.10 Nitrate (As N)+Nitrite (As N) ND mg/L 0.50 Safate ND mg/L 0.50 Sample ID: MBLK MBLK MBLK Batch ID: R21305 Analysis Date: 11/6/2006 10:00.52 Sample ID: MBLK MBLK MBLK Batch ID: R21305 Analysis Date: 11/6/2006 10:00.52 Suffate ND mg/L 0.10 NIT mg/L 0.50 Sample ID: CS Batch ID: R21288 Analysis Date: 11/6/2006 11:29.02 Suffate ND mg/L 0.50 Sample ID: CS Batch ID: R21288 Analysis Date: 11/6/2006 11:29.02 Fluoride 0.507 Sample ID: CS Batch ID: R21288 Analysis Date: 11/6/2006 11:29.02 Suffate 9.674 <t< th=""><th>Analyte</th><th>Result</th><th>Units</th><th>PQL</th><th>%Rec</th><th>LowLimit H</th><th>lighLimit</th><th>%RPD RF</th><th>DLimit Qual</th></t<>	Analyte	Result	Units	PQL	%Rec	LowLimit H	lighLimit	%RPD RF	DLimit Qual
Sample ID: MBLK Batch ID: R 21288 Analysis Date: 11/3/2006 11:11:41 Fluoride ND mg/L 0.10	Method: E300	- • • • • • • • • • • • • • • • • • • •							
Fluoride ND mg/L 0.10 Chloride ND mg/L 0.10 Nitrate (AS N)+Nitrite (AS N) ND mg/L 0.50 Sutfate ND mg/L 0.50 Sutfate ND mg/L 0.50 Sample ID: MBLK MGL Batch ID: R21305 Analysis Date: 11/6/2006 10:00.52 Fluoride ND mg/L 0.10 ND: ND: ND: ND: Phosphorus, Orthophosphate (AS P) ND mg/L 0.10 ND: ND: </td <td>Sample ID: MBLK</td> <td></td> <td>MBLK</td> <td></td> <td></td> <td>Batch ID</td> <td>R21288</td> <td>Analysis Date:</td> <td>11/3/2006 11:11:41 AM</td>	Sample ID: MBLK		MBLK			Batch ID	R21288	Analysis Date:	11/3/2006 11:11:41 AM
Chlonde ND mg/L 0.10 Nitrate (As N)+Nitrite (AS N) ND mg/L 0.50 Sutfate ND mg/L 0.50 Sample ID: MBLK MBLK Batch ID: R21305 Analysis Date: 11/6/2006 10:00.51 Flooride ND mg/L 0.10 ND Sample ID: MBLK Batch ID: R21305 Analysis Date: 11/6/2006 10:00.51 Chloride ND mg/L 0.10 ND Sample ID: LCS Sample ID: R21305 Analysis Date: 11/6/2006 11:29.02 Sulfate ND mg/L 0.50 Sample ID: LCS ST300-06019 LCS Batch ID: R2138 Analysis Date: 11/6/2006 11:29.02 Choride 4.899 mg/L 0.10 98.0 90 110 Nanalysis Date: 11/6/2006 10:18:11 Sulfate 9.674 mg/L 0.50 96.7 90 110 Sample ID: LCS ST300-06019 LCS Sample ID: LCS State ID: Ralysis Date:	Fluoride	ND	mg/L	0.10					
Nitrate (As N)+Nitrile (As N) ND mg/L 0.10 Phosphons, Orthophosphate (As P) ND mg/L 0.50 Sample ID: MBLK Batch ID: R21305 Analysis Date: 11/6/2006 19:00:57 Sample ID: MBLK MBLK Batch ID: R21305 Analysis Date: 11/6/2006 19:00:57 Fluoride ND mg/L 0.10 ND mg/L 0.10 Phosphorus, Orthophosphate (AS P) ND mg/L 0.50 Sample ID: LCS Batch ID: R21288 Analysis Date: 11/3/2006 11:29:07 Fluoride 0.5273 mg/L 0.10 105 90 110 Intrate (AS N)+Nitrite (AS N) Analysis Date: 11/3/2006 11:29:07 Fluoride 0.5273 mg/L 0.10 90 110 Intrate (AS N)+Nitrite (AS N) 3.461 mg/L 0.50 99.90 110 Sample ID: LCS ST300-06019 LCS Batch ID: R21305 Analysis Date: 11/6/2006 12:18:17 Nonde 0.506 mg/L <	Chloride	ND	mg/L	0.10					
Phosphorus, Orthophosphaie (As P) ND mg/L 0.50 Sulfate ND mg/L 0.50 Sample ID: MBLK Batch ID: R21305 Analysis Date: 11/6/2006 10:00:57 Fluoride ND mg/L 0.10 Intrate (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 11:29:07 Fluoride 0.527.3 mg/L 0.10 105 90 110 Chloride 0.527.3 mg/L 0.10 98.9 90 110 Nitrate (As N)+Nitrite (As N) 3.461 mg/L 0.50 96.7 90 110 Sample ID: LCS ST300-06019 LCS Sample ID: Analysis Date: 11/6/2006 10:18:16 Louride 0.5066 mg/L 0.10 97.9 90 110 Phosphor	Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10					
Sulfate ND mg/L 0.50 Sample ID: MBLK MBLK Batch ID: R21305 Analysis Date: 11/6/2006 10:00.57 Fluoride ND mg/L 0.10 Control Sample ID: MBLK MD mg/L 0.10 Nitrate (As N)+Nitrite (As N) ND mg/L 0.50 Suffate ND mg/L 0.50 Suffate ND mg/L 0.50 Suffate Analysis Date: 11/3/2006 11:20:01 Suffate ND mg/L 0.50 Suffate Analysis Date: 11/3/2006 11:20:01 Suffate 0.5273 mg/L 0.10 98.0 90 110 Nitrate (As N)+Nitrite (As N) 3.461 mg/L 0.50 96.7 90 110 Suffate 9.674 mg/L 0.50 96.7 90 110 Suffate 9.674 mg/L 0.10 97.9 90 110 Suffate 9.666 mg/L 0.10 97.9 90 110	Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sample ID: MBLK MBLK Batch ID: R 21305 Analysis Date: 11/6/2006 10:00:53 Fluoride ND mg/L 0.10 Information of the state of the stat	Sulfate	ND	mg/L	0.50					
Fluoride ND mg/L 0.10 Chloride ND mg/L 0.10 Phosphorus, Orthophosphate (As P) ND mg/L 0.50 Sample ID: LCS Batch ID: R21288 Analysis Date: 11/3/2006 11:29:01 Fluoride 0.5273 mg/L 0.10 96 110 Chloride 4.899 mg/L 0.10 98.0 90 110 Nitrate (As N)+Nitrite (As N) 3.461 mg/L 0.50 99.9 90 110 Sulfate 9.674 mg/L 0.50 99.9 90 110 Sulfate 9.674 mg/L 0.50 96.7 90 110 Sulfate 9.674 mg/L 0.10 97.9 90 110 Sulfate 9.664 mg/L 0.10 97.9 90 110 Nutrate (As N)+Nitrite (As N) 3.426 mg/L 0.50 96.5 90 110 Nutrate (As N)+Nitrite (As N) 3.426 <	Sample ID: MBLK		MBLK			Batch ID	R21305	Analysis Date:	11/6/2006 10:00:52 AM
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 Suifate ND mg/L 0.50 Sample ID: LCS ST300-06019 LCS Batch ID: R21288 Analysis Date: 11/3/2006 11:29:01 Fluoride 0.5273 mg/L 0.10 96.0 90 110 Chloride 4.899 mg/L 0.10 98.0 90 110 Nitrate (As N)+Nitrite (As N) 3.461 mg/L 0.50 99.9 90 110 Phosphorus, Orthophosphate (As P) 4.997 mg/L 0.50 96.7 90 110 Suffate 0.674 mg/L 0.10 90 110 11/6/2006 10:18:10 Suffate 0.650 mg/L 0.10 97.9 90 110 Chloride 4.862 mg/L 0.50 96.1 90 110 Suffate 9.652 mg/L </td <td>Fluoride</td> <td>ND</td> <td>mg/L</td> <td>0.10</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Fluoride	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 11:29:01 Fluoride 0.5273 mg/L 0.10 95 90 110 Chloride 4.899 mg/L 0.10 98.0 90 110 Nitrate (As N)+Nitrite (As N) 3.461 mg/L 0.50 99.90 110 Sulfate 9.674 mg/L 0.50 96.7 90 110 Sulfate 9.674 mg/L 0.10 101 90 110 Sulfate 9.664 mg/L 0.10 97.2 90 110 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.10 97.9 90 110 Chloride 4.862 mg/L 0.50 96.5 90 110 90 110 Suifate 9.652 mg/L 0.50 96.5 90 110 <td>Chloride</td> <td>ND</td> <td>mg/L</td> <td>0.10</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Chloride	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 11:29:01 Chloride 0.5273 mg/L 0.10 98.0 90 110 Chloride 4.899 mg/L 0.10 98.9 90 110 Nitrate (As N)+Nitrite (As N) 3.461 mg/L 0.50 99.9 90 110 Phosphorus, Orthophosphate (AS P) 4.997 mg/L 0.50 96.7 90 110 Sulfate 9.674 mg/L 0.10 90 110 90 110 Sulfate 9.666 mg/L 0.10 97.9 90 110 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.50 96.1 90 110 Sulfate 9.652 mg/L 0.50 96.1 90 110 Sulfate 9.652 mg/L 0.50 </td <td>Nitrate (As N)+Nitrite (As N)</td> <td>ND</td> <td>mg/L</td> <td>0.10</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Nitrate (As N)+Nitrite (As N)	ND	mg/L	0.10					
Sulfate ND mg/L 0.50 Sample ID: LCS Batch ID: R21288 Analysis Date: 11/3/2006 11:29:01 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 0.50 99.9 90 110 Sulfate 9.674 mg/L 0.50 96.7 90 110 Sulfate 9.674 mg/L 0.50 96.7 90 110 Sulfate 9.674 mg/L 0.50 96.7 90 110 Sulfate 9.674 mg/L 0.10 97.2 90 110 Sulfate 9.652 mg/L 0.10 97.3 90 110 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.50 98.1 90 110 Sulfate 9.652 mg/L 0.50 96.5 91	Phosphorus, Orthophosphate (As P)	ND	mg/L	0.50					
Sample ID: LCS Batch ID: R21288 Analysis Date: 11/3/2006 11:29:08 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 0.50 96.7 90 110 Suffate 9.674 mg/L 0.50 96.7 90 110 Suffate 9.674 mg/L 0.50 96.7 90 110 Suffate 9.674 mg/L 0.50 96.7 90 110 Suffate 9.667 mg/L 0.10 97.2 90 110 Noracle 0.50666 mg/L 0.10 97.9 90 110 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.50 96.5 90 110 Suffate 9.652 mg/L 0.50 96.5 90 110 Suffate 9.652	Sulfate	ND	mg/L	0.50					
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 Suffate 9.674 mg/L 0.50 99.7 90 110 Suffate 9.674 mg/L 0.50 96.7 90 110 Suffate 9.674 mg/L 0.50 96.7 90 110 Suffate 9.674 mg/L 0.10 101 90 110 Suffate 0.5066 mg/L 0.10 97.2 90 110 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.50 96.5 90 110 Sulfate 9.652 mg/L 0.50 96.5 90 110 110 Sulfate 9.652 mg/L 1.50 Batch ID: 11640 Analysis Date: 11/2	Sample ID: LCS ST300-06019		LCS			Batch ID	R21288	Analysis Date:	11/3/2006 11:29:05 AM
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 10:18:10 Pluoride 0.5066 mg/L 0.10 101 90 110 Silfate 9.672 mg/L 0.10 97.2 90 110 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.10 97.9 90 110 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.50 96.5 90 110 Suffate 9.652 mg/L 0.50 96.5 90 110 Method: SW8015 Sample ID: MBLK Batch ID: 11640 Analysis Date: 11/2/2006 11:26:02 Sample ID: LCS-11640 LCS	Fluoride	0.5273	ma/L	0.10	105	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 Sample ID: LCS ST300-06019 LCS Batch ID: R21305 Analysis Date: 11/6/2006 10:18:11 Juoride 0.50666 mg/L 0.10 101 90 110 Chloride 4.862 mg/L 0.10 97.2 90 110 Phosphorus, Orthophosphate (As P) 3.426 mg/L 0.10 97.9 90 110 Phosphorus, Orthophosphate (As P) 4.905 mg/L 0.50 96.5 90 110 Phosphorus, Orthophosphate (As P) 4.905 mg/L 0.50 96.5 90 110 Suffate 9.652 mg/L 0.50 96.5 90 110 Suffate 9.652 mg/L 0.50 96.5 90 110 Method: SW8015 Sample ID: MBLK Batch ID: 11640 Analysis Date: 11/2/2006 11:26:02 Sample ID: LCS-11640<	Chloride	4.899	mg/L	0.10	98.0	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 10:18:11 Huoride 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 96.5 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 11:10.0 Diesel Range Organics (DRO) ND mg/L 5.0 - - - Sample ID: LCS-11640 LCS Batch ID: 11640 Analysis Date: 11/2/2006 11:26:00 Diesel Range Orga	Nitrate (As N)+Nitrite (As N)	3.461	mg/L	0.10	98.9	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 10:18:19 Iuoride 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-LK Batch ID: 11640 Analysis Date: 11/2/2006 1:11:0:0 Diesel Range Organics (DRO) ND mg/L 1.0 Mg/L 50 Sample ID: 11640 Analysis Date: 11/2/2006 11:26:00 Diesel Range Organics (DRO) ND mg/L 1.0 117 74 157 Sample ID:	Phosphorus, Orthophosphate (As P)	4.997	mg/L	0.50	99.9	90	110		
Sample ID: LCS Batch ID: R21305 Analysis Date: 11/6/2006 10:18:11 Huoride 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 Suffate 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 11:10: Diesel Range Organics (DRO) ND mg/L 1.0 10 100 11640 Analysis Date: 11/2/2006 11:26:00 Diesel Range Organics (DRO) ND mg/L 5.0 - Sample ID: 11640 Analysis Date: 11/2/2006 11:26:00 Diesel Range Organics (DRO) 5.830 mg/L 1.0 117 74 <t< td=""><td>Sulfate</td><td>9.674</td><td>mg/L</td><td>0.50</td><td>96.7</td><td>90</td><td>110</td><td></td><td></td></t<>	Sulfate	9.674	mg/L	0.50	96.7	90	110		
Iluoride 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 Nitrate (As N)+Nitrite (As N) 3.426 mg/L 0.50 98.1 90 110 Phosphorus, Orthophosphate (As P) 4.905 mg/L 0.50 96.5 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 1:11:0 Diesel Range Organics (DRO) ND mg/L 5.0 - - - - Sample ID: LCS-11640 LCS Batch ID: 11640 Analysis Date: 11/2/2006 11:26:02 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 12:00:50	Sample ID: LCS ST300-06019		LCS			Batch ID	: R21305	Analysis Date:	11/6/2006 10:18:16 AM
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 1:11:0 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 11:26:00 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 12:00:50 Diesel Range Organics (DRO) 6.008 mg/L 1.0 120 74 157 3.01 23 Method: SW8015 Sample ID: SMBLK	Fluoride	0.5066	mg/L	0.10	101	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 1:11:0 Diesel Range Organics (DRO) ND mg/L 1.0 Motor Oil Range Organics (MRO) ND mg/L 5.0 Diesel Range Organics (DRO) ND mg/L 1.0 .	Chloride	4.862	mg/L	0.10	97.2	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 1:11:0: 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 11:26:00 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 12:00:50 Diesel Range Organics (DRO) 5.830 mg/L 1.0 117 74 157 3.01 23 Method: SW8015 Sample ID: 1640 Analysis Date: 11/3/2006 8:46:30 30 30.1 23 Diesel Range Organics (DRO) 6.008 mg/L 1.0 120 74 157 3.01 23 <th< td=""><td>Nitrate (As N)+Nitrite (As N)</td><td>3.426</td><td>mg/L</td><td>0.10</td><td>97.9</td><td>90</td><td>110</td><td></td><td></td></th<>	Nitrate (As N)+Nitrite (As N)	3.426	mg/L	0.10	97.9	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 1:11:0. Diesel Range Organics (DRO) ND mg/L 1.0 Sample ID: LCS-11640 LCS Batch ID: 11640 Analysis Date: 11/2/2006 11:26:0. Diesel Range Organics (DRO) S.830 mg/L 1.0 117 74 157 Sample ID: LCSD-11640 LCSD Batch ID: 11640 Analysis Date: 11/2/2006 12:00:50 Diesel Range Organics (DRO) 6.008 mg/L 1.0 117 74 157 Sample ID: LCSD-11640 LCSD Batch ID: 11640 Analysis Date: 11/2/2006 12:00:50 Diesel Range Organics (DRO) 6.008 mg/L 1.0 120 74 157 3.01 23 Method: SW8015 Sample ID: SMBLK Batch	Phosphorus, Orthophosphate (As P)	4.905	mg/L	0.50	98.1	90	110		
Method: SW8015 Sample ID: MB-11640 MBLK Batch ID: 11640 Analysis Date: 11/2/2006 1:11:0 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 11:26:00 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 12:00:50 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 12:00:50 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 Gasoline Range Organics (GRO) ND mg/L 0.050	Sulfate	9.652	mg/L	0.50	96.5	90	110		
Sample ID: MB-11640 MBLK Batch ID: 11640 Analysis Date: 11/2/2006 1:11:0 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 11:26:02 Diesel Range Organics (DRO) 5.830 mg/L 1.0 117 74 157 Sample ID: LCSD-11640 LCSD Mg/L 1.0 120 74 157 3.01 23 Diesel Range Organics (DRO) 6.008 mg/L 1.0 120 74 157 3.01 23 Diesel Range Organics (DRO) 6.008 mg/L 1.0 120 74 157 3.01 23 Method: SW8015 MBLK Batch ID: R21285 Analysis Date: 11/3/2006 8:46:30 Gasoline Range Organics (GRO) ND mg/L 0.050 Batch ID: R21285 Analysis Date: 11/3/2006 7:17:17 Sample ID: 2.5UG GRO LCS LCS Batch ID: R21285 Analysis Date: 11/3/2006 7:17:17	Method: SW8015								
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 11:26:02 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 12:00:5 Diesel Range Organics (DRO) 5.830 mg/L 1.0 117 74 157 Sample ID: LCSD-11640 6.008 mg/L 1.0 120 74 157 3.01 23 Method: SW8015 MBLK Batch ID: R21285 Analysis Date: 11/3/2006 8:46:34 Gasoline Range Organics (GRO) ND mg/L 0.050 Batch ID: R21285 Analysis Date: 11/3/2006 7:17:11	Sample ID: MB-11640		MBLK			Batch ID	: 11640	Analysis Date:	11/2/2006 1:11:03 PM
Motor Oil Range Organics (MRO) ND mg/L 5.0 Sample ID: LCS-11640 LCS Batch ID: 11640 Analysis Date: 11/2/2006 11:26:0: 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 12:00:5 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 Gasoline Range Organics (GRO) ND mg/L 0.050 Eatch ID: R21285 Analysis Date: 11/3/2006 7:17:11	Diesel Range Organics (DRO)	ND	ma/L	1.0					
Sample ID: LCS-11640 LCS Batch ID: 11640 Analysis Date: 11/2/2006 11:26:0 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 12:00:5 Diesel Range Organics (DRO) 6.008 mg/L 1.0 120 74 157 3.01 23 Method: SW8015 Sample ID: Sample ID: SML RB MBLK Batch ID: R21285 Analysis Date: 11/3/2006 8:46:30 Gasoline Range Organics (GRO) ND mg/L 0.050 Exc Batch ID: R21285 Analysis Date: 11/3/2006 7:17:11	Motor Oil Range Organics (MRO)	ND	mg/L	5.0		-			
Diesel Range Organics (DRO) 5.830 mg/L 1.0 117 74 157 Sample ID: LCSD Batch ID: 11640 Analysis Date: 11/2/2006 12:00:5 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 Gasoline Range Organics (GRO) ND mg/L 0.050 Eatch ID: R21285 Analysis Date: 11/3/2006 7:17:11	Sample ID: LCS-11640		LCS			Batch ID	: 11640	Analysis Date:	11/2/2006 11:26:05 AM
Sample ID: LCSD LCSD Batch ID: 11640 Analysis Date: 11/2/2006 12:00:5 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 8:46:34 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	Diesel Range Organics (DRO)	5 830	ma/L	10	117	74	157	,	
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 Gasoline Range Organics (GRO) ND mg/L 0.050 Eatch ID: R21285 Analysis Date: 11/3/2006 7:17:11	Sample ID: LCSD-11640		LCSD			Bạtch ID	: 11640	Analysis Date:	11/2/2006 12:00:55 PM
Method: SW8015 Sample ID: 5ML RB MBLK Batch ID: R21285 Analysis Date: 11/3/2006 8:46:34 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	Diesel Range Organics (DRO)	6.008	mg/L	1.0	120	74	157	3.01 ;	23
Sample ID:5ML RBMBLKBatch ID:R21285Analysis Date:11/3/2006 8:46:34Gasoline Range Organics (GRO)NDmg/L0.050	Method: SW8015								
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	Sample ID: 5ML RB		MBLK			Batch ID	: R21285	Analysis Date:	11/3/2006 8:46:30 AM
Sample ID: 2.5UG GRO LCS LCS Batch ID: R21285 Analysis Date: 11/3/2006 7:17:11	Gasoline Range Organics (GRO)	ND	ma/L	0.050					
	Sample ID: 2.5UG GRO LCS		LCS	1.000		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	Gasoline Range Organics (GRO)	0.4740	mg/L	0.050	94.8	73.3	119	-	



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

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 26/34

Client: (Giant Refinin	g Co									
roject:	Annual Grou	nd Water 2	2006-Ciniza					•	Work (Order	: 0611014
Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPD	Limit	Qual
Method: SW8021											
Sample ID: 0611014	I-01A MSD		MSD			Batch I	D: R21286	Analysis E	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 RE	AGENT BLA		MBLK			Batch I	D: R21286	Analysis D	Date:	11/3/2	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 I	D: R21286	Analysis E	Date:	11/3/2	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	4-01A MS		MS			Batch I	D: R21286	Analysis E	Date:	11/3/2	2006 7:40:53 PM
Aethyl 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	hð\r	1.0	103	85	116				
Xylenes, Total		62.66	µg/L	3.0	104	85	119				

Qualifiers:

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

R RPD outside accepted recovery limits

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

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	Result	Units	PQL	%Rec	LowLimit	High	hLimit	%RPD	RPDLimit	Qual
Method: SW8270C		- /			<u>_</u>					
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/Ľ	10							
Dimethyl phthalate	ND	µg/L	10							
2,4-Dichlorophenol	ND	µg/L	10							
2,4-Dimethylphenol	ND	µg/Ľ	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							

R RPD outside accepted recovery limits

- Spike recovery outside accepted recovery limits S



Giant Refining Co Annual Ground Water 2006-Ciniza

Work Order: 0611014 %Rec Result Units PQL LowLimit HighLimit %RPD Analyte RPDLimit Qual Method: SW8270C MBLK Batch ID: 11/14/2006 Sample ID: MB-11641 11641 Analysis Date: Hexachlorobutadiene ND µg/L 10 10 ND µg/L Hexachlorocyclopentadiene 10 Hexachloroethane ND µg/L ND 10 Indeno(1,2,3-cd)pyrene µg/L ND µg/L 10 isophorone 2-Methylnaphthalene ND µg/L 10 ND 15 2-Methylphenol µg/L 3+4-Methylphenol ND µg/L 20 ND 10 µg/L N-Nitrosodi-n-propylamine ND µg/L 10 N-Nitrosodimethylamine N-Nitrosodiphenylamine ND µg/L 10 ND µg/L 10 Naphthalene ND µg/L 50 2-Nitroaniline ND µg/L 50 3-Nitroaniline ND µg/L 20 4-Nitroaniline Nitrobenzene ND µg/L 10 ND 15 µg/L 2-Nitrophenol ND 50 4-Nitrophenol µg/L ND µg/L 50 entachlorophenol henanthrene ND µg/L 10 Phenol ND µg/L 10 ND µg/L 15 Pyrene ND µg/L 30 Pyridine ND µg/L 10 1,2,4-Trichlorobenzene 2,4,5-Trichlorophenol ND µg/L 10 ND 2,4,6-Trichlorophenol µg/L 15 LCS Batch ID: 11/14/2006 Sample ID: LCS-11641 11641 Analysis Date: 10 75.6 Acenaphthene 75.56 µg/L 11 123 20 64.4 4-Chloro-3-methylphenol 128.8 µg/L 15.4 119 109.7 µg/L 10 54.9 12.2 2-Chlorophenol 122 1,4-Dichlorobenzene 44.08 µg/L 10 44.1 16.9 100 70.12 µg/L 10 70.1 13 138 2,4-Dinitrotoluene 10 59.7 9.93 N-Nitrosodi-n-propylamine 59.72 µg/L 122 4-Nitrophenol 61.04 µg/L 50 30.5 12.5 87.4 50 Pentachlorophenol 89.54 µg/L 44.8 3.55 114 60.02 10 30.0 7.53 Phenol µg/L 73.1 74.84 µg/L 15 74.8 12.6 140 Pyrene 49.74 µg/L 10 49.7 17.4 98.7 1,2,4-Trichlorobenzene LCSD Sample ID: LCSD-11641 Batch ID: 11641 Analysis Date: 11/14/2006 72.80 µg/L 10 72.8 11 123 Acenaphthene 3.72 30.5 20 64.8 129.7 µg/L 15.4 4-Chloro-3-methylphenol 119 0.697 28.6 129.1 10 64.5 2-Chiorophenoi µg/L 12.2 122 16.2 107 1,4-Dichlorobenzene 48.32 µg/L 10 48.3 16.9 100 9.18 62.1 64.96 10 65.0 13 2,4-Dinitrotoluene µg/L 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

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S Spike recovery outside accepted recovery limits



Giant Refining Co Annual Ground Water 2006-Ciniza

Project: Annual Grou	und Water 20	006-Ciniza						Y	Work Order	.: 0611014
Analyte	Result	Units	PQL	%Rec	LowLimit	High	nLimit	%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	12	2	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	11	4	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	14	0	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	12	25	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	12	20			
Sample ID: 0611014-08C MS		MS			Batch	ID:	11711	Analysis [Date:	11/9/2006
Mercury	0.004620	mg/L	0.00020	92.4	75	12	25			



Qualifiers:

Е Value above quantitation range

J Analyte detected below quantitation limits

RPD outside accepted recovery limits R

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

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0	Client:
	Project:

Giant Refining Co Annual Ground Water 2006-Ciniza

Work Order: 0611014

Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD R	PDLimit Qual
Method: SW6	010A								
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: LC:	S-11746		LCS			Batch	ID: 11746	Analysis Date:	11/16/2006 8:53:16 AN
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: LC	S-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: LC	S-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



Giant Refining Co Annual Ground Water 2006-Ciniza

Project: Annual Gro	ound Water 2	2006-Ciniza						Work Order	.: 0611014
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B					Detab	D. D04004	A		44/7/000/
Sample ID: 5mL rb		MBLK			Batch	ID: R21321	Analysis i	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	hð\F	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						
arbon Tetrachloride	ND	µg/L	2.0						
Chlorobenzene	ND	µq/L	1.0						
Chloroethane	ND	ug/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	μα/L	1.0						
2-Chlorotoluene	ND	ug/L	1.0						
4-Chlorotoluene	ND	ug/L	1.0						
cis-1 2-DCF	ND	μα/L	1.0						
cis-1.3-Dichloropropene	ND	µg/L	1.0						
1 2-Dibromo-3-chloropropane	ND	µg/l	2.0						
Dibromochloromethane	ND	₽9/~ ug/l	10						
Dibromomethane	ND	µg/l	2.0						
1.2-Dichlorobenzene	ND	ug/1	1.0						
1 3-Dichlorobenzene	ND	µg/1	1.0						
1 4-Dichlorobenzene	ND	ug/l	1.0						
Dichlorodifluoromethane	ND	10/l	1.0						
1 1-Dichloroethane	ND	µg/L	2.0						
1 1-Dichloroethene	ND	µg/2	1.0						
1.2.Dichloropropage	ND	P9/C	1.0						
	ND	на/I	1.0						
		P9/~	י.י 2 ח						
	סא	μg/L	2.0						
		µy/L	1.0						
		µg/∟	-2.0						
2-Hexanone	UN	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

Project: Giant Ref	round Water 2	2006-Ciniza					V	Vork Order	.: 0611014
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		MBLK			Batch	ID: R21321	Analysis D	ate:	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/∟	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 D	ate:	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

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

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		Sample	Receipt Che	ecklist			
Client Name GIANTF	REFIN			Date and Time	Received:	11/1/2006	
Work Order Number	0611014	-		Received by	AT		
Checklist completed b	by	The	Date		106		
Matrix		Carrier name	Client drop-off	ſ			
Shipping container/co	oler in good condition?		Yes 🗹	No 🗌	Not Present)	
Custody seals intact of	on shipping container/cooler	?	Yes 🗌	No 🗌	Not Present	Not Shipped 🗹	
Custody seals intact of	on sample bottles?		Yes 🗌	No 🗹	N/A]	
Chain of custody pres	sent?		Yes 🗹	No 🗌			
Chain of custody sign	ed when relinquished and re	eceived?	Yes 🗹	No 🗌			
Chain of custody agre	ees with sample labels?		Yes 🗹	No 🗀			
Samples in proper co	ntainer/bottle?		Yes 🗹	No 🗌			
Sample containers in	tact?		Yes 🗹	No 🗔			
Sufficient sample volu	ume for indicated test?		Yes 🗹	No 🗌			
All samples received	within holding time?		Yes 🗹	No 🗌			
Water - VOA vials ha	ve zero headspace?	No VOA vials subr	nitted	Yes 🗹	No 🗌		
Water - pH acceptabl	e upon receipt?		Yes 🗹	No 🗌	N/A		
Container/Temp Blan	k temperature?		3°	4° C ± 2 Accepta	<i>ble</i> time to cool.		
COMMENTS:							
• • · · ·			·····	······································	· · ·		
Client contacted		Date contacted:		Pers	on contacted	· · · · · · · · · · · · · · · · · · ·	
Contacted by:		Regarding					
Comments:					- · · <u>-</u>		
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Corrective Action		· · · · · · · · · · · · · · · · · · ·	······································			· · · · · · · · · · · · · · · · · · ·	.
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Commen-(N no Y) esequebeeH no selddug niA XXXXXXX み Tel. 505.345.3975 Fax 505.345.4107 ANALYSIS REQUEST 1 sect **ANALYSIS LABORATORY** X HALL ENVIRONMENTAL Albuquerque, New Mexico 87109 X X ino 5 X X www.hallenvironmental.com (AOV-jjffa2) 0758 4901 Hawkins NE, Suite D J $\overline{\times}$ (ADV) 80858 (S808) a'804 / asticides / PCB's (8082) 11 b0[°]' 20[°]) Anions**(**F, CI, VO₃, ſ₽ĝ'n rne Х RCRA 8 Metals X (HA9 no AN9) 01:28 EDC (Method 8021) Remarks: Fon EDB (Method 504.1) (1.814 bontaM) Hq1 X (lese)()Xs60) 83 r08 bodteM H91 (V = 0.01 MTBE + 10 MPT + 381 M + X318X BTEX + MTBE + (1208) s У $\boldsymbol{\times}$ È 11/1706 Konor b ٢ 2096- Europ ļ HEAL No. 1 パートノー 2 190 Level 4 QA / QC Package: Lonna Preservative Received By://Signature) Received By: (Signature) Q HgCI, HNO T Std 🗖 June 1 م م Sample Temperature: 🋫 Project Manager: Number/Volume Water Project Name: Other: Project #: Sampler: Relinquished By: (Signature) CHAIN-OF-CUSTODY RECORD Sample I.D. No. Ø 11. P Blei 0 W- 29 505 722 523 011-12 PWJ aning 0 W-14 3 0 4-13 0210 M 0 [U-1. Relinquished By: (Signature) 0 M ۱ 1 MW. R R g N NN Matrix 3 17 3 \mathbf{A} 2 2 $\tilde{\sim}$ ン trai yrand 505 210 1027.06 0915 10.27.06 10.30 10.27.06 1230 168 0 10,24,06 1330 2011 1400 100.00 SHH Time 0/ Time: Time: ĥ)ate: 1 /-06 10.17.06 Phone #: 10,000 10.26.01 Address: 10/27/16 9 Date Client: Fax #: Date: f 1



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



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

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 S	Samples 2006	5 Ponds 1&2	Date Received.	11/1/2	2006		
Lab ID:	0611018-01			Matrix:	AQUI	EOUS		
Analyses		Result PQL Qua		l Units	DF	Date Analyzed		
						· · · · · · ·		
EPA METHOD 8	021B: VOLATILES	ND	25	- //	40	Analyst: NSB		
	ether (MIBE)	ND	20	µg/L	10	11/3/2006 3:37:33 PM		
Benzene			10	µg/L	10	11/3/2006 3:37:33 PM		
i oluene		12	10	µg/L	10	11/3/2006 3:37:33 PM		
Etnyibenzene		13	10	µg/L	10	11/3/2006 3:37:33 PM		
Xylenes, Total	l	79	30	µg/L	10	11/3/2006 3:37:33 PM		
Surr: 4-Bromor	luorobenzene	88.0	72.2-125	%REC	10	11/3/2006 3:37:33 PM		
EPA METHOD 7	470: MERCURY					Analyst: MAP		
Mercury		0.00057	0.00020	mg/L	1	11/16/2006		
EPA 6010B: TO	TAL RECOVERABLE M	ETALS				Analyst: NMC		
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 PN		
Lead		0.015	0.0050	mg/L	1	11/15/2006 9:35:51 PN		
Selenium		ND	0.050	ma/L	1	11/15/2006 9:35:51 PM		
Silver		ND	0.0050	mg/L	1	11/15/2006 9:35:51 PM		
	270C: SEMIVOLATILES					Applyst: BI		
Acenanhthene		ND	25	uo/l	1	11/14/2006		
Acenanhthylene		ND	25	μg/L		11/14/2006		
Aniline		ND	50	μg/L	1	11/14/2006		
Anthracene		ND	25	µg/L	1	11/14/2006		
Azobenzene		ND	25	ug/l	1	11/14/2006		
Benz(a)anthrace	ne	ND	38	µg/L	1	11/14/2006		
Benzo(a)øvrene		ND	38	µg/L	1	11/14/2006		
Benzo(b)fluoranti	hene	ND	38	µa/L	1	11/14/2006		
Benzo(a.h.i)pervl	ene	ND	25	µg/L	1	11/14/2006		
Benzo(k)fluoranth	nene	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-chloroetho)	ky)methane	ND	25	µg/L	1	11/14/2006		
Bis(2-chloroethyl)ether	ND	38	µg/L	1	11/14/2006		
Bis(2-chloroisopr	opyl)ether	ND	38	µg/L	1	11/14/2006		
Bis(2-ethylhexyl)	phthalate	ND	38	µg/L	1	11/14/2006		
4-Bromophenvl p	henyl ether	ND	25	µg/L	1	11/14/2006		
Butyl benzyl phth	alate	ND	38	ua/L	1	11/14/2006		
Carbazole		ND	25	ua/L	1	11/14/2006		

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ND Not Detected at the Reporting Limit

- S Spike recovery outside accepted recovery limits
- Holding times for preparation or analysis exceeded Н
- MCL Maximum Contaminant Level RL Reporting Limit

CLIENT:	Giant Refining Co			Client Sample	ID: Pond	1 Inlet
Lab Order:	0611018			Collection D	ate: 10/30	/2006 2:00:00 PM
Project:	Annual Groundwater S	Samples 2006 I	Ponds 1&2	Date Receiv	ved: 11/1/	2006
Lab ID:	0611018-01	Ĩ		Mat	trix: AQU	EOUS
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD	8270C: SEMIVOLATILES					Analyst: B
4-Chloro-3-met	hylphenol	ND	50	ua/L	1	11/14/2006
4-Chloroaniline		ND	50	µg/L	1	11/14/2006
2-Chloronaphth	nalene	ND	25	μg/L	1	11/14/2006
2-Chloropheno	l	ND	25	μg/L	1	11/14/2006
4-Chloropheny	phenyl ether	ND	38	μg/L	1	11/14/2006
Chrysene	· •	ND	38	μg/L	1	11/14/2006
Di-n-butyl phth	alate	ND	25	μg/L	1	11/14/2006
Di-n-octyl phtha	alate	ND	38	µg/L	1	11/14/2006
Dibenz(a,h)ant	hracene	ND	25	μg/L	1	11/14/2006
Dibenzofuran		ND	25	μg/L	1	11/14/2006
1,2-Dichlorobe	nzene	ND	25	μg/L	1	11/14/2006
1,3-Dichlorobe	nzene	ND	25	μg/L	1	11/14/2006
1,4-Dichlorobe	nzene	ND	25	µg/L	1	11/14/2006
3,3'-Dichlorobe	enzidine	ND	38	μg/L	1	11/14/2006
Diethyl phthala	te	ND	25	µg/L	1	11/14/2006
Dimethyl phtha	late	ND	25	μg/L	1	11/14/2006
2,4-Dichloroph	enol	ND	25	µg/L	1	11/14/2006
2,4-Dimethylph	enol	110	25	µg/L	1	11/14/2006
4,6-Dinitro-2-m	ethylphenol	ND	120	µg/L	1	11/14/2006
2,4-Dinitropher	lor	ND	120	µg/L	1	11/14/2006
2,4-Dinitrotolue	ene	ND	25	µg/L	1	11/14/2006
2,6-Dinitrotolue	ene	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
Hexachlorober	izene	ND	25	µg/L	1	11/14/2006
Hexachlorobut	adiene	ND	25	µg/L	1	11/14/2006
Hexachlorocyc	lopentadiene	ND	25	μg/L	1	11/14/2006
Hexachloroeth	ane	ND	25	µg/L	1	11/14/2006
Indeno(1,2,3-c	d)pyrene	ND	25	µg/L	1	11/14/2006
Isophorone		ND	25	µg/L	1	11/14/2006
2-Methylnaphtl	halene	320	25	µg/L	1	11/14/2006
2-Methylphend	1	220	38	µg/L	1	11/14/2006
3+4-Methylphe	enol	88	50	µg/L	1	11/14/2006
N-Nitrosodi-n-p	propylamine	ND	25	µg/L	1	11/14/2006
N-Nitrosodime	thylamine	27	25	µg/L	1	11/14/2006
N-Nitrosodiphe	enylamine	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	ug/L	1	11/14/2006

Qualifiers:

 Value exceeds Maximum 	Contaminant Level
---	-------------------

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

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Date: 27-Nov-06

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 Q	ual Units	DF Date Analyzed

EPA METHOD 8270C: SEMIVOLATI	ES				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
- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 3 / 12
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

CLIENT:Giant Refining CoLab Order:0611018Project:Annual GroundwateLab ID:0611018-02		Samples 2006	5 Ponds 1&2	Client Sample ID: Collection Date: Date Received: Matrix:	Pond 2 Inlet 10/31/2006 11:00:00 AM 11/1/2006 AOUEOUS		
Analyses		Result	PQL Qua	l Units	DF	Date Analyzed	
EPA METHOD	8021B: VOLATILES					Analyst: NSB	
Methyl tert-buty	/I 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-Brom	nofluorobenzene	85.0	72.2-125	%REC	10	11/3/2006 4:10:13 PM	
EPA METHOD	160.1: TDS					Analyst: KS	
Total Dissolved	I Solids	1800	40	mg/L	1	11/7/2006	

Date: 27-Nov-06



Qualifiers:

Value exceeds Maximum Contaminant Level

- E Value above quantitation range
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- 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

CLIENT:	Giant Refining Co			C	lient Sample ID:	Pond 7	Gen Chem		
Lab Order:			Danda 1 Pr/	`	Collection Date:	10/31/2006 2:30:00 PM			
Project:	Annual Groundwater Sa	imples 2006.	Ponds 1&	2	Date Received:	11/1/2	006		
Lab ID:	0611018-03	and a little manufacture of the second			Matrix:	AQUE	OUS		
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, O	rthophosphate (As P)	ND	50	н	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: T	OTAL RECOVERABLE ME	TALS					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: SP	ECIFIC CONDUCTANCE						Analyst: CMS		
Specific Condu	ctance	150000	0.10		µmhos/cm	10	11/1/2006		
EPA METHOD	150.1: PH						Analyst: CMS		
pН		7.46	0.010		pH units	1	11/1/2006		



* Value exceeds Maximum Contaminant Level

Hall Environmental Analysis Laboratory, Inc.

- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 5 / 12
- B Analyte detected in the associated Method Blank

Date: 27-Nov-06

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



HALL ENVIRONMENTAL

4901 HAWKINS NE, SUITE D

attn: ANDY FREEMAN

ALBUQUERQUE

ASSAIGAI ANALYTICAL LABORATORIES, INC.

NM 87109-4372

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

STANDARD

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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 ENVI	RONMEN	ITAL											
Project:	0611018	`						. 10 /	(0)					
Order:	0611031	HAL03		Receipt:	11-02-06	William P. Biava: President of Assaigai Analytical Laboratories, Inc.								
Sample:	0611018-02	C POND	2 INLET	•		Collected:	10-3	1-06 11:00:	00 By:					
Matrix:	AQUEOUS				·	· · ·								
									Dilution	Detection		Prep	Run	
QC Group	Run Sec	luence	CAS #		Analyte	Res	ult	Units	Factor	Limit	Code	Date	Date	
0611031-0	001A	E	PA 405.1 I	Biochemic	al Oxygen Demand					By:	NJL			
BOD06131	WC.2006.	2807.13	10-26-4	Biocherr	ical Oxygen Demano	58	6	mg/L	1	2		11-02-06	11-07-06	
Sample:	0611018-02		2 INLET	-		Collected:	10-31	1-06 11:00:	00 By:					
Matrix:	AQUEOUS													
									Dilution	Detection		Prep	Run	
QC Group	Run Sec	uence	CAS #		Analyte	Res	ult	Units	Factor	Limit	Code	Date	Date	
0611031-0	002A	Eł	PA 410.1 (Chemical C	Dxygen Demand					By:	NJL			
WCOD06070	WC.2006.	2849.5	C-004	Chemi	cal Oxygen Demand	12	40	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, is 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.



Client: Giant Refin Project: Annual Gro	ing Co undwater Sa	amples 2006	Ponds 1&	2			Worl	Work Order: 0611018			
Analyte	Result	Units	PQL	%Rec	LowLimit I	HighLimit	%RPD RF	DLimit 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 I	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	ma/L	0.10	105	90	110	-				
Chloride	4.899	ma/L	0.10	98.0	90	110					
Nitrate (As N)+Nitrite (As N)	3.461	ma/L	0.10	98.9	90	110					
Phosphorus Orthophosphate (As	P) 4.997	ma/L	0.50	99.9	90	110					
Sulfate	9.674	ma/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			
Eluorido	0 5066	ma/l	0.10	101	00	110	,				
Chlorido	4 862	mg/L	0.10	07.2	90	110					
Nitrato (As N)+Nitrito (As N)	3 426	mg/L	0.10	97.2	90	110					
Phosphorus Orthophosphate (As	D) 4 905	mg/L	0.10	08.1	90	110					
Sulfate	9.652	ma/l	0.50	96.5	90	110					
Method: SW8021											
Sample ID: 5ML REAGENT BLA	A	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 IC): 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:
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 - R RPD outside accepted recovery limits

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 7 / 12

Page 1

0611018

Work Order:

QA/QC SUMMARY REPORT

Jient: Project: Giant Refining Co Annual Groundwater Samples 2006 Ponds 1&2

Analyte	Result	Units	PQL	%Rec	LowLimit	High	1Limit	%RPD	RPDLimit	Qual
Method: SW8270C										
Sample ID: MB-11641		MBLK			Batch	1D:	11641	Analysis [Date:	11/14/2000
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	hð\r	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							
arbazole	ND	μα/L	10							
4-Chloro-3-methylphenol	ND	µq/L	20							
4-Chloroaniline	ND	µq/L	20							
2-Chloronaphthalene	ND	µq/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	ug/L	15							
Dibenz(a,h)anthracene	ND	µa/L	10							
Dibenzofuran	ND	µa/L	10							
1,2-Dichlorobenzene	ND	µa/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	ua/L	10							
Fluorene	ND	ua/L	10							
exachlorobenzene	ND	ua/L	10							

Qualifiers:

E Value above quantitation range

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

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 8 / 12

	Client:
Ľ	Project:

Giant Refining Co Annual Groundwater Samples 2006 Ponds 1&2

Work Order: 0611018

Analyte	Result	Units	PQL	%Rec	LowLimit	Highl	_imit	%RPD	RPDLimit	Qual
Method: SW8270C										
Sample ID: MB-11641		MBLK			Batch	ID:	11641	Analysis D	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 E)ate:	11/14/2000
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	hð\r	10	59.7	9.93	122				
4-Nitrophenol	61.04	µg/L	50	30.5	12.5	87.4	Ļ			
Pentachiorophenol	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 D	ate:	11/14/200
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 Ohlanschaust			10	645	10.0	100		16.0	107	
2-Chiorophenoi	129.1	µg/L	10	04.0	12.2	122		10.2	107	
2-Chlorophenol 1,4-Dichlorobenzene	129.1 48.32	µg/L µg/L	10 10	48.3	12.2	122		9.18	62.1	

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 exceededND Not Detected at the Reporting Limit

ND Not Detected at the Reporting LimitS Spike recovery outside accepted recovery limits

0611018

Work Order:

QA/QC SUMMARY REPORT

Clien	t:
 Proie	ct:

Giant Refining Co Annual Groundwater Samples 2006 Ponds 1&2

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		LĈS			Batch	ID: 11774	Analysis (Date:	11/16/2006
Mercury	0.005025	mg/L	0.00020	100	80	120			



Qualifiers:

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- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits 10/12

0611018

Work Order:

QA/QC SUMMARY REPORT



Giant Refining Co Annual Groundwater Samples 2006 Ponds 1&2

Analyte	Result	Units	PQL	%Rec	LowLimit	Hig	hLimit	%RPD RF	PDLimit 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	12	20		
Barium	0.4951	mg/L	0.020	99.0	80	12	20		
Cadmium	0.5012	mg/L	0.0020	100	80	12	20		
Chromium	, 0.5086	mg/L	0.0060	102	80	12	20		
Lead	0.4945	mg/L	0.0050	98.9	80	12	20		
Selenium	0.4749	mg/L	0.050	95.0	80	12	20		
Silver	0.5011	mg/L	0.0050	100	80	12	20		
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	12	20		
Chromium	0.4878	mg/L	0.0060	97.6	80	12	20		
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	12	20		
Magnesium	53.28	mg/L	1.0	106	80	12	20		
Potassium	55.78	mg/L	1.0	111	80	12	20		
Sodium	57.07	mg/L	1.0	113	80	12	20		
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	ma/l	20	101	80	10	20	-	

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Qualifiers:

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- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limits
 - 11/12

Sampl	e Receipt Che	ecklist		
Client Name GIANTREFIN		Date and Time	Received:	11/1/2006
Work Order Number 061/018		Received by	AT	
Checklist completed by	. Date	<u>il 1 0</u>	6	
Matrix Carrier name	e <u>Client drop-of</u>	Í		
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 sul	bmitted	Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?	Yes 🗹	No 🗌	N/A	
Container/Temp Blank temperature?	3°	4° C ± 2 Accepta If given sufficient	ble time to cool.	
COMMENTS:				
Client contacted Date contacted:	· · • • • • • • • • • • • • • • • • • •	Pers	on contacted	· · · · · · · · · · · · · · · · · · ·
Contacted by: Regarding				
Comments: fur im Pond	7 Colle	ton .	fins 14.	30 AT
·				7707
				· · · · · · · · · · · · · · · · · · ·
· · · · · · · · · · · · · · · · · · ·	····			
Corrective Action		···· ··· ·· · · · · · · · · · · · · ·	··· •· ·	·····
· · · · · · · · · · · · · · · · · · ·		·····		
			··· · · ·	·· · ····

HALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Albuquerque, New Mexico 8/109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com					9i0/266	2005 200 200 200 200 200 200 200 200 200	r 08 bo 06 bo 07 bo 08 bo 00 k 16 16 16 16 16 16 16 16 16 16 16 16 16	Metho Metho									Fon Chen = Calibre, Unione)	H + Conductivity
QA/ QC Package: Std 🔲 Level 4 🛄 Other:	Project Name: annual Crowned	Ponda land 2 chulsta.	Project #:		Project Manager:	the Minue 10	Sampler: Are Mana	Sample Temperature:	Preservative + +	HEAL No. HEAL No. HEAL No.	X	- Z X	r N					Received By: (Signature) ////00 Remarks	Received By: (Signature) // 00
CHAIN-OF-CUSTODY RECORD	Client Scient Refining	Company - Conga	Address: Pout 3 Sor 7	Fallup, NM 87301			Phone #: 505 722 3233	Fax#: 5057220210		Uate lime Matrix Sample I.U. No.	16/3 0/06 1400 H2 O Paral 1 chulst	0/3//06/100 " Poul 2 Inlit	0/31/06 1430 1 Pond 7. Com Clan					1-1-06 1100 Relinquished By: (Signature)	Date: Time: Relinquished By: (Signature)



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

Dear Steve Morris:

Order No.: 0611012

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

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.

CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0611012 NMED Quarterly Sam 0611012-01	ples 4th Qtr. 1	2006	C	lient Sample Collection D Date Receiv Mat	ID: ate: ved: rix:	AL-2 to EP-1 10/30/2006 3:45:00 PM 11/1/2006 AQUEOUS			
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed		
EPA METHOD	8015B: GASOLINE RANG	GE						Analyst: NSE		
Gasoline Range	e 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		
	7470 MERCURY							Analyst: CMS		
Mercury	1470. MERGORY	0.0011	0 00020		ma/l		1	11/8/2006		
increasy.		0.0011	0.00020				•	110/2000		
EPA 6010B: TO	TAL RECOVERABLE MI	TALS						Analyst: NMC		
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		
PA METHOD	8260B: VOLATILES							Analyst: LMN		
Benzene		ND	10		µg/L		10	11/8/2006		
Toluene		ND	10		µg/L		10	11/8/2006		
Elhylbenzene		ND	10		µg/L		10	11/8/2006		
Methyl tert-buty	l ether (MTBE)	ND	15		µg/L		10	11/8/2006		
1,2,4-Trimethylt	enzene	110	10		ha\r		10	11/8/2006		
1,3,5-Trimethylt	penzene	30	10		µg/L		10	11/B/2006		
1,2-Dichloroetha	ane (EDC)	ND	10		µg/L		10	11/B/2006		
1,2-Dibromoeth	ane (EDB)	ND	10		µg/L		10	11/8/2006		
Naphihalene		54	20		hâ\r		10	11/8/2006		
1-Methylnaphth	alene	440	40		µg/L		10	11/8/2006		
2-Methylnaphth	alene	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		
Bromochlorome	lhane	ND	10		µg/L		10	11/8/2006		
Bromodichloron	iethane	ND	10		hð\r		10	11/8/2006		
Bromoform		ND	10		µg/L		10	11/8/2006		
Bromomethane		ND	20		μο/L		10	11/8/2006		
2-Bulanone		110	100		µg/L		10	11/B/2006		
Carbon disulfide	9	ND	100		µg/L		10	11/8/2006		
Carbon Tetrach	loride	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		
Chioroform		ND	10		µg/L		10	11/8/2006		
Qualifiers:	 Value exceeds Maximum C 	ontaminant Leve	:		B Analyte dete	ected in	n the as	sociated Method Blank		
I	E Value above quantitation ratio	nge			H Holding tim	es for	preparat	lion or analysis exceeded		
	J Analyte detected below qua	ntitation limits		Μ	iCL Maximum C	ontam	inant L	evel		
N	D Not Detected at the Reporti	ng Limit		1	RL Reporting L	imit		Paga		

Page 1 of 10

	onmental Analys	is Laborat	ory, 11	IC.	Date.						
CLIENT:	Giant Refining Co			C	lient Sample ID:	AL-2	to EP-1				
Lab Order:	0611012				Collection Date:	10/30	/2006 3:45:00 PM				
Project:	NMED Quarterly San	mles 4th Otr 2	006		Date Received.	11/1/2006					
I at TD	0(11010.01	.p			Matrix.	AOUEOUS					
	0611012-01		,								
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed				
EPA METHOD	8260B: VOLATILES						Analysl: LMM				
Chloromethane	9	ND	10		µg/L	10	11/8/2006				
2-Chlorololuene	e	ND	10		µg/L	10	11/8/2006				
4-Chlorololuene	e ·	ND	10		µg/L	10	11/8/2006				
cis-1,2-DCE		ND	10		µg/L	10	11/8/2006				
cis-1,3-Dichloro	propene	ND	10		μg/L	10	11/8/2006				
1,2-Dibromo-3-	chloropropane	ND	20		µg/L	10	11/8/2006				
Dibromochloror	melhane	ND	10		µg/L	10	11/8/2006				
Dibromomethai	пе	ND	20		µg/L	10	11/8/2005				
1,2-Dichlorober	nzene	ND	10		µg/L	10	11/8/2006				
1,3-Dichlorober	nzene	ND	10		µg/L	10	11/8/2006				
1,4-Dichlorober	nzene	ND	10		µg/L	10	11/8/2006				
Dichlorodifluoro	omethane	ND	10		µg/L	10	11/8/2006				
1,1-Dichloroelh	ane	ND	20		µg/L	10	11/8/2006				
1,1-Dichloroeth	ene	ND	10		µg/L	10	11/8/2006				
1,2-Dichloropro	pane	ND	10		µg/L	10	11/8/2006				
1,3-Dichloropro	pane	ND	10		µg/L	10	11/8/2006				
2,2-Dichloropro	pane	ND	20		րց/Լ	10	11/8/2006				
1,1-Dichloropro	репе	ND	10		µg/L	10	11/8/2006				
Hexachlorobula	adiene	ND	. 20		µg/L	10	11/8/2006				
2-Hexanone		ND	100		µg/L	10	11/8/2006				
Isopropylbenze	ne	ND	10		μg/L	10	11/8/2006				
4-Isopropyltolue	ene	ND	10		hd\r	10	11/8/2006				
4-Methyl-2-pen	lanone	ND	100		hð\r	10	11/8/2006				
Methylene Chic	oride	ND	30		µg/L	10	11/8/2006				
n-Butylbenzene	9	47	10		µg/L	10	11/8/2006				
n-Propylbenzer	ne	ND	10		µg/L	10	11/8/2006				
sec-Butylbenze	ine	ND	20		µg/L	10	11/8/2006				
Styrene		ND	15		µg/L	10	11/8/2006				
tert-Butylbenze	ne	. ND	10		µg/L	10	11/8/2006				
1,1,1,2-Tetrach	loroelhane	ND	10		µg/L	10	11/8/2006				
1,1,2,2-Tetrach	loroelhane	ND	10		µg/L	10	11/8/2006				
Tetrachloroethe	ene (PCE)	ND	. 10		µg/L	10	11/8/2006				
Irans-1,2-DCE		ND	10		µg/L	10	11/8/2006				
Irans-1,3-Dichlo	propropene	ND	10		µg/L	10	11/8/2006				
1,2,3-Trichlorot	penzene	ND	10		µg/L	10	11/8/2006				
1,2,4-Trichlorob	penzene	ND	10		µg/L	10	11/8/2006				
1,1,1-Trichloroe	ethane	ND	10		µg/L	10	11/8/2006				
1,1,2-Trichloroe	elhane	ND	10		μg/L	10	11/8/2006				
Trichloroethene	e (TCE)	ND	10		µg/L	10	11/8/2006				
Trichlorafluoron	nelhane	ND	10		µg/L	10	11/8/2006				

Date: 15-Nov-06

Qualifiers: * Value exce

Value exceeds Maximum Contaminant Level
 Value above quantitation range

B Analyte detected in the associated Method Blank

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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

MCL Maximum Contaminant Level RL Reporting Limit

Page 2 of 10

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Hall Envi	ronmental Anal	ysis Labora	tory, In	ic.	Date:	15-No	ov-06			
CLIENT:	Giant Refining Co			Clien	t Sample ID:	AL-2 to EP-1				
Lab Order:	0611012			Col	lection Date:	2: 10/30/2006 3:45:00 PM				
Project:	NMED Quarterly S	Samples 4th Qtr.	2006	Da	te Received: Matrix:	2006 EOUS				
Analyses	Analyses		PQL	Qual Un	l Units		Date Analyzed			
EPA METHOD	8260B: VOLATILES						Analyst: LMM			
1,2,3-Trichlorop	propane	ND	20	μg/l	-	10	11/8/2006			
Vinyi chloride		ND	10	μg/l	-	10	11/8/2006			
Xylenes, Total		62	30	μg/ί	-	10	11/8/2006			
Surr: 1,2-Dic	hloroethane-d4	84.2	69.9-130	%R	EC	10	11/8/2006			
Surr: 4-Brom	Surr: 4-Bromofiuorobenzene		75-139	%R	EC	10	11/8/2006			
Surr: Dibrom	ofluoromethane	89.1	57.3-135	%R	EC	10	11/8/2006			
Surr: Toluen	e-d8	86.0	81.9-122	%R	EC	10	11/8/2006			

montal Analysis Laboratory Inc. TT - 11 TP

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

......

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

Page 3 of 10

CLIENT:	Giant Refining Co			Client Sampl	le ID:	Pilot 7	ΓC Eff				
Lab Order:	0611012			Collection]	Date:	10/30/2006 2:45:00 PM					
Project:	NMED Ouarterly Sam	oles 4th Otr.	2006	Date Rece	ived:	11/1/2006					
Lah ID:	0611012-02			M	atrix:	AQUEOUS					
	0011012-02										
Analyses	· · · · · · · · · · · · · · · · · · ·	Result	PQL	Qual Units		DF	Date Analyzed				
EPA METHOD 8	015B: GASOLINE RAN	θE					Analyst: NSE				
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 7	470: MERCURY						Anaivst: CM				
Mercury		ND	0.00020	ma/L		1	11/8/2006				
we dely						·					
EPA 6010B: TO	TAL RECOVERABLE M	ETALS					Analyst: NM				
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 8	260B: VOLATILES						Analyst: LMI				
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-Trimethylb	enzene	ND	1.0	µg/L		1	11/13/2006				
1,3,5-Trimethylb	enzene	ND	1.0	µg/L		1	11/13/2006				
1,2-Dichloroetha	ine (EDC)	ND	1.0	μg/L		1	11/13/2006				
1,2-Dibromoetha	ane (EDB)	ND	1.0	µg/L		1	11/13/2006				
Naphthalene		ND	2.0	µg/L		1	11/13/2006				
1-Methylnaphtha	lene	ND	4.0	µg/L		1	11/13/2006				
2-Methylnaphtha	lene	ND	4.0	μg/L		1	11/13/2006				
Acelone		150	10	µg/L		1	11/13/2006				
Bromobenzene		ND	1.0	μg/L		1	11/13/2006				
Bromochloromet	hane	ND	1.0	µg/L		1	11/13/2006				
Bromodichlorom	elhane	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/∟		1	11/13/2006				
Carbon disullide		ND	10	μα/Γ		1	11/13/2006				
Carbon Tetrachl	oride	ND	2.0	µg/L		1	11/13/2006				
Chlorobenzene		ND	1.0	hð\r		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				

Analyte detected below quantitation limits 3

ND Not Detected at the Reporting Limit

Not Detected at the reporting control for the second second recovery limits 5 / 18 S

MCL Maximum Contaminant Level RL Reporting Limit

Page 4 of 10

Date: 15-Nov-06

CLIENT:	Giant Refining Co			C	lient Sample ID:	Pilot 7	TC Eff				
Lab Order:	0611012				Collection Date:	10/30/2006 2:45:00 PM					
Project:	NMED Quarterly Sam	ples 4th Qtr. 2	006		Date Received:	11/1/2006					
Lab ID:	0611012-02				Matrix:	AQUI	EOUS				
Analyses		Result	t PQL		Units	DF	Date Analyzed				
FPA METHOD 8	260B- VOLATILES	<u></u>					Analyst: I MM				
Chloromethane		ND	1.0		uo/L	1	11/13/2006				
2-Chlorotoluene		ND	1.0		μα/L	1	11/13/2006				
4-Chlorotoluene		ND	1.0		ua/l.	1	11/13/2006				
cis-1.2-DCE		ND	1.0		µg/L	1	11/13/2006				
cis-1.3-Dichlorop	ropene	ND	1.0		µg/L	1	11/13/2006				
1.2-Dibromo-3-c	hloropropane	ND	2.0		ua/L	1	11/13/2006				
Dibromochlorom	ethane	ND	1.0		µa/L	1	11/13/2006				
Dibromomethan	2	ND	2.0		uo/L	1	11/13/2006				
1.2-Dichlorobenz	ene	ND	1.0		μg/L	1	11/13/2006				
1.3-Dichlorobenz	ene	ND	1.0		μg/L	1	11/13/2006				
1.4-Dichlorobenz	tene	2.8	1.0		µg/L	1	11/13/2006				
Dichlorodifluoron	nethane	ND	1.0		μα/L	1	11/13/2006				
1.1-Dichloroetha	ne	ND	2.0		μα/L	1	11/13/2006				
1,1-Dichloroethe	ne	ND	1.0		µg/L	1	11/13/2006				
1.2-Dichloroprop	ane	ND	1.0		ug/L	1	11/13/2006				
1.3-Dichloroprop	ane	ND	1.0		μg/L	1	11/13/2006				
2.2-Dichleroprop	ane	ND	2.0		μο/L	1	11/13/2006				
1.1-Dichlaroprop	ene	ND	1.0		μg/L	1	11/13/2006				
Hexachlorobulad	liene	ND	2.0		μα/L	1	11/13/2006				
2-Hexanone		ND	10		να/L	1	11/13/2006				
Isopropylbenzen	e	ND	1.0		μg/L	1	11/13/2006				
4-Isopropyltoluer	ne	1.6	1.0		μα/L	1	11/13/2006				
4-Methyl-2-penta	inone	ND	10		μα/L	1	11/13/2006				
Methylene Chlor	ide	ND	. 3.0		μg/L	1	11/13/2006				
n-Butvlbenzene		ND	1.0		µa/L	1	11/13/2006				
n-Propylbenzene		ND	1.0		μα/L	1	11/13/2006				
sec-Bulvibenzen	е	ND	2.0		ua/L	1	11/13/2006				
Styrene		ND	1.5		μα/Σ	1	11/13/2006				
tert-Butvlbenzen	e	ND	1.D		μα/L	1	11/13/2006				
1,1,1,2-Tetrachic	proethane	ND	1.0		μg/L	1	11/13/2006				
1,1,2,2-Tetrachic	oroelhane	ND	1.0		μg/L	1	11/13/2006				
Tetrachloroether	ie (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-Dichlor	opropene	ND	1.0		µg/L	1	11/13/2006				
1,2,3-Trichlorobe	enzene	ND	1.0		µg/L	1	11/13/2006				
1,2,4-Trichlorobe	enzene	ND	1.0		µg/L	1	11/13/2006				
1,1,1-Trichloroel	hane	ND	1.0		µg/L	1	11/13/2006				
1,1,2-Trichloroet	hале	ND	1.0		µg/L	1	11/13/2006				
Trichloroethene	(TCE)	ND	1.0		µg/L	1	11/13/2006				
Trichlorofluorom	ethane	ND	1.0		μg/L	1	11/13/2006				

. Qualifiers:

.... * Value exceeds Maximum Contaminant Level

6/18

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E Value above quantitation mage

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits

-- ---- . .. B Analyte detected in the associated Method Blank

H Holding times for preparation or analysis exceeded

MCL Maximum Contaminant Level

RL Reporting Limit

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Date: 15-Nov-06

CLIENT:	Giant Refining Co			C	lient Sample ID:	Pilot 7	TC Eff
Lab Order:	0611012				/2006 2:45:00 PM		
Project:	NMED Quarterly Sam	mples 4th Qtr. 2006			Date Received:	2006	
Lab ID:	0611012-02				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: LMM
1,2,3-Trichlorop	propane	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-Dic	hloroethane-d4	86.3	69.9-130		%REC	1	11/13/2006
Surr: 4-Brom	ofluorobenzene	120	75-139		%REC	1	11/13/2006
Surr: Dibrom	ofluoromethane	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
- J Analyte detected below quantitation limits
- 14D Not Detected at the Reporting Limit
- Not Detected a the response of Spike recovery outside accepted recovery fimits 7 / 18 5
- and a second and a second s
 - H Holding times for preparation or analysis exceeded
 - MCL Maximum Contaminant Level
 - RL Reporting Limit

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CLIENT:	Giant Refining Co			C	lient Sample ID:	NAPI	SEff			
Lab Order:	0611012				Collection Date:	: 10/30/2006 3:15:00 PM				
Project:	NMED Quarterly Sam	ples 4th Qtr.	2006		Date Received:	11/1/2006				
Lab ID:	0611012-03				Matrix:	AQUEOUS				
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed			
EPA METHOD 8	3015B: GASOLINE RAN	GE					Analyst: NSI			
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 8	3260B: VOLATILES						Analyst: LMI			
Benzene		6600	100		µg/L	100	11/8/2006			
Toluene		9800	100		µq/L	100	11/8/2006			
Elhyibenzene		760	100		μg/L	100	11/8/2006			
Methyl tert-butyl	ether (MTBE)	300	150		μg/L	100	11/8/2006			
1,2,4-Trimethylb	enzene	570	100		μg/L	100	11/8/2006			
1,3,5-Trimethylb	enzene	170	100		µg/L	100	11/B/2006			
1,2-Dichloroelha	ane (EDC)	ND	100		μg/L	100	11/8/2006			
1,2-Dibromoetha	ane (EDB)	ND	100		µg/L	100	11/8/2006			
Naphthalene		330	200		µg/L	100	11/8/2006			
1-Methylnaphlha	alene	ND	400		μg/L	100	11/8/2006			
2-Methyinaphtha	alene	ND	400		μg/L	100	11/8/2006			
Acelone		1800	1000		μg/L	100	11/8/2006			
Bromobenzene		ND	100		µg/L	100	11/8/2006			
Bromochlorome	thane	ND	100		µg/L	100	11/8/2006			
Bromodichlorom	ethane	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	2	ND	1000		µg/L	100	11/8/2006			
Carbon Tetrach	loride	ND	200		μg/L	100	11/8/2006			
Chlorobenzene		ND	100		μg/L	100	11/8/2006			
Chloroelhane		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-Chlorololuene	!	ND	100		μg/L	100	11/8/2006			
4-Chlorotoluene	1	ND	100		μg/L	100	11/8/2006			
cis-1,2-DCE		ND	100		µg/L	100	11/8/2006			
cis-1,3-Dichloro	propene	ND	100		µg/L	100	11/8/2006			
1, 2- Dibromo-3-c	chloropropane	ND	200		μg/L	100	11/8/2006			
Dibromochlorom	nethane	ND	100		µg/L	100	11/8/2006			
Dibromomethan	ie	ND	200		µg/L	100	11/8/2006			
1,2-Dichloroben	zene	ND	100		µg/L	100	11/8/2006			
1,3-Dichloroben	zene	ND	100		hð\r	100	11/8/2006			
1,4-Dichloroben	zene	ND	100		µg/L	100	11/8/2006			
Dichlorodifluoro	methane	ND	100		μg/L	100	11/8/2006			
1,1-Dichloroetha	ane	ND	200		μg/L	100	11/8/2006			

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

H Holding times for preparation or analysis exceeded

B Analyte detected in the associated Method Blank

MCL Maximum Contaminant Level

ND Not Detected at the Reporting Limit

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RL Reporting Limit

Page 7 of 10

Hall Envir	onmental Analys	IC.	Date:	15-Nov-06						
CLIENT:	Giant Refining Co			Client San	nple ID:	NAPI	S Eff			
Lab Order:	0611012			Collectio	n Date:	10/30/2006 3:15:00 PM				
Project:	NMED Quarterly Sam	nles 4th Otr	2006	Data P	· bovione					
I I TD	0(11012 02	prop 121 Qui	2000	Date N	Matriv.					
Analyses		Result	PQL	Qual Units		DF	Date Analyzed			
EPA METHOD	8260B: VOLATILES						Analyst: LMM			
1,1-Dichloroeth	ene	ND	100	hð\r		100	11/8/2006			
1,2-Dichloropro	pane	ND	100	µg/L		100	11/8/2006			
1,3-Dichloropro	pane	ND	100	µg/L		100	11/8/2006			
2,2-Dichloropro	ipane	ND	200	µg/L		100	11/8/2006			
1,1-Dichloropro	pene	ND	100	halr		100	11/8/2006			
Hexachlorobula	adiene	ND	200	µg/L		100	11/8/2006			
2-Hexanone		NÐ	1000	µg/L		100	11/8/2006			
Isopropylbenze	ne	ND	100	µg/L		100	11/8/2006			
4-Isopropyltolu	ene	ND	100	µg/L		100	11/8/2006			
4-Methyl-2-рел	tanone	ND	1000	µg/L		100	11/8/2006			
Methylene Chic	oride	ND	300	µg/L		100	11/8/2006			
n-Butylbenzene	e	ND	100	µg/L		100	11/8/2006			
n-Propylbenzer	те	ND	100	µg/L		100	11/8/2006			
sec-Butylbenze	ene	ND	200	μg/L		100	11/8/2005			
Styrene		ND	150	µg/L		100	11/8/2006			
tert-Butylbenze	ne	ND	100	µg/L		100	11/8/2006			
1,1,1,2-Tetrach	loroethane	ND	100	µg/L		100	11/8/2006			
1,1,2,2-Tetrach	loroethane	ND	100	ha\r		100	11/8/2006			
Tetrachloroethe	ene (PCE)	ND	100	μg/L		100	11/8/2006			
trans-1,2-DCE		ND	100	µg/L		100	11/8/2006			
trans-1,3-Dichle	oropropene	ND	100	µg/L		100	11/8/2006			
1,2,3-Trichlorol	benzene	ND	100	μg/L		100	11/8/2006			
1,2,4-Trichloro	benzene	ND	100	µg/L		100	11/8/2006			
1,1,1-Trichloro	elhane	ND	100	µg/L		100	11/8/2006			
1,1,2-Trichloro	elhane	ND	100	µg/L		100	11/8/2006			
Trichloroethene	e (TCE)	ND	100	µg/L		100	11/8/2006			
Trichlorofluoror	melhane	ND	100	μg/L		100	11/8/2006			
1,2,3-Trichlorog	propane	ND	200	µg/L		100	11/8/2006			
. Vinyl chloride		ND	` 100	µg/L		100	11/8/2006			
Xylenes, Tolal		3500	300	µg/L		100	11/8/2006			
Surr: 1,2-Dic	chloroethane-d4	89.3	69.9-130	%REC		100	11/8/2006			
Surr: 4-Brom	nolluorobenzene	89.1	75-139	%REC		100	11/8/2006			
Surr: Dibrom	nofluoromethane	97.8	57.3-135	%REC		100	11/8/2006			
Surr: Toluen	ne-d8	87.0	81.9-122	%REC		100	11/B/2006			

.... Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

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- J Analyte detected below quantitation limits
- ND Not Detected at the Reponing Limit
- ND NOI Deterra an az negating com. S Spile expressionalide accepted records the inter-sources of the second second

B Analyte detected in the associated Method Blank

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

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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

Dear Steve Morris:

Order No.: 0612343

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

These were analyzed according to EPA procedures or equivalent.

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

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

Sincerely,

Andy Freeman, Business Manager Nancy McDuffie, Laboratory Manager

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



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

Date: 04-Jan-07

CLIENT:	Giant Refining Co	- <i>·</i>		Client Sample 1	D: OW-1	4
Lab Order:	0612343			Collection Da	te: 12/28	/2006 10:30:00 PM
Project:	Groundwater 2006-0	W-14		Date Receiv	ed: 12/28	/2006
Lab ID:	0612343-01			Matu	ix: AQUI	EOUS
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD	8260: VOLATILES SHO	ORT 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-buty	yl ether (MTBE)	180	1.5	µg/L	1	1/3/2007
Xylenes, Total		ND	3.0	µg/L	1	1/3/2007
Surr: 4-Brom	nofluorobenzene	105	71.2-123	%REC	1	1/3/2007

Qualifiers:

* Value exceeds Maximum Contaminant Level

E Value above quantitation range

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

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QA/QC SUMMARY REPORT



Giant Refining Co Groundwater 2006-0W-14

Work Order: 0612343

Analyte	Result	Units	PQL	%Rec	LowLimit Hi	ghLimit	%RPD RPE)Limit Qı	lal
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 Ics		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
- 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 2 / 3

Page 1

	Sample F	Receipt Ch	ecklist		
Client Name GIANTREFIN			Date and Time	Received:	12/28/2006
Work Order Number 0612343	2		Received by	AT	
	Ja	12 /	2 state		
Checklist completed by	11au	Date	8/04		
Matrix		Client dron-of	ff		
			<u>u</u>		
Shipping container/cooler in good condition?	,	Yes 🗹	No 🗌	Not Present	
Custody seals intact on shipping container/coole	er?	Yes 🗌	No 🗔	Not Present	🗌 Not Shipped 🗹
Custody seals intact on sample bottles?		Yes 🗌	No 🗹	N/A	
Chain of custody present?		Yes 🗹	No 🗌		
Chain of custody signed when relinquished and	received?	Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?		Yes 🗹	No 🗔		
Samples in proper container/bottle?		Yes 🗹	No 🗌		
Sample containers intact?		Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?		Yes 🗹	No 🗌		
All samples received within holding time?		Yes 🗹	No 🗌		
Water - VOA vials have zero headspace?	No VOA vials submit	tted	Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?		Yes 🗌	No 🗌	N/A 🗹	
Container/Temp Blank temperature?		1°	4° C ± 2 Accepta	ble	
			If given sufficient	time to cool.	
COMMENTS:					
			_		
Client contacted	Date contacted:		Pers	on contacted	
Contacted by:	Regarding				
Comments:					
		· · · · · ·		-	
Corrective Action					
		·	*** **********************************		•
		· · ·			

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AALL ENVIRONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D	Tel. 505.345.3975 Fax 505.345.4107		ANALYSIS'REQUEST		35) 20 [°]) 35) 20 [°]) 235) 235)	iloseð ei0/se grud grud grud grud grud grud grud grud	9q2b9 9q2b9 10 10 10 10 10 10 10 10 10 10 10 10 10	+ 381 + 381 108 bo 03 bo 03 bo 04 70 7 00 bo 00 04 Po 100 k 100 k	M + X3T8 M + X3T8 BTEX + M TPH Metho TPH (Metho FDB (Me							Remarks:
Queen: Other: Other:	Project Name Comment	2006-0W-14	Project #:		Project Manager:	Alter Maria	Sampler: A Course Mc north	Sample Temperature:	Number/Volume H9Cl ₂ HNO ₃ / 2 3 4 3							Received By: (Signature) / 12 / 2 & / U U Received By: (Signature)
CHAIN-OF-CUSTODY RECORD	Client: Tent Relining	June - inda	Address: Rent 5 Ear 7	5 aller, 1017 87301			Phone #: 50 5727 2953	Fax#: 505 722 0210	Date Time Matrix Sample I.D. No.	12:2. 26 1030 Water 0W-14						Date: Time: Relinquished By: (Signature) 2-28-06 1525 The Action Date: Time: Relinquished By: (Signature)



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

Date: 12-Apr-06

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

CASE NARRATIVE

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

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	-	

CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0603345 NMED Mntly & OCD 0603345-01	Qtly Samp 3	;/30/06	Cli	ient Sample ID: Collection Date: Date Received: Matrix:	Pilot E 3/30/20 3/31/20 AQUE	ff 206 9:45:00 AM 206 OUS
Analyses		Result	PQL	Qual 1	Units	DF	Date Analyzed
EPA METHOD 8	015B: DIESEL RANGE					_	Analyst: SCC
Diesel Range Or	ganics (DRO)	22	3.0	ſ	mg/L	1	4/4/2006 9:22:58 AM
Motor Oil Range	Organics (MRO)	ND	15	٦ -	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 8	015B: GASOLINE RANG	Ε					Analyst: NSB
Gasoline Range	Organics (GRO)	0.078	0.050	r	mg/L	1	4/10/2006 2:01:51 PM
Surr: BFB		114	79.7-119	c,	%REC	1	4/10/2006 2:01:51 PM
EPA METHOD 7	470: MERCURY						Analyst: CMC
Mercury		ND	0.00020	r	mg/L	1	4/5/2006
EDA SU10: TOTA		115					Applyst: NM/C
Arcanic		ND	0.020	r	mall	1	4/11/2006 2:50-18 PM
Barium		0.15	0.020	, L	mg/l	1	4/11/2006 2:50:18 PM
Cadmium		0.0027	0.0020	r	ng/L	1	4/11/2006 2:50:18 PM
Chromium		0.023	0.0060	r	ng/L	1	4/11/2006 2:50:18 PM
Lead		0.0081	0.0050	r	ma/L	1	4/11/2006 2:50:18 PM
Selenium		ND	0.050	г	ng/L	1	4/11/2006 2:50:18 PM
Silver		0.0061	0.0050	г	mg/L	1	4/11/2006 6:03:48 PM
	270C- SEMIVOLATILES						Analyst: Bl
Acenaphibene	2100. OCMITOCATICLO	ND	. 100	L	ua/L	2	4/11/2006
Acenaohihviene		ND	100		ug/L	2	4/11/2006
Aniline		ND	200	I	µg/L	2	4/11/2006
Anthracene		ND	100	Ļ	ug/L	2	4/11/2006
Azobenzene		ND	100		μg/L	2	4/11/2006
Benz(a)anthrace	ne	ND	150	ŀ	ug/L	2	4/11/2006
Benzo(a)pyrene		ND	150	ŀ	ug/L	2	4/11/2006
Benzo(b)fluorant	hene	ND	150	ł	nð\r	2	4/11/2006
Benzo(g,h,i)peryl	ene	ND	100	ł	ug/L	2	4/11/2006
Benzo(k)fluoranti	hene	ND	100	ţ	ug/L	2	4/11/2006
Benzoic acid		1300	500	ł	ug/L	2	4/11/2006
Benzyl alcohol		ND	200	1	ug/L	2	4/11/2006
Bis(2-chloroetho)	xy)methane	ND	100	ţ	ש/פע יי	2	4/11/2006
Bis(2-chloroethyl)elher	ND	150	ł	Jg/∟	2	4/11/2006
Bis(2-chloroisopr	opyl)elher	ND	150	ŀ	lg/∟	2	4/11/2006
Bis(2-ethylhexyl)	phihalale	ND	150	ł	וקוב	2	4/11/2006
4-Bromophenyl p	ohenyl elher	ND	100	ł	19/L	2	4/11/2006

B Analyte detected in the associated Method BlankH Holding times for preparation or analysis exceeded

E Value above quantitation range

J Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

ND Not Detected at the Reporting Limit

0. IT.)	
CLIENT:	Giant Relining Co
Lab Order:	0603345
Project:	NMED Mntly & OCD Qtly Samp 3/30/06
Lab ID:	0603345-01

Client Sample ID: Pilot Eff Collection Date: 3/30/2006 9:45:00 AM Date Received: 3/31/2006 Matrix: AQUEOUS

Analyses	Result	PQL	Qual Uni	ts DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATILES					Analyst: BL
Butyl benzyl phihalale	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	hð/f	. 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
Dibenzoluran	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-Dinitrololuene	ND	100	µg/L	. 2	4/11/2006
Fluoranihene	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-Methyinaphthalene	ND	100	μg/L	. 2	4/11/2006
2-Methylphenol	ND	150	μg/L	. 2	4/11/2006
3+4-Melhylphenol	370	200	μց/Լ	. 2	4/11/2006
N-Nitrosodi-n-propylamine	ND	100	µg/L	. 2	4/11/2006
N-Nitrosodimethylamine	ND	100	րց/Ը	. 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: Value exceeds Maximum Contaminant Level

J

B Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

H Holding times for preparation or analysis exceededND Not Detected at the Reporting Limit

Hall Environmental Ana	ilvsis Laboratory
------------------------	-------------------

CLIENT:	Giant Refining Co			C	Client Sample ID:	Pilot I	Eff	
Lab Order:	0603345				Collection Date:	3/30/2006 9:45:00 AM		
Project:	NMED Mntly & OCD	Otly Samp 1	3/30/06	Date Received: 3	3/31/2	3/31/2006		
Lab ID:	0603345-01				Matrix:	AQUI	EOUS	
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		hð\r	2	4/11/2006	
4-Nitrophenol		ND	500		µg/L	2	4/11/2006	
Pentachlorophe	enol	ND	500		µg/L	2	4/11/2006	
Phenanthrene		ND	100		µg/L	2	4/11/2006	
Phenol		ND	100		hð\r	2	4/11/2006	
Pyrene		ND	150		µg/L	2	4/11/2005	
Pyridine		ND	300		µg/L	2	4/11/2006	
1,2,4-Trichlorob	enzene	ND	100		µg/L	2	4/11/2006	
2,4,5-Trichlorop	henol	ND	100	÷	µg/L	2	4/11/2006	
2,4,6-Trichlorop	henol	ND	150		µg/L	2	4/11/2006	
Surr: 2,4,6-T	ribromophenol	96.5	16.6-150		%REC	2	4/11/2006	
Surr: 2-Fluor	obiphenyl	67.8	19.6-134		%REC	2	4/11/2006	
Surr: 2-Fluor	ophenol	59.3	9.54-113		%REC	2	4/11/2006	
Surr: 4-Terph	nenyl-d14	61.8	22.7-145		%REC	2	4/11/2006	
Surr: Nilrobe	nzene-d5	65.3	14.6-134		%REC	2	4/11/2005	
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-buty	I ether (MTBE)	ND	15		µg/L	10	4/4/2006	
1,2,4-Trimethyl	benzene	ND	10		μg/L	10	4/4/2006	
1,3,5-Trimethyl	benzene	ND	10		µg/L	10	4/4/2006	
1,2-Dichloroeth	ane (EDC)	ND	10		µg/L	10	4/4/2006	
1,2-Dibromoeth	ane (EDB)	ND	10		µg/L	10	4/4/2006	
Naphthalene		ND	20		μg/L	10	4/4/2006	
1-Methylnaphth	alene	ND	40		µg/L	10	4/4/2006	
2-Methylnaphth	alene	ND	40		µg/L	10	4/4/2006	
Acetone		ND	100		µg/L	10	4/4/2006	
Bromobenzene		ND	10		µg/∟	10	4/4/2006	
Bromochlorome	elhane	ND	10		₽g/L	10	4/4/2006	
Bromodichlaror	nelhane	ND	10		µg/L	10	4/4/2006	
Bromoform		ND	10		µg/L	10	4/4/2006	
Bromomethane	2	ND	20		µg/L	10	4/4/2006	
2-Bulanone		ND	100		μg/L	10	4/4/2006	
Carbon disulfid	e	ND	100		μg/L	10	4/4/2006	

Qualifiers: *

J

Value exceeds Maximum Contaminant Level Е

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

Value above quantitation range

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits S

ND Not Detected at the Reporting Limit

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CLIENT:	Giant Refining Co			C	lient Sample ID:	Pilou	5	
Lab Order	0603345			-	Collection Bate:	3/30/2	2006 D-45-00 AM	
Bab Order.		Othe Frank 3/	20/06		D + D	5/50/2000 9.45.00 ABM		
Project:	NMED Minity & OCD	Quy Samp 3/	50/00		Date Received:	3/31/2	2006	
Lab ID:	0603345-01				Matrix:	AQUI		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8260B: VOLATILES						Analyst: HLM	
Carbon Telrach	loride	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	
Chloraform		20	10		µg/L	10	4/4/2006	
Chloromethane		ND	10		µg/L	10	4/4/2006	
2-Chlorotoluene	9	ND	10		μg/L	10	4/4/2006	
4-Chiorotoluene	÷ .	ND	10		µg/L	10	4/4/2006	
cis-1,2-DCE		ND	10		µg/L	10	4/4/2006	
cis-1,3-Dichloro	propene	ND	10		μg/L	10	4/4/2006	
1.2-Dibromo-3-	chloropropane	ND	20		μg/ L	10	4/4/2006	
Dibromochloron	nelhane	ND	10		µg/L	10	4/4/2006	
Dibromomethar	18	ND	20		µg/L	10	4/4/2006	
1.2-Dichlorober	izene	ND	10		µg/L	10	4/4/2006	
1.3-Dichlorober	izene	ND	10		lig/L	10	4/4/2006	
1.4-Dichlorober	12606	ND	10		ug/L	10	4/4/2006	
Dichloradifluoro	methane	ND	10		ua/L	10	4/4/2006	
1 1-Dichloroeth	ane	ND	20		uo/L	10	4/4/2006	
1 1-Dichloroeth	ene	ND	10		19/1 10/1	10	4/4/2006	
1.2-Dichloroora	nane	ND	10		P9/#	10	4/4/2006	
1.3-Dichloropro	рапе	ND	10		р <u>9</u> /с 110/1	10	4/4/2006	
2.2 Dichloropro	pane	ND	20		P9/⊏ uo/i	10	4/4/2006	
1 1 Dichlaropro	pane	ND	10		P9/C	10	A/4/2006	
Havesblorsbulg	hene		20		pg/c	10	4/4/2000	
	luiene		100		pg/c	10	4/4/2000	
2-riexanone		ND	100		hðir	10	4/4/2000	
Isopropyidenze	ne		10		µg/c.	10	4/4/2000	
4-Isopropyllolue	ene	ND	10		µg/L	10	4/4/2006	
4-Methyl-2-peni	lanone	ND	100		hā\r	10	4/4/2006	
Methylene Chlo	nide	ND	30		μg/L	10	4/4/2006	
n-Butylbenzene		ND	10		pg/L	10	4/4/2006	
n-Propylberizen	le	ND	10		µg/L	10	4/4/2006	
sec-Butylbenze	ne	ND	20		µg/L	10	4/4/2006	
Styrene		ND	15		μg/L 	10	4/4/2006	
tert-Butylbenze	ne	ND	10		ից/Լ	10	4/4/2006	
1,1,1,2-Telrach	loroethane	ND	10		µg/L	10	4/4/2006	
1,1,2,2-Tetrach	loroethane	ND	10		hð\r	10	4/4/2006	
Tetrachloroethe	ene (PCE)	ND	10		µg/L	10	4/4/2006	
trans-1,2-DCE		ND	10		µg/L	10	4/4/2006	
trans-1,3-Dichlo	propropene	ND	10		µg/L	10	4/4/2006	
1,2,3-Trichlorob	penzene	ND	10		µg/L	10	4/4/2006	
1,2,4-Trichlorot	penzene	ND	10		µg/L	10	4/4/2006	

Qualifiers:

* Value exceeds Maximum Contaminant Level E

Analyte detected in the associated Method Blank В

Holding times for preparation or analysis exceeded

Value above quantitation range J

Analyte detected below quantitation limits

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

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CLIENT: Giant Refining Co			Client Sample I	D: Pilot l	Eſſ
Lab Order: 0603345			Collection Da	le: 3/30/2	2006 9:45:00 AM
Project: NMED Mntly & OCI	NMED Mntly & OCD Qtly Samp 3/30/06			d: 3/31/2	2006
Lab ID: 0603345-01			Matri	x: AQU	EOUS
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
Sum 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

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

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CLIENT:	Giant Refining Co			C	Client Sample ID:	NAPI	S Eff
Lab Order:	0603345				Collection Date:	3/30/2	2006 10:10:00 AM
Project:	NMED Mntly & OCD Q	tly Samp 3	3/30/06		Date Received: 3/31/2006		
Lab ID:	0603345-02				Matrix:	AQU	EOUS
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 Rang	e 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 Rang	e 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
Elhylbenzene		790	250		µg/L	250	4/4/2006
Methyl tert-buty	yl ether (MTBE)	1500	380		µg/L	250	4/4/2006
1,2,4-Trimethyl	benzene	1000	250		µg/L	250	4/4/2006
1,3,5-Trimethyl	benzene	ND	250		µg/L	250	4/4/2006
1.2-Dichloroeth	nane (EDC)	ND	250		µg/L	250	4/4/2006
1,2-Dibromoeth	nane (EDB)	ND	250		µg/L	250	4/4/2006
Naphthalene		1100	500		µg/L	250	4/4/2006
1-Melhylnapht	nalene	ND	1000		µg/L	250	4/4/2006
2-Melhylnaphti	alene	1200	1000		µg/L	250	4/4/2006
Acetone		42000	2500		hālr	250	4/4/2006
Bromobenzene	2	ND	250		hð\r	250	4/4/2006
Bromochlorom	elhane	ND	250		µg/L	250	4/4/2006
Bromodichloro	methane	ND	250		µg/L	250	4/4/2006
Bromoform		ND	250		µg/L	250	4/4/2006
Bromomethane	9	ND	500		µg/L	250	4/4/2006
2-Butanone		15000	2500		µg/L	250	4/4/2006
Carbon disulfid	le	ND	2500		µg/L	250	4/4/2006
Carbon Tetracl	hloride	ND	500		µg/L	250	4/4/2006
Chlorobenzene	3	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	9	ND	250		µg/L_	250	4/4/2006
2-Chiorotoluen	e	ND	250		μg/L	250	4/4/2006
4-Chlorotoluen	e	ND	250		µg/L	250	4/4/2006
cis-1,2-DCE		ND	250		µg/L	250	4/4/2006
cis-1,3-Dichlor	opropene	ND	250		µg/L	250	4/4/2006
1,2-Dibromo-3-	chloropropane	ND	500		µg/L	250	4/4/2006
Dibromochloro	melhane	ND	250		µg/L	250	4/4/2006

Qualifiers: * Value exceeds Maximum Contaminant Level в Analyte detected in the associated Method Blank

E Value above quantitation range

Analyte detected below quantitation limits J

S Spike Recovery outside accepted recovery limits

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

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Hall Environment	al Analysis	Laboratory
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CLIENT:	Giant Refining Co			C	lient Sample ID:	NAPJ	S Elf
Lab Order:	0603345				Collection Date:	3/30/2	2006 10:10:00 AM
Project:	NMED Mnily & OCD	Qtly Samp 3	/30/06		Date Received:	3/31/2	2006
Lab ID:	0603345-02				Matrix:	AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: HLM
Dibromomethan	e	ND	500		μg/L	250	4/4/2006
1,2-Dichloroben	zene	ND	250		μg/L	250	4/4/2006
1,3-Dichloroben	zene	ND	250		µg/L	250	4/4/2006
1,4-Dichloroben	zene	ND	250		µg/Ľ	250	4/4/2006
Dichlorodifluoro	methane	ND	250		µg/L	250	4/4/2006
1,1-Dichloroetha	ane	ND	500		µg/L	250	4/4/2006
1,1-Dichloroethe	ene	ND	250		µg/L	250	4/4/2006
1,2-Dichloroprop	bane	ND	250		µg/L	250	4/4/2006
1,3-Dichloroprop	pane	ND	250		μg/L	250	4/4/2006
2,2-Dichloroprop	рапе	ND	500		µg/L	250	4/4/2006
1,1-Dichloroprop	pene	ND	250		µg/L	250	4/4/2006
Hexachlorobula	diene	ND	500		µg/L	250	4/4/2006
2-Hexanone		ND	2500		µg/L	250	4/4/2006
Isopropylbenzer	ne	ND	250		µg/L	250	4/4/2006
4-isopropyllolue	ne	ND	250		μg/L	250	4/4/2006
4-Methyl-2-pent	anone	ND	2500		µg/L	250	4/4/2006
Methylene Chlor	ride	ND	750		µg/L	250	4/4/2006
n-Bulyibenzene		ND	250		µg/L	250	4/4/2006
n-Propylbenzen	е	ND	250		µg/L	250	4/4/2006
sec-Bulylbenzer	ne	ND	500		µg/L	250	4/4/2006
Styrene		ND	380		µg/L	250	4/4/2006
tert-Butvibenzer	ıe	ND	250		µa/L	250	4/4/2006
1.1.1.2-Tetrachi	oroelhane	ND	250		ug/L	250	4/4/2006
1.1.2.2-Tetrachl	oroelhane	ND	250		µg/L	250	4/4/2006
Tetrachloroethe	ne (PCE)	ND	250		µg/L	250	4/4/2006
trans-1.2-DCE	···· (· ·)	ND	250		ug/L	250	4/4/2006
trans-1.3-Dichlo	ropropene	ND	250		uo/L	250	4/4/2006
1.2.3-Trichlorob	enzene	ND	250		ua/L	250	4/4/2006
1.2.4-Trichlorob	enzene	ND	250		ug/L	250	4/4/2006
1 1 1-Trichloroe	Ihane	ND	250		ua/L	250	4/4/2006
1.1.2-Trichloroe	thane	ND	250		ua/L	250	4/4/2006
Trichloroethene	(TCE)	ND	250		ua/L	250	4/4/2006
Trichlorofluorom	hane	ND	250		ua/L	250	4/4/2006
1.2.3-Trichlorop	ropane	ND	500		ua/L	250	4/4/2006
Vinvi chloride	, ···-	ND	250		μα/L	250	4/4/2006
Xvienes. Total		4700	750		µg/L	250	4/4/2006
Surr: 1.2-Dict	nloroethane-d4	107	69.9-130		%REC	250	4/4/2006
Surr: 4-Bromo	ofluorobenzene	90.6	71.2-123		%REC	250	4/4/2006
Surr: Dibrama	ofluoromethane	92.4	57.3-135		%REC	250	4/4/2006
Surr: Toluene	a-d8	102	81.9-122		%REC	250	4/4/2006

Qualifiers: * Value exceeds Maximum Contaminant Level В Analyte detected in the associated Method Blank

Е Value above quantitation range J

Analyte detected below quantitation limits

Spike Recovery outside accepted recovery limits S

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

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Date: 12-Apr-06

CLIENT:	Giant Refining Co	and a second		C	lient Sample ID:	AL-2	to EP-1
Lab Order:	0603345				Collection Date:	3/30/2	2006 10:30:00 AM
Project:	NMED Mntly & OCD	Qtly Samp 3	3/30/06		Date Received:	3/31/2	2006
Lab ID:	0603345-03				Matrix:	AQU	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8015B: DIESEL RANGE						Analyst: SCC
Diesel Range C)rganics (DRO)	64	3.0		mg/L	1	4/4/2006 10:08:17 AM
Motor Oil Rang	e 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 RAN	GE					Analysi: NSB
Gasoline Range	e 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
	7470' MERCURY						Analyst: CMC
Mercury		0.0017	0.00020		ma/L	1	4/5/2006
moreary						•	10,2000
EPA 6010: TO	TAL RECOVERABLE ME	TALS					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		hā/r	50	4/4/2006
Ethylbenzene		60	50		µg/L	50	4/4/2006
Methyl tert-buty	l ether (MTBE)	ND	75		µg/L	50	4/4/2006
1,2,4-Trimethyll	penzene	170	50		µg/L	50	4/4/2006
1,3,5-Trimelhyll	benzene	ND	50		µg/L	50	4/4/2005
1,2-Dichloroelh	ane (EDC)	ND	50		µg/L	50	4/4/2006
1.2-Dibromoeth	ane (EDB)	ND	50		μg/L	50	4/4/2006
Naphthalene		200	100		µg/L	50	4/4/2006
1-Methylnaphth	alene	410	200		µg/L	50	4/4/2006
2-Methylnaphth	alene	620	200		µg/L	50	4/4/2006
Acelone		2500	500		µg/L	50	4/4/2006
Bromobenzene		ND	50		μg/L	50	4/4/2006
Bromochlorome	elhane	ND	50		μg/L	50	4/4/2006
Bromodichlerun	nelhane	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: * Value exceeds Maximum Contaminant Level

J

B Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

E Value above quantitation range

Analyte detected below quantitation limits

S Spike Recovery outside accepted recovery limits

ND Not Detected at the Reporting Limit

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CLIENT:	Giant Refining Co
Lab Order:	0603345
Project:	NMED Mntly & OCD Qtly Samp 3/30/06
Lab ID:	0603345-03

Date: 12-Apr-06

Client Sample ID: AL-2 to EP-1 Collection Date: 3/30/2006 10:30:00 AM Date Received: 3/31/2006 Matrix: AQUEOUS

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Analyses	Result	PQL	Qual Un	its	DF	Date Analyzed
EPA METHOD 8260B: VOLATILES						Analyst: HLM
2-Bulanone	820	500	μg/	L	50	4/4/2006
Carbon disulfide	ND	500	μ g/	L	50	4/4/2006
Carbon Tetrachloride	ND	100	μ g /	L	50	4/4/2006
Chlorobenzene	ND	50	μg/l	L	50	4/4/2006
Chloroethane	ND	100	μg/l	L	50	4/4/2006
Chloroform	ND	50	μg/l	L	50	4/4/2006
Chloromelhane	ND	50	μg/l	L	50	4/4/2006
2-Chlorotoluene	ND	50	hð/	L	50	4/4/2006
4-Chlorololuene	ND	50	μg/i	L	50	4/4/2006
cis-1,2-DCE	ND	50	hðh	L	50	4/4/2006
cis-1,3-Dichloropropene	ND	50	/log	L	50	4/4/2006
1,2-Dibromo-3-chioropropane	ND	100	µg/l	L	50	4/4/2006
Dibromochloromethane	ND	. 50	/g4	L	50	4/4/2006
Dibromomelhane	ND	100	μg/	L	50	4/4/2006
1,2-Dichlorobenzene	ND	50	µg/l	L	50	4/4/2006
1,3-Dichlorobenzene	ND	50	µg/i	L	50	4/4/2006
1,4-Dichlorobenzene	ND	50	µg/l	L	50	4/4/2006
Dichlorodifluoromethane	ND	50	jug/l	L	50	4/4/2006
1,1-Dichloroethane	ND	100	µg/l	L	5D	4/4/2006
1,1-Dichloroethene	ND	50	hāt	L	50	4/4/2006
1,2-Dichloropropane	ND	50	· µg/l	L.	50	4/4/2006
1,3-Dichloropropane	ND	50	µg/l	L	50	4/4/2006
2,2-Dichloropropane	ND	100	μ g /i	L	50	4/4/2006
1,1-Dichloropropene	ND	50	µg/l	L	50	4/4/2006
Hexachlorobutadiene	ND	100	µg/l	L	50	4/4/2006
2-Hexanone	ND	500	µg/l	L	50	4/4/2006
lsopropylbenzene	ND	50	µg/l	L	50	4/4/2006
4-Isopropyltoluene	ND	50	µg/l	L	50	4/4/2006
4-Methyl-2-pentanone	ND	500	µg/i	L	50	4/4/2006
Methylene Chloride	ND	150	µg/l	L	50	4/4/2006
n-Butylbenzene	ND	50	µg/l	L	50	4/4/2006
n-Propyibenzene	ND	50	µg/l	L.	50	4/4/2006
sec-Bulylbenzene	ND	100	μg/l	-	50	4/4/2006
Styrene	ND	75	µg/l	-	50	4/4/2006
tert-Butylbenzene	ND	50	µg/I	-	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/ì	- :	50	4/4/2006
irans-1,2-DCE	ND	50	l/gu	- :	50	4/4/2006
trans-1,3-Dichloropropene	ND	50	μg/l	_ :	50	4/4/2006

Qualifiers: ٠ Value exceeds Maximum Contaminant Level В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

Ε Value above quantitation range J

Analyte detected below quantitation limits

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

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Hall	Environmental	Analysis I	Laboratory
		-	•

CLIENT:	Giant Refining Co			Cli	ent Sample ID:	AL-2	to EP-1
Lab Order:	0603345			C	Collection Date:	3/30/2	2006 10:30:00 AM
Project:	NMED Mntly & OCE	Qtly Samp 3/	/30/06		Date Received:	3/31/2	2006
Lab ID:	0603345-03				Matrix:	AQU	EOUS
Analyses		Result	PQL	Qual (Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: HLM
1,2,3-Trichlorol	релzепе	ND	50	μ	ıg/L	50	4/4/2006
1,2,4-Trichlorot	penzene	ND	50	ц	ıg/L	50	4/4/2006
1,1,1-Trichloroe	elhane	ND	50	ų	ıg/L	50	4/4/2006
1,1,2-Trichloron	ethane	ND	50	μ	ıg/L	50	4/4/2006
Trichloroethene	e (TCE)	ND	50	μ	ıg/L	50	4/4/2006
Trichlorofluoror	nelhane	ND	50	Ц	ıg/L	50	4/4/2006
1,2,3-Trichloro	propane	ND	100	ц	ıg/L	50	4/4/2006
Vinyl chloride		ND	50	μ	ıg/l_	50	4/4/2006
Xylenes, Total		430	150	Ч	ıg/L	50	4/4/2006
Surr: 1,2-Dic	hloroethane-d4	94.5	69.9-130	9	%REC	50	4/4/2006
Surr: 4-Brorr	nofluorobenzene	84.4	71.2-123	3	6REC	50	4/4/2006
Surn Dibrom	olluoromethane	105	57.3-135	9	4REC	50	4/4/2006
Sun: Tolven	e-d8	96.4	81.9-122	9	%REC	50	4/4/2005

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

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

STANDARD

Assaigai Analytical Laboratories, Inc.

NM 87109-4372

Certificate of Analysis

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

Client:	HALL ENVIRO	ONMENTAL									
Project:	0603345										
Order:	0603760	HAL03	Receipt:	03-31-06	William	P, Blava: Presi	dent of Assalg	al Analytical Lab	oratories, In	с.	
Sample:	0603345-01D/	PILOT EFF		C	ollected: 03-3	0-06 9:45:0	0 By:			······································	
Matrix:	AQUEOUS										
							Dilution	Detection		Prep	Run
QC Group	Run Seque	nce CAS#		Analyte	Result	Units	Factor	Limit	Code	Date	Dale
0603760-00	Ato	EPA 405.1	Biochemio	al Oxygen Demand				Ву:	NJL		
BOD06041	WC.2006.856	.15 10-26-4	Blocher	nical 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, is 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 atin: ANDY FREEMAN 4901 HAWKINS NE, SUITE D

ALBUQUERQUE



Page 1 of 1



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



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

CLIENT:	Giant Refining Co			(lient Sampl	e ID•	BW-1	С
Lab Order	0611016			L.	Collection 1	l ID.	10/20	C 10.15.00 ANA
Dab Of del .	A novel GW Semples	OOG Cipica			Dete D	Jale.	10/20/	2000 10.13.00 AM
Project:	Annual Gw Samples 2	.000 Ciniza			Date Rece	ived:	11/1/2	2006
Lab ID:	0611016-01				1113		AQUI	
Analyses	. <u></u>	Result	PQL	Qual	Units		DF	Date Analyzed
EPA METHOD 30	00.0: 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)+Ni	trite (As N)	ND	0.50		mg/L		5	11/4/2006 2:34:16 AM
Phosphorus, Orth	iophosphate (As P)	ND	0.50	н	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 74	470: MERCURY							Analyst: MA
Mercury		ND	0.00020		mg/L		1	11/14/2006
EPA 6010B: TO	AL RECOVERABLE M	ETALS						Analyst: NM
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 PI
Chromium		0.011	0.0060		mg/L		1	11/15/2006 8:26:20 PM
Lead		ND	0.0050		ma/L		1	11/15/2006 8:26:20 PM
Magnesium		ND	1.0		ma/L		1	11/15/2006 8:26:20 Pt
Potassium		ND	1.0		ma/L		1	11/15/2006 8:26:20 PI
Selenium		ND	0.050		ma/L		1	11/15/2006 8·26·20 PI
Silver		ND	0.0050		ma/l		1	11/15/2006 8:26:20 PI
Sodium		320	10		mg/L		10	11/16/2006 10:44:19 /
	270C: SEMIVOLATILES							Analyst: Bl
	2700. SEMIVOLATIEL	, ND	10		ua/I		1	11/14/2006
Acenanhthylene		ND	10		µg/l		1	11/14/2006
Aniline		ND	20		ua/L		1	11/14/2006
Anthracene		ND	10		µg/L		1	11/14/2006
Azobenzene		ND	10		µ9/L		1	11/14/2006
Benz(a)anthracer	he	ND	15		ua/L		1	11/14/2006
Benzo(a)pyrene		ND	15		μα/μ		1	11/14/2006
Benzo(b)fluorant	hene	ND	15		ua/L		1	11/14/2006
Benzo(a h.i)pervl	ene	ND	10		ua/L		1	11/14/2006
Benzo(k)fluorant	nene	ND	10		ua/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-chloroetho)	(y)methane	ND	10		µg/L		1	11/14/2006
Bis(2-chloroethvl)ether	ND	15		ug/L		1	11/14/2006
Bis(2-chloroison	opvl)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 Lev	el		B Analyte d	etectec	in the as	ssociated Method Blank
E	Value above quantitation n	ange			H Holding t	imes fo	or prepara	ation or analysis exceeded
J	Analyte detected below qu	antitation limits		4	MCL Maximun	n Conta	iminant L	_evel
NE	Not Detected at the Report	ing Limit			RL Reporting	, Limit		Door 1
S	Spike recovery outside acc	epted recovery li	$\frac{1}{4}$	2				гаде І



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	POL Qual Units	DF Date Analyzed

EPA METHOD 8270C: SEMIVOLATILES			<u> </u>	<u> </u>	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/Ľ	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	NÐ	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

- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit

RL Reporting Limit

В

н

Spike recovery outside accepted recovery limits 2/42S

Analyte detected in the associated Method Blank

MCL Maximum Contaminant Level

Holding times for preparation or analysis exceeded

Date: 17-Nov-06

CLIENT:	Giant Refining Co			C	lient Sample ID:	BW-1	С
Lab Order:	0611016			(Collection Date:	10/28/	2006 10:15:00 AM
Project:	Annual GW Samples 2	006 Ciniza			Date Received:	11/1/2	006
Lab ID:	0611016-01				Matrix:	AQUI	EOUS
Analyses	· · ·	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8	270C: 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
Pentachlorophen	ol	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		NÐ	30		µq/L	1	11/14/2006
1,2,4-Trichlorobe	enzene	ND	10		µg/L	1	11/14/2006
2.4.5-Trichloroph	ienol	ND	10		ua/L	1	11/14/2006
2.4.6-Trichloroph	nenol	ND	15		ug/L	1	11/14/2006
Surr: 2.4.6-Tri	bromophenol	53.3	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluoro	biphenvl	63.4	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluoro	phenol	40.2	9.54-113		%REC	1	11/14/2006
Surr: 4-Terphe	envl-d14	66.1	22.7-145		%REC	1	11/14/2006
Surr: Nitroben	zene-d5	61.4	14.6-134		%REC	1	11/14/2006
Surr: Phenol-c	15	29.4	10.7-80.3		%REC	1	11/14/2006
EPA METHOD 8	260B: VOLATILES						Analyst: LMI
Benzene		ND	1.0		µg/L	1	11/7/2006
Toluene		ND	1.0		µg/L	1	11/7/2006
Ethylbenzene		ND	1.0		ug/L	1	11/7/2006
Methyl tert-butyl	ether (MTBE)	ND	1.5		ua/L	1	11/7/2006
1.2.4-Trimethylb	enzene	ND	1.0		µg/L	1	11/7/2006
1.3.5-Trimethylb	enzene	ND	1.0		ug/L	1	11/7/2006
1,2-Dichloroetha	ne (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoetha	ine (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene	· ,	ND	2.0		µg/L	1	11/7/2006
1-Methylnaphtha	alene	ND	4.0		μg/L	1	11/7/2006
2-Methylnaphtha	alene	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
Bromochlorome	thane	ND	1.0		µg/L	1	11/7/2006
Bromodichlorom	ethane	ND	1.0		µg/L	1	11/7/2006
Bromoform		ND	1.0		µg/L	1	11/7/2006
		ND	2.0		µg/L	1	11/7/2006
Bromomethane			=.•				

ND Not Detected at the Reporting Limit

S Spike recovery outside accepted recovery limits 3/42

RL Reporting Limit

Page 3 of 32

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	Besult	POL Qual Units	DF Date Analyzed

Account	~ ~~ ~	ui enito	DI	Dute Amargzea
				Analyst: LMM
ND	10	μg/L	1	11/7/2006
ND	2.0	μg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	2.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	2.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	2.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	μg/L	1	11/7/2006
ND	2.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	2.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	2.0	µg/L	1	11/7/2006
ND	10	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	10	µg/L	1	11/7/2006
ND	3.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	μg/L	1	11/7/2006
ND	2.0	µg/L	1	11/7/2006
ND	1.5	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
ND	1.0	µg/L	1	11/7/2006
	ND ND ND ND ND ND ND ND ND ND ND ND ND N	ND 10 ND 2.0 ND 1.0 ND 2.0 ND 1.0 ND 1.0 <	ND 10 µg/L ND 2.0 µg/L ND 1.0 µg/L ND 2.0 µg/L ND 1.0 µg/L <	ND 10 µg/L 1 ND 2.0 µg/L 1 ND 1.0 µg/L 1 ND 2.0 µg/L 1 ND 1.0 µg/L 1 ND </td

Qualifiers:

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

Н

- ND Not Detected at the Reporting Limit Spike recovery outside accepted recovery limits 4/42S

Holding times for preparation or analysis exceeded

B Analyte detected in the associated Method Blank

	-	-	
L		1.0	
			7

Date: 17-Nov-06

CLIENT:	Giant Refining Co			Client Sample ID	: BW-1	С
Lab Order:	0611016			Collection Date	: 10/28	/2006 10:15:00 AM
Project:	Annual GW Samples 20)06 Ciniza		Date Received	· 11/1/2	2006
Lab ID:	0611016-01	,00 onnea		Matrix	: AQUI	EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES					Analyst: LMM
1,2,4-Trichlorot	benzene	ND	1.0	µg/L	1	11/7/2006
1,1,1-Trichloroe	ethane	ND	1.0	µg/L	1	11/7/2006
1,1,2-Trichloroe	ethane	ND	1.0	µg/Ľ	1	11/7/2006
Trichloroethene	e (TCE)	ND	1.0	µg/L	1	11/7/2006
Trichlorofluoror	methane	ND	1.0	µg/L	1	11/7/2006
1,2,3-Trichlorop	propane	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-Dic	hloroethane-d4	97.3	69.9-130	%REC	1	11/7/2006
Surr: 4-Brom	ofluorobenzene	97.8	75-139	%REC	1	11/7/2006
Surr: Dibrom	nofluoromethane	105	57.3-135	%REC	1	11/7/2006
Surr: Toluen	e-d8	90.9	81. 9 -122	%REC	1	11/7/2006
EPA 120.1: SP	ECIFIC CONDUCTANCE					Analyst: CMS
Specific Condu	ictance	1400	0.010	µmhos/cm	1	11/1/2006
EPA METHOD	150.1: PH					Analyst: CMS
pН		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

Page 5 of 32

CLIENT:	Giant Refining Co			C	lient Sample	ID: BW	-2A
Lab Order:	0611016				Collection D	ate: 10/2	8/2006 11:30:00 AM
Project:	Annual GW Samples 2	006 Ciniza			Date Receiv	ved• 11/1	/2006
Lab ID:	0611016-02				Mat	rix: AQU	JEOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
PA METHOD							Analyst: TES
Fluoride		1.3	0.10		ma/L	1	11/4/2006 2:51:41 AM
Chloride		39	0.50		ma/l	5	11/6/2006 3:49:00 PM
Nitrate (As N)+N	Vitrite (As N)	ND	0.50		ma/l	5	11/4/2006 3:09:05 AM
Phosphorus Or	thophosphate (As P)	0.64	0.50	н	mo/l	1	11/4/2006 2:51:41 AM
Sulfate		7.5	0.50		mg/L	1	11/4/2006 2:51:41 AM
							Applyst: MAR
Mercury	1470. MERCORT	ND	0.00020		mg/L	1	11/14/2006
·							
EPA 6010B: TO	TAL RECOVERABLE M	ETALS					Analyst: NMC
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 PN
Calcium		9.7	1.0		mg/L	1	11/15/2006 8:32:14 PM
Chromium		ND	0.0060		mg/ኒ	1	11/15/2006 8:32:14 PM
Lead		ND	0.0050		mg/L	1	11/15/2006 8:32:14 PN
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 PN
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 A
FPA METHOD	8270C: SEMIVOLATILES						Analyst [,] Bl
Acenaphthene	02,00.02	ND	10		ua/L	1	11/14/2006
Acenaphthylen	9	ND	10		ua/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)anthrac	ene	ND	15		ua/L	1	11/14/2006
Benzo(a)pyrene	2	ND	15		ua/L	1	11/14/2006
Benzo(b)fluorar	thene	ND	15		uo/L	1	11/14/2006
Benzo(a h i)per	vlene	ND	10		ua/L	1	11/14/2006
Benzo/k)fluorar	Ithene	ND	10		μα/ε	, 1	11/14/2006
Benzoic acid		ND	50		μο/ł	1	11/14/2006
Benzyl alcohol		ND	20		ua/l	1	11/14/2006
Bie(2-chlorooth	ovu)methane		10		P9'5	1	11/14/2000
Bie(2-chloroeth	vilother		10		₽9/⊑ uo/l	1	11/14/2000
Bis(2-chloroiso	yrjeulei Dropyl)ether		15		- ug/l	1	11/14/2000
Bis(2-ethylhexy	l)phthalate	ND	15		μg/L	1	11/14/2006
Qualifiers	* Value exceeds Maximum (Contaminant Lev	e]		B Analyte de	tected in the	associated Method Blank
×	F Value above quantitation r				H Holding ti	nes for prep	aration or analysis exceeded
	Analyte detected below on	antitation limite		M	ACI Mavimum	Contaminar	it level
٨	Not Detected at the Report	ing Limit		I	RI Reporting	Limit	
1	 S Spike recovery outside acc 	epted recovery li	mits CLAR	`	ive reporting	L.IIIII	Page 6 o

Date: 17-Nov-06

Hall Envi	с. D	ate:	17-Nov-06					
CLIENT:	Giant Refining Co			Client Sample	ID:	BW-2	A	
Lab Order:	0611016			Collection D	ate:	10/28/	/2006 11:30:00 AM	
Project:	Annual GW Samples 2	Annual GW Samples 2006 Ciniza		Date Received:			11/1/2006	
Lab ID:	0611016-02			Ma	trix:	AQUI	EOUS	
Analyses		Result	PQL	Qual Units		DF	Date Analyzed	
EPA METHOD	8270C: SEMIVOLATILES	;					Analyst: I	
4-Bromopheny	i phenyl ether	ND	10	µg/L		1	11/14/2006	
		-						

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	hð\r	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-Dimethylphenoł	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	hð\F	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-Methyinaphthalene	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

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 -7 /

H Holding times for preparation or analysis exceeded

Analyte detected in the associated Method Blank

- MCL Maximum Contaminant Level
 - RL Reporting Limit

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Date: 17-Nov-06

CLIENT:	Giant Refining Co			C	ient Sample ID	: BW-2	A
Lab Order:	0611016			•	Collection Date	: 10/28	/2006 11:30:00 AM
Project:	Annual GW Samples 2	2006 Ciniza			Date Received	11/1/2	2006
Lab ID:	0611016-02				Matrix	: AQUI	EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD	8270C: SEMIVOLATILES	5					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
Pentachlorophe	enol	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-Trichlorob	benzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichlorop	phenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichlorop	bhenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-T	ribromophenol	51.3	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluor	obiphenyl	62.8	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluor	ophenol	49.7	9.54-113		%REC	1	11/14/2006
Surr: 4-Terpl	nenyl-d14	69.4	22.7-145		%REC	1	11/14/2006
Surr: Nitrobe	nzene-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
FPA METHOD	8260B: VOLATILES						Analyst: LMN
Benzene	02000.102/11/200	ND	1.0		ua/L	1	11/7/2006
Toluene		ND	1.0		µa/L	1	11/7/2006
Ethylbenzene		ND	1.0		µg/L	1	11/7/2006
Methyl tert-buty	/Lether (MTBE)	ND	1.5		ua/L	1	11/7/2006
1 2 4-Trimethyl	benzene	ND	1.0		µg/L	1	11/7/2006
1.3.5-Trimethyl	benzene	ND	1.0		ua/L	1	11/7/2006
1.2-Dichloroeth	ane (EDC)	ND	1.0		µg/L	1	11/7/2006
1.2-Dibromoeth	nane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene		ND	2.0	1	μg/L	1	11/7/2006
1-Methylnaphth	nalene	ND	4.0	•	µg/L	1	11/7/2006
2-Methylnaphth	nalene	ND	4.0	ł	µg/L	1	11/7/2006
Acetone		ND	10	1	µg/L	1	11/7/2006
Bromobenzene	2	ND	1.0	1	- μg/L	1	11/7/2006
Bromochlorom	ethane	ND	1.0	1	µg/L	1	11/7/2006
Bromodichloror	methane	ND	1.0	1	µg/L	1	11/7/2006
Bromoform		NÐ	1.0)	µg/L	1	11/7/2006
Bromomethane	3 *	ND	2.0)	µg/L	1	11/7/2006
2-Butanone		ND	10)	µg/L	1	11/7/2006
Qualifiers:	* Value exceeds Maximum	Contaminant Lev	/el		B Analyte detec	ted in the a	ssociated Method Blank
	E Value above quantitation	range			H Holding times	for prepar	ation or analysis exceeded
	J Analyte detected below qu	antitation limits		N	ICL Maximum Co	ntaminant	Level
ז	ND Not Detected at the Repor	ting Limit			RL Reporting Lin	nit	Dage Q
	S Spike recovery outside ac	cepted recovery l	^{imits} 8 / 4	2			i age o l

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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 Qua	l 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	hð\r	1	11/7/2006
1,1,1,2-Tetrachloroethane	ND	1.0	hð\F	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:

Е

* Value exceeds Maximum Contaminant Level

B Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

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

NDNot Detected at the Reporting LimitSSpike recovery outside accepted recovery limits

MCL Maximum Contaminant Level RL Reporting Limit

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Date: 17-Nov-06

CLIENT: Lab Order: Project: Lab ID:	: Giant Refining Co Client Sample er: 0611016 Collection I Annual GW Samples 2006 Ciniza Date Recei 0611016-02 Ma				ID: BW-2A Date: 10/28/2006 11:30:00 AM ived: 11/1/2006 trix: 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: SP	ECIFIC CONDUCTANCE					Analyst: CMS	
Specific Conductance		1400	0.010	µmhos/cm	1	11/1/2006	
EPA METHOD	150.1: PH					Analyst: CMS	
рН		8.27	0.010	pH units	1	11/1/2006	



Qualifiers: '	k	Value ex-	ceeds l	Maximum	Contaminant	Level
x						

- 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 10 / 42
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit
 - . reporting Limit
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CLIENT:	Giant Refining Co			C	lient S	ample ID:	BW-2	B
Lab Order:	0611016				Collec	tion Date:	10/28	/2006 1:30:00 PM
Project:	Annual GW Sample	es 2006 Ciniza			Date	Received.	11/1/2	2006
Lab ID:	0611016-03	,			Date	Matrix:	AOUI	EOUS
		Result	POI	Qual	Unite		DF	Data Analyzad
Analyses			IQL	Quar				
ЕРА МЕТНО	D 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	Н	mg/L		1	11/4/2006 3:26:30 AM
Sulfate		140	2.5		mg/L		5	11/6/2006 4:41:13 PM
ЕРА МЕТНО	D 7470: MERCURY							Analyst: MAP
Mercury		ND	0.00020		mg/L		1	11/14/2006
EPA 6010B.		METALS						Applyst: NMO
Arsenic		ND	0.020		ma/l		1	11/15/2006 8:36:34 PM
Barium		0.071	0.020		ma/L		1	11/15/2006 8:36:34 PM
Cadmium		ND	0.0020		ma/L		1	11/15/2006 8:36:34 PM
Calcium		20	1.0		ma/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
FPA METHO	D 8270C: SEMIVOLATIL	ES						Analyst: Bl
Acenaphther	ne	ND	10		ua/L		1	11/14/2006
Acenaphthyl	ene	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)anthr	racene	ND	15		µg/L		1	11/14/2006
Benzo(a)pyre	ene	ND	15		µg/L		1	11/14/2006
Benzo(b)fluo	ranthene	ND	15		µg/L		1	11/14/2006
Benzo(g,h,i)	perylene	ND	10		µg/L		1	11/14/2006
Benzo(k)fluo	ranthene	ND	10		µg/L		1	11/14/2006
Benzoic acid		ND	50		µg/L		1	11/14/2006
Benzyl alcoh	ol	ND	20		hð\r		1	11/14/2006
Bis(2-chloroe	ethoxy)methane	ND	10		µg/L		1	11/14/2006
Bis(2-chloroe	ethyl)ether	ND	15		µg/L		1	11/14/2006
Bis(2-chloroi	sopropyl)ether	ND	15		µg/L		1	11/14/2006
Bis(2-ethylho	exyl)phthalate	ND	15		hð\r		1	11/14/2006
Qualifiers:	* Value exceeds Maximu	m Contaminant Lev	el		В Ал	alyte detected	in the a	ssociated Method Blank
	E Value above quantitation	on range			H Ho	olding times fo	or prepar	ation or analysis exceeded
	J Analyte detected below	quantitation limits		ľ	MCL Ma	aximum Conta	aminant	Level
	ND Not Detected at the Rep	porting Limit			RL Re	porting Limit		
	S Spike recovery outside	accepted recovery li	^{mitr} 11 / 4	2				Page 11 of .

Date: 17-Nov-06

Hall Environmental Analysis Laboratory, Inc.

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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 Q	ual Units	DF	Date Analyzed
EPA METHOD 8270C: SEMIVOLATI	LES				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	hd/r	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
Hexachiorocyclopentadiene	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	µa/L	1	11/14/2006
Nanhthalene	ND	10	uo/l	. 1	11/14/2006

Qualifiers:

* Value exceeds Maximum Contaminant Level E

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

- Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit S

MCL Maximum Contaminant Level RL Reporting Limit

Spike recovery outside accepted recovery limits 12/42

Lab Order:	0611016				Collection Date:	10/28/	/2006 1:30:00 PM
Project:	Annual GW Samples 2	006 Ciniza			Date Received:	11/1/2	2006
Lab ID:	0611016-03				Matrix:	AQUI	EOUS
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
Pentachloroph	enol	ND	50		µg/Ľ	1	11/14/2006
Phenanthrene		ND	10		µg/L	1	11/14/2006
Phenol	1	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-Trichloro	benzene	ND	10		µg/L	1	11/14/2006
2,4,5-Trichloro	phenol	ND	10		µg/L	1	11/14/2006
2,4,6-Trichloro	phenol	ND	15		µg/L	1	11/14/2006
Surr: 2,4,6-1	Tribromophenol	55.5	16.6-150		%REC	1	11/14/2006
Surr: 2-Fluo	robiphenyl	57.0	19.6-134		%REC	1	11/14/2006
Surr: 2-Fluo	rophenol	43.6	9.54-113		%REC	1	11/14/2006
Surr: 4-Terp	henyl-d14	64.4	22.7-145		%REC	1	11/14/2006
Surr: Nitrobe	enzene-d5	53.6	14.6-134		%REC	1	11/14/2006
Surr: Pheno	I-d5	32.7	10.7-80.3		%REC	1	11/14/2006
EPA METHOD	8260B: VOLATILES						Analyst: LMN
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-but	yl ether (MTBE)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimethy	lbenzene	ND	1.0		µg/L	1	11/7/2006
1,3,5-Trimethy	lbenzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroeth	hane (EDC)	ND	1.0		µg/L	1	11/7/2006
1,2-Dibromoet	hane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene		ND	2.0		µg/L	1	11/7/2006
1-Methylnapht	halene	ND	4.0		µg/L	1	11/7/2006
2-Methylnapht	halene	ND	4.0		µg/L	1	11/7/2006
Acetone		ND	10		µg/L	1	11/7/2006
Bromobenzen	e	ND	1.0		µg/L	1	11/7/2006
Bromochlorom	nethane	ND	1.0		µg/L	1	11/7/2006
Bromodichlord	omethane	ND	1.0		µg/L	1	11/7/2006
Bromoform		ND	1.0		µg/L	1	11/7/2006
Bromomethan	e	ND	2.0		μg/L	1	11/7/2006

Giant Refining Co

Date: 17-Nov-06

Client Sample ID: BW-2B

2-Butanone

. Qualifiers:

ND

* Value exceeds Maximum Contaminant Level

- Ę Value above quantitation range Analyte detected below quantitation limits J
 - Not Detected at the Reporting Limit

ND

Н Holding times for preparation or analysis exceeded MCL Maximum Contaminant Level

1

Analyte detected in the associated Method Blank

RL Reporting Limit

µg/L

В

Spike recovery outside accepted recovery limite 13/42 S

10

11/7/2006

.....

CLIENT:

Date: 17-Nov-06

CLIENT:	Giant Refining Co			Client Sam	ple ID:	BW-2	В
Lab Order:	0611016			Collection	n Date:	10/28	- /2006 1·30·00 PM
Droject.	Annual GW Samples 2	2006 Ciniza		Data Da	-	11/1/20/	2000 1.50.00 110
rroject:				Date Re	ceivea: Actuine		
Lab ID:	0611016-03			N		AQUI	
Analyses		Result	PQL (Qual Units		DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: LMN
Carbon disulfid	e	ND	10	µg/L		1	11/7/2006
Carbon Tetrach	nloride	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	9	ND	1.0	µg/L		1	11/7/2006
2-Chlorotoluen	e	ND	1.0	µg/L		1	11/7/2006
4-Chlorotoluen	e	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-Dichloro	opropene	ND	1.0	µg/L		1	11/7/2006
1,2-Dibromo-3-	-chloropropane	ND	2.0	µg/L		1	11/7/2006
Dibromochloro	methane	ND	1.0	µg/L		1	11/7/2006
Dibromometha	ne	ND	2.0	µg/L		1	11/7/2006
1.2-Dichlorobe	nzene	ND	1.0	µg/L		1	11/7/2006
1.3-Dichlorobe	nzene	ND	1.0	ua/L		1	11/7/2006
1.4-Dichlorobe	nzene	ND	1.0	ua/L		1	11/7/2006
Dichlorodifluor	omethane	ND	1.0	µa/L		1	11/7/2006
1.1-Dichloroeth	nane	ND	2.0	µg/L		1	11/7/2006
1 1-Dichloroeth	hene	ND	1.0	µa/L		1	11/7/2006
1 2-Dichloropro	onane	ND	1.0			1	11/7/2006
1 3-Dichloropro	onane	ND	1.0	µg/L		1	11/7/2006
2 2-Dichloropro	nane	ND	2.0	₽ <u>9</u> /2		1	11/7/2006
1 1-Dichloropro	onene	ND	1.0	₽9/E		1	11/7/2006
Hexachlorobut	adiene	ND	2.0	P9/2		1	11/7/2006
2-Hexapone	adione	ND	10	μg/L		1	11/7/2006
Isopropylbenze	ané	ND	10	µg/L		1	11/7/2006
A Isopropyidenze	lane	ND	1.0	μg/L		1	11/7/2006
4-Isopiopyiloid		ND	1.0	μg/L		1	11/7/2006
A-Methylopa Chl	oride	ND	30	µg/L		1	11/7/2006
n-Butylene on	0100	ND	1.0	µg/L		1	11/7/2006
n-Butybenzen	e ne	ND	1.0	µg/L		, 1	11/7/2000
soc Butylbenze	ané	ND	2.0	µg/L		, 1	11/7/2006
Sturopo	5110	ND	1.5	μg/L		1	11/7/2006
tort-Rutulhanzo	200	ND	1.0			, 1	11/7/2000
1 1 1 2 Tatract	hloroethane	ND	1.0	P9/L		1	11/7/2006
1,1,1,2-16000	hioroethane	ND	1.0	P9/C		, 1	11/7/2000
Totrachlaroath			1.0	PG/L		1	11/7/2000
			1.0	µg/L		1 1	11/7/2000
trans-1,2-0CE			1.0	µg/⊑		1	11/7/2000
trans-1,3-Dichi	h-pappa		1.0	µg/L		1	11///2000
1,2,3-Trichloro	ndenzene	ND	. 1.0	µg≀∟		I	11///2006

Qualifiers:

Value exceeds Maximum Contaminant Level *

Е Value above quantitation range

Analyte detected below quantitation limits J Not Detected at the Reporting Limit ND

S

Spike recovery outside accepted recovery limits 14/42

MCL Maximum Contaminant Level

Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded

RL Reporting Limit

В

Н

CLIENT:	Giant Refining Co			Client Sample	ID: BW-	2B
Lab Order:	0611016			Collection D	ate: 10/28	8/2006 1:30:00 PM
Project:	Annual GW Sampl	es 2006 Ciniza		Date Recei	ved: 11/1/	/2006
Lab ID:	0611016-03			Ma	trix: AQL	JEOUS
Analyses	<u></u>	Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES					Analyst:
1,2,4-Trichlorot	benzene	ND	1.0	µg/L	1	11/7/2006
1,1,1-Trichloroe	ethane	ND	1.0	µg/L	1	11/7/2006
1,1,2-Trichloroe	ethane	ND	1.0	µg/L	1	11/7/2006
Trichloroethene	e (TCE)	ND	1.0	µg/L	1	11/7/2006
Trichlorofluoror	nethane	ND	1.0	µg/L	1	11/7/2006
1,2,3-Trichlorop	propane	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-Dic	hloroethane-d4	87.6	69.9-130	%REC	1	11/7/2006
Surr: 4-Brom	ofluorobenzene	104	75-139	%REC	1	11/7/2006

90.9

92.4

2400

8.10

57.3-135

81.9-122

0.010

0.010

%REC

%REC

µmhos/cm

pH units

Hall Environmental Analysis Laboratory, Inc.

Date: 17-Nov-06

1

1

1

1

11/7/2006

11/7/2006

11/1/2006

11/1/2006

Analyst: LMM

Analyst: CMS

Analyst: CMS

Qualifiers:	*
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Surr: Dibromofluoromethane

EPA 120.1: SPECIFIC CONDUCTANCE

Surr: Toluene-d8

Specific Conductance

EPA METHOD 150.1: PH

рΗ

- Ε Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits 15/42S
- В Analyte detected in the associated Method Blank
- Н Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

	Giant Refining Co			C	lient Samp	ble ID:	- BW-2	2C
Lab Order:	0611016			-	Collection	Date	10/28	/2006 3:00:00 PM
Project:	Annual GW Samples	2006 Ciniza			Doto Do	alund.	11/1/	2000 5.00.00 1 10
		2000 Chilza			Date Ket	latriv.		
	0011010-04							
Analyses		Result	PQL	Qual	Units		DF	Date Analyzed
	0 300.0: 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	н	mg/L		1	11/4/2006 4:36:07 AM
Sulfate		270	2.5		mg/L		5	11/6/2006 4:58:38 PM
ΡΔ ΜΕΤΗΟΓ	7470 MERCURY							Analyst: MAR
Mercury		ND	0.00020		mg/L		1	11/14/2006
EPA 6010B: 1	TOTAL RECOVERABLE N							Analyst: NMC
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 PN
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 PN
Magnesium		ND	1.0		mg/L		1	11/15/2006 8:40:46 PN
Potassium		ND	1.0		mg/L		1	11/15/2006 8:40:46 PN
Selenium		ND	0.050		mg/L		1	11/15/2006 8:40:46 PN
Silver		ND	0.0050		mg/L		1	11/15/2006 8:40:46 PN
Sodium		310	10		mg/L		10	11/16/2006 10:53:31 A
	0 8270C: SEMIVOLATILE	S						Analyst: BL
Acenaphthen	9	ND	10		µg/L		1	11/14/2006
Acenaphthyle	ne	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)anthra	acene	ND	15		µg/L		1	11/14/2006
Benzo(a)pyre	ne	ND	15		µg/L		1	11/14/2006
Benzo(b)fluor	anthene	ND	15		µg/L		1	11/14/2006
Benzo(g,h,i)p	erylene	ND	10		µg/L		1	11/14/2006
Benzo(k)fluor	anthene	ND	10		µg/L		1	11/14/2006
Benzoic acid		ND	50		µg/L		1	11/14/2006
Benzyl alcoho	bl	ND	20		µg/L		1	11/14/2006
Bis(2-chloroe	thoxy)methane	ND	10		μg/L		1	11/14/2006
Bis(2-chloroe	thyl)ether	ND	15		µg/L		1	11/14/2006
Bis(2-chlorois	opropyl)ether	ND	15		µg/L		1 -	11/14/2006
Bis(2-ethylhe	xyl)phthalate	ND	15		µg/L		1	11/14/2006
Qualifiers:	* Value exceeds Maximum	Contaminant Leve	el		B Analyte	detected	d in the a	ssociated Method Blank
	E Value above quantitation	range			H Holding	g times f	or prepar	ation or analysis exceeded
					101 H .	0		
	J Analyte detected below q	uantitation limits		P	ACL Maxim	um Cont	aminant	Level

Hall	Environmental	Analysis	Laboratory.	Inc.
		1 11141 9 515	Envoracos j	

Date: 17-Nov-06

CLIENT:	Giant Refining Co	Cli
Lab Order:	0611016	C
Project:	Annual GW Samples 2006 Ciniza	
Lab ID:	0611016-04	

BW-2C
10/28/2006 3:00:00 PM
11/1/2006
AQUEOUS

EPA METHOD 8270C: SEMIVOLATILES Analyst: BL 4-Bromophenyl phenyl ether ND 10 µg/L 1 11/14/2006 Buly benyl phinalate ND 10 µg/L 1 11/14/2006 Carbazole ND 10 µg/L 1 11/14/2006 4-Chirora-Smethylphenol ND 20 µg/L 1 11/14/2006 2-Chiroraphenol ND 10 µg/L 1 11/14/2006 2-Chiroraphenol ND 10 µg/L 1 11/14/2006 2-Chiroraphenol ND 15 µg/L 1 11/14/2006 Chrysene ND 15 µg/L 1 11/14/2006 Dien-cutyl phthalate ND 10 µg/L 1 11/14/2006	Analyses	Result	PQL Qu	al Units	DF	Date Analyzed
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-Chtoro-3-methylphenol ND 20 µg/L 1 11/14/2006 2-Chtoronaphthalene ND 10 µg/L 1 11/14/2006 2-Chtoronaphthalene ND 15 µg/L 1 11/14/2006 2-Chtoronaphthalene ND 15 µg/L 1 11/14/2006 Chrysene ND 15 µg/L 1 11/14/2006 Di-n-octyl phthalate ND 10 µg/L 1 11/14/2006 Dibenz(a,h)anthracene ND 10 µg/L 1 11/14/2006 1,2-Dickhorobenzene ND 10 µg/L 1 11/14/2006 1,2-Dickhorobenzene ND 10 µg/L 1 11/14/2006 3,3-Dickhorobenzene ND	EPA METHOD 8270C: SEMIVOLATIL	.ES				Analyst: BL
Buyly benzyl phthalate ND 15 µg/L 1 11/14/2006 Carbazole ND 10 µg/L 1 11/14/2006 4-Chtoro-3-methylphenol ND 20 µg/L 1 11/14/2006 2-Chtoronaphthalene ND 10 µg/L 1 11/14/2006 2-Chtorophenol ND 10 µg/L 1 11/14/2006 2-Chtorophenol ND 15 µg/L 1 11/14/2006 Chrysene ND 10 µg/L 1 11/14/2006 Di-n-burgh phthalate ND 10 µg/L 1 11/14/2006 Dibenz/La/hanthracene ND 10 µg/L 1 11/14/2006 1.3-Dichtorobenzene ND 10 µg/L 1 11/14/2006 1.4-Dichtorobenzene ND 10 µg/L 1 11/14/2006 1.3-Dichtorobenzene ND 10 µg/L 1 11/14/2006 2.4-Dimethylphenol ND 10	4-Bromophenyl phenyl ether	ND	10	µg/L	1	11/14/2006
Carbozole ND 10 µg/L 1 11/14/2006 4-Chioron-3-methylphenol ND 20 µg/L 1 11/14/2006 4-Chioronaphthalene ND 10 µg/L 1 11/14/2006 2-Chiorophenol ND 10 µg/L 1 11/14/2006 2-Chiorophenol ND 15 µg/L 1 11/14/2006 Chrysene ND 15 µg/L 1 11/14/2006 Di-n-octyl phthalate ND 10 µg/L 1 11/14/2006 Dibenzofuran ND 10 µg/L 1 11/14/2006 Dibenzofuran ND 10 µg/L 1 11/14/2006 1,2-Dichiorobenzene ND 10 µg/L 1 11/14/2006 3,3-Dichiorobenzene ND 10 µg/L 1 11/14/2006 3,3-Dichiorobenzene ND 10 µg/L 1 11/14/2006 2,4-Diniorobenzene ND 10 µg/L </td <td>Butyl benzyl phthalate</td> <td>ND</td> <td>15</td> <td>µg/L</td> <td>1</td> <td>11/14/2006</td>	Butyl benzyl phthalate	ND	15	µg/L	1	11/14/2006
4-Chloro-3-methylphenol ND 20 μg/L 1 11/14/2006 4-Chloronapithialene ND 20 μg/L 1 11/14/2006 2-Chloronapithialene ND 10 μg/L 1 11/14/2006 2-Chloronapithialene ND 15 μg/L 1 11/14/2006 2-Chloronapithialene ND 15 μg/L 1 11/14/2006 Chrysene ND 10 μg/L 1 11/14/2006 Di-n-oxtyl phthalate ND 10 µg/L 1 11/14/2006 Diberz(a.N)anthracene ND 10 µg/L 1 11/14/2006 1.3-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 2.4-Dimethylphenol ND 10 µg/L 1 11/14/2006 2.4-Dimethylphenol ND	Carbazole	ND	10	µg/L	1	11/14/2006
4-Choroaniline ND 20 μg/L 1 11/14/2006 2-Choronaphthalene ND 10 μg/L 1 11/14/2006 2-Chorophenol ND 15 μg/L 1 11/14/2006 4-Chlorophenyl phenyl ether ND 15 μg/L 1 11/14/2006 Di-n-ocyl phthalate ND 15 μg/L 1 11/14/2006 Di-n-ocyl phthalate 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 3.3-Dichlorobenzene ND 10 μg/L 1 11/14/2006 3.3-Dichlorobenzene ND 10 μg/L 1 11/14/2006 3.3-Dichlorobenzene ND 10 μg/L 1 11/14/2006 2.4-Dinitrophenol ND <t< td=""><td>4-Chloro-3-methylphenol</td><td>ND</td><td>20</td><td>µg/L</td><td>1</td><td>11/14/2006</td></t<>	4-Chloro-3-methylphenol	ND	20	µg/L	1	11/14/2006
2-Chloronghinhalene ND 10 µg/L 1 11/14/2006 2-Chlorophenyl phenyl phenyl ether ND 15 µg/L 1 11/14/2006 Chroysene ND 15 µg/L 1 11/14/2006 Din-butyl phthalate ND 15 µg/L 1 11/14/2006 Din-butyl phthalate ND 10 µg/L 1 11/14/2006 Dibenzofuran ND 10 µg/L 1 11/14/2006 12-Dichorobenzene ND 10 µg/L 1 11/14/2006 13-Dichlorobenzene ND 10 µg/L 1 11/14/2006 14-Dichlorobenzene ND 10 µg/L 1 11/14/2006 3.3-Dichlorobenzine ND 10 µg/L 1 11/14/2006 2.4-Dimethyl phthalate ND 10 µg/L 1 11/14/2006 2.4-Dimethyl phthalate ND 10 µg/L 1 11/14/2006 2.4-Dimethyl phthalate ND<	4-Chloroaniline	ND	20	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 10 µg/L 1 11/14/2006 Dibenzolran ND 10 µg/L 1 11/14/2006 1.4-Dichlorobenzene ND 10 µg/L 1 11/14/2006 1.4-Dichlorobenzene ND 10 µg/L 1 11/14/2006 3.3-Dichlorobenzene ND 10 µg/L 1 11/14/2006 3.3-Dichlorobenzene ND 10 µg/L 1 11/14/2006 2.4-Dichlorophenol ND 10 µg/L 1 11/14/2006 2.4-Dichlorophenol ND 50 µg/L 1 11/14/2006 2.4-Dinintrolouene ND 10<	2-Chloronaphthalene	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-octyl phthalate ND 10 μg/L 1 11/14/2006 Dibenz(a,h)anthracene ND 10 μg/L 1 11/14/2006 Dibenz(a,h)anthracene 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 3,3'-Dichlorobenzidine ND 10 μg/L 1 11/14/2006 3,3'-Dichlorobenzidine ND 10 μg/L 1 11/14/2006 2,4-Dimethyl phthalate ND 10 μg/L 1 11/14/2006 2,4-Dimethyl phthol ND 50 μg/L 1 11/14/2006 2,4-Dimethyl phthol ND 50 μg/L 1 11/14/2006 2,4-Dimethyl phthol ND 10 μg/L 1 11/14/2006 2,4-Dinitroblu	2-Chlorophenol	ND	10	µg/L	1	11/14/2006
Chrysene ND 15 µg/L 1 11/14/2006 Din-bulyf 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 1,3-Dichlorobenzene ND 10 µg/L 1 11/14/2006 1,3-Dichlorobenzidine ND 10 µg/L 1 11/14/2006 Diethyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dichlorophenol ND 10 µg/L 1 11/14/2006 2,4-Dinitrobluene ND 10 µg/L 1 11/14/2006 2,4-Dinitrobluene ND 10 µg/L 1 11/14/2006 2,4-Dinintobluene ND 10	4-Chlorophenyl phenyl ether	ND	15	µg/L	1	11/14/2006
Di-n-bulyl phthalate ND 10 µg/L 1 11/14/2006 Di-n-octyl phthalate ND 15 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 1,4-Dichlorobenzene ND 10 µg/L 1 11/14/2006 1,4-Dichlorobenzene ND 10 µg/L 1 11/14/2006 3,3-Dichlorobenzine ND 10 µg/L 1 11/14/2006 2,4-Dienthyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dienthyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dienthyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dinitro-Phenol ND 50 µg/L 1 11/14/2006 2,4-Dinitro-Phenol ND 10 µg/L 1 11/14/2006 2,4-Dinitro-Duene ND <td>Chrysene</td> <td>ND</td> <td>15</td> <td>µg/L</td> <td>1</td> <td>11/14/2006</td>	Chrysene	ND	15	µg/L	1	11/14/2006
Din-octyl phthalate ND 15 µg/L 1 11/14/2006 Dibenz(a,h)anthracene ND 10 µg/L 1 11/14/2006 Dibenzoturan 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 3,3'-Dichlorobenzene ND 10 µg/L 1 11/14/2006 Joinethyl phthalate ND 10 µg/L 1 11/14/2006 Z,4-Dichlorobenzine ND 10 µg/L 1 11/14/2006 Z,4-Dichlorophenol ND 10 µg/L 1 11/14/2006 Z,4-Dinitro-2-methylphenol ND 50 µg/L 1 11/14/2006 Z,4-Dinitrobuene ND 10 µg/L 1 11/14/2006 Z,4-Dinitrobuene ND 10 µg/L 1 11/14/2006 Z,4-Dinitrobuene ND	Di-n-butyl phthalate	ND	10	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 3,3-Dichlorobenzidine ND 15 µg/L 1 11/14/2006 Diethyl phthalate ND 10 µg/L 1 11/14/2006 Dinethyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dirichlorophenol ND 10 µg/L 1 11/14/2006 2,4-Dirichlorophenol ND 50 µg/L 1 11/14/2006 2,4-Diritrolouene ND 50 µg/L 1 11/14/2006 2,4-Diritrolouene ND 10 µg/L 1 11/14/2006 2,4-Diritrolouene ND 10 µg/L 1 11/14/2006 Fluoranthene ND 10<	Di-n-octyl phthalate	ND	15	µg/L	1	11/14/2006
Dibenzofuran ND 10 µg/L 1 11/14/2006 1,3-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 10 µg/L 1 11/14/2006 Diethyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dichtyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dimethyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dimethyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dinitrotoluene ND 10 µg/L 1 11/14/2006 2,4-Dinitrotoluene ND 10 µg/L 1 11/14/2006 Fluoranthene ND 10 µg/L 1 11/14/2006 Hexachlorobutadiene ND	Dibenz(a,h)anthracene	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 10 µg/L 1 11/14/2006 Diethyl phthalate ND 10 µg/L 1 11/14/2006 2.4-Dichlorophenol ND 10 µg/L 1 11/14/2006 2.4-Dimethyl phthalate ND 10 µg/L 1 11/14/2006 2.4-Dimethyl phenol ND 10 µg/L 1 11/14/2006 2.4-Dinitro-2-methylphenol ND 50 µg/L 1 11/14/2006 2.4-Dinitroluene ND 10 µg/L 1 11/14/2006 2.4-Dinitroluene ND 10 µg/L 1 11/14/2006 2.4-Dinitroluene ND 10 µg/L 1 11/14/2006 Fluoranthene ND 10 µg/L 1 11/14/2006 Hexachlorobutadiene <t< td=""><td>Dibenzofuran</td><td>ND</td><td>10</td><td>µg/L</td><td>1</td><td>11/14/2006</td></t<>	Dibenzofuran	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-Dinitro-2-methylphenol ND 50 µg/L 1 11/14/2006 2,4-Dinitrobluene ND 50 µg/L 1 11/14/2006 2,4-Dinitrobluene ND 10 µg/L 1 11/14/2006 2,4-Dinitrobluene ND 10 µg/L 1 11/14/2006 2,6-Dinitrobluene ND 10 µg/L 1 11/14/2006 Fluoranthene ND 10 µg/L 1 11/14/2006 Hexachlorobetzene ND 10 µg/L 1 11/14/2006 Hexachlorobetzene ND </td <td>1,2-Dichlorobenzene</td> <td>ND</td> <td>10</td> <td>µg/L</td> <td>1</td> <td>11/14/2006</td>	1,2-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 Diehtyl phthalate ND 10 µg/L 1 11/14/2006 Dienethyl phthalate ND 10 µg/L 1 11/14/2006 2,4-Dichlorophenol ND 10 µg/L 1 11/14/2006 2,4-Dinitro-2-methylphenol ND 50 µg/L 1 11/14/2006 2,4-Dinitrotoluene ND 50 µg/L 1 11/14/2006 2,4-Dinitrotoluene ND 10 µg/L 1 11/14/2006 Fluoranthene ND 10 µg/L 1 11/14/2006 Fluorantene ND 10 µg/L 1 11/14/2006 Hexachlorobenzene ND <td>1,3-Dichlorobenzene</td> <td>ND</td> <td>10</td> <td>µg/L</td> <td>1</td> <td>11/14/2006</td>	1,3-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 2,4-Dichlorophenol 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 2,4-Dimitro-2-methylphenol ND 50 µg/L 1 11/14/2006 2,4-Dinitro-2-methylphenol ND 50 µg/L 1 11/14/2006 2,4-Dinitrotoluene ND 10 µg/L 1 11/14/2006 2,4-Dinitrotoluene ND 10 µg/L 1 11/14/2006 2,4-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 Hexachloroothane ND <td>1,4-Dichlorobenzene</td> <td>ND</td> <td>10</td> <td>µg/L</td> <td>1</td> <td>11/14/2006</td>	1,4-Dichlorobenzene	ND	10	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-Dinthylphenol ND 10 µg/L 1 11/14/2006 2,4-Dinitrophenol 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 Fluorene ND 10 µg/L 1 11/14/2006 Hexachlorobenzene ND 10	3,3'-Dichlorobenzidine	ND	15	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 2,4-Dimethylphenol ND 50 µg/L 1 11/14/2006 2,4-Dinitrotoluene 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 Hexachlorobenzene ND 10 µg/L 1 11/14/2006 Hexachlorobethaine ND 10 µg/L 1 11/14/2006 Indeno(1.2, 3-cd)pyrene ND 10	Diethyl phthalate	ND	10	µg/L	1	11/14/2006
2,4-Dichlorophenol ND 10 µg/L 1 11/14/2006 2,4-Dimethylphenol ND 50 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 2,4-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 Hexachlorobethane ND 10 µg/L 1 11/14/2006 Isophorone ND 10 µg/L 1 11/14/2006 2-Methylnaphthalene ND 10 </td <td>Dimethyl phthalate</td> <td>ND</td> <td>10</td> <td>µg/L</td> <td>1</td> <td>11/14/2006</td>	Dimethyl phthalate	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 Hexachlorobenzene ND 10 µg/L 1 11/14/2006 Hexachlorobenzene ND 10 µg/L 1 11/14/2006 Hexachlorocyclopentadiene ND 10 µg/L 1 11/14/2006 Hexachlorocyclopentadiene ND 10 µg/L 1 11/14/2006 Isophorone ND 10 µg/L 1 11/14/2006 2-Methylphenol ND <	2,4-Dichlorophenol	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 Hexachlorocyclopentadiene ND 10 µg/L 1 11/14/2006 Hexachlorochane ND 10 µg/L 1 11/14/2006 Isophorone ND 10 µg/L 1 11/14/2006 2-Methylphenol ND 15	2,4-Dimethylphenol	ND	10	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 Hexachlorocyclopentadiene 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-Methylphenol ND 10 µg/L 1 11/14/2006 3+4-Methylphenol ND 20 µg/L 1 11/14/2006 N-Nitrosodin-propylamine ND	4,6-Dinitro-2-methylphenol	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 Hexachlorocyclopentadiene ND 10 µg/L 1 11/14/2006 Hexachlorocyclopentadiene 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-Methylphenol ND 10 µg/L 1 11/14/2006 3+4-Methylphenol ND 10 µg/L 1 11/14/2006 N-Nitrosodimethylamine ND <td>2,4-Dinitrophenol</td> <td>ND</td> <td>50</td> <td>µg/L</td> <td>1</td> <td>11/14/2006</td>	2,4-Dinitrophenol	ND	50	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 Hexachlorocyclopentadiene ND 10 µg/L 1 11/14/2006 Hexachlorocyclopentadiene 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-Methylinaphthalene ND 10 µg/L 1 11/14/2006 3+4-Methyliphenol ND 20 µg/L 1 11/14/2006 N-Nitrosodinentylamine ND 10 µg/L 1 11/14/2006 N-Nitrosodiphenylamine	2,4-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 Hexachlorocyclopentadiene ND 10 µg/L 1 11/14/2006 Hexachlorocyclopentadiene 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 3+4-Methylphenol ND 20 µg/L 1 11/14/2006 N-Nitrosodinentylamine ND 10 µg/L 1 11/14/2006 N-Nitrosodiphenylamine ND	2,6-Dinitrotoluene	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 Indeno(1,2,3-cd)pyrene ND 10 µg/L 1 11/14/2006 Isophorone ND 10 µg/L 1 11/14/2006 2-Methylphenol ND 10 µg/L 1 11/14/2006 3+4-Methylphenol ND 10 µg/L 1 11/14/2006 N-Nitrosodimethylamine ND 10 µg/L 1 11/14/2006 N-Nitrosodiphenylamine ND<	Fluoranthene	ND	10	µg/L	1	11/14/2006
HexachlorobenzeneND10µg/L111/14/2006HexachlorobutadieneND10µg/L111/14/2006HexachlorocyclopentadieneND10µg/L111/14/2006HexachloroethaneND10µg/L111/14/2006Indeno(1,2,3-cd)pyreneND10µg/L111/14/2006IsophoroneND10µg/L111/14/20062-MethylnaphthaleneND10µg/L111/14/20063+4-MethylphenolND15µg/L111/14/2006N-Nitrosodi-n-propylamineND10µg/L111/14/2006N-NitrosodiphenylamineND10µg/L111/14/2006NaphthaleneND10µg/L111/14/2006N-NitrosodiphenylamineND10µg/L111/14/2006NaphthaleneND10µg/L111/14/2006N-NitrosodiphenylamineND10µg/L111/14/2006NaphthaleneND10µg/L111/14/2006	Fluorene	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 Hexachlorocythane 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 10 µg/L 1 11/14/2006 3+4-Methylphenol ND 10 µg/L 1 11/14/2006 N-Nitrosodi-n-propylamine ND 20 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	Hexachlorobenzene	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 10 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	Hexachlorobutadiene	ND	10	µg/L	1	11/14/2006
HexachloroethaneND10µg/L111/14/2006Indeno(1,2,3-cd)pyreneND10µg/L111/14/2006IsophoroneND10µg/L111/14/20062-MethylnaphthaleneND10µg/L111/14/20062-MethylphenolND15µg/L111/14/20063+4-MethylphenolND20µg/L111/14/2006N-Nitrosodi-n-propylamineND10µg/L111/14/2006N-NitrosodimethylamineND10µg/L111/14/2006NaphthaleneND10µg/L111/14/2006NaphthaleneND10µg/L111/14/2006	Hexachlorocyclopentadiene	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-Nitrosodiphenylamine 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	Hexachloroethane	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	Indeno(1,2,3-cd)pyrene	ND	10	hð\r	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	Isophorone	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-Methylnaphthalene	ND	10	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-Methylphenol	ND	15	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	3+4-Methylphenol	ND	20	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	N-Nitrosodi-n-propylamine	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	N-Nitrosodimethylamine	ND	10	µg/L	1	11/14/2006
Naphthalene ND 10 μg/L 1 11/14/2006	N-Nitrosodiphenylamine	ND	10	µg/Ľ	1	11/14/2006
	Naphthalene	ND	10	hð/L	1	11/14/2006

Qualifiers:

- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits 17 / 42 S

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

- MCL Maximum Contaminant Level
- RL Reporting Limit

^{*} Value exceeds Maximum Contaminant Level

Ε Value above quantitation range

CLIENT:	Giant Refining Co			Cli	ent Sample ID:	BW-2	2C
Lab Order:	0611016			C	Collection Date:	10/28	/2006 3:00:00 PM
Project:	Annual GW Samples 2	2006 Ciniza			Date Received:	11/1/2	2006
Lab ID:	0611016-04				Matrix:	AQU	EOUS
Analyses		Result	PQL (Qual I	Units	DF	Date Analyzed
EPA METHOD 8	8270C: SEMIVOLATILES	;					Analyst: Bl
2-Nitroaniline		ND	50	ł	Jg/Ĺ	1	11/14/2006
3-Nitroaniline		ND	50	١	ug/L	1	11/14/2006
4-Nitroaniline		ND	20	ŧ	ug/L	1	11/14/2006
Nitrobenzene		ND	10	ŀ	ug/L	1	11/14/2006
2-Nitrophenol		ND	15	1	ug/L	1	11/14/2006
4-Nitrophenol		ND	50	Ļ	ug/L	1	11/14/2006
Pentachlorophe	nol	ND	50	1	ug/L	1	11/14/2006
Phenanthrene		ND	10		ug/L	1	11/14/2006
Phenol		ND	10		Ja/L	1	11/14/2006
Pyrene		ND	15		ug/L	1	11/14/2006
Pyridine		ND	30	1	ug/L	1	11/14/2006
1 2 4-Trichlorob	enzene	ND	10	,	-9/- ua/l	1	11/14/2006
2 4 5-Trichlorop	henol	ND	10	, 1	-9/= 	1	11/14/2006
2.4.6-Trichlorop	henol	ND	15	,	ug/)	1	11/14/2006
Surr: 2.4.6-Tr	ribromonhenol	64.4	16 6-150	1	NREC	1	11/14/2006
Surr: 2 Eluor	biohenvl	66.5	19.6-134	(%REC	1	11/14/2006
Surr 2 Eluoro	anhanal	49.6	0.54 112	(1	11/14/2000
Surr 4 Torph		70.2	9.54-115			1	11/14/2006
Surr. 4-Terph		70.Z	22.7-143		WREC	1	11/14/2006
Surr: Phenol-	d5	35.8	10.7-80.3		%REC	1	11/14/2006
							Analysty L
Bonzono	8200B: VULAIILES	ND	1.0		uo/l	1	Analyst: LI
Toluono			1.0		µg/L	1	11/7/2000
Toluene			1.0		µg/L	1	11/7/2006
Etriyidenzene		ND	1.0	1	µg/L	1	11/7/2006
Meinyl tert-buly	i etner (Wilbe)	ND	1.5		µg/L	1	11/7/2006
1,2,4-Trimetnyit	benzene	ND	1.0		µg/L	1	11///2006
1,3,5-1 rimetnyit	benzene	ND	1.0		µg/L	1	11/7/2006
1,2-Dichloroetha	ane (EDC)	ND	1.0	i	µg/L	1	11/7/2006
1,2-Dibromoeth	ane (EDB)	ND	1.0		µg/L	1	11/7/2006
Naphthalene		ND	2.0		hð\r	1	11/7/2006
1-Methylnaphth	alene	ND	4.0		µg/L	1	11/7/2006
2-Methylnaphth	alene	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
Bromochlorome	ethane	ND	1.0		µg/L	1	11/7/2006
Bromodichloron	methane	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 Lev	el	E	Analyte detected	d in the a	ssociated Method Blank
	E Value above quantitation i	ange		ŀ	H Holding times f	or prepar	ration or analysis exceeded
	J Analyte detected below qu	antitation limits		M	CL Maximum Cont	aminant	Level
N	ND Not Detected at the Repor	ting Limit		R	L Reporting Limit	1	.
	S Spike recovery outside acc	cepted recovery]	^{imits} 18/42	2			Page I



Date: 17-Nov-06

1

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11/7/2006

11/7/2006

11/7/2006 11/7/2006

CLIENT:	Giant Refining Co			Client Sample ID:	BW-2	2C
Lab Order:	0611016			Collection Date:	10/28	3/2006 3:00:00 PM
Project:	Annual GW Samples	2006 Ciniza		Date Received:	11/1/2	2006
Lab ID:	0611016-04			Matrix	AQU	EOUS
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES					Analyst: LMM
Carbon disulfid	e	ND	10	µg/L	1	11/7/2006
Carbon Tetrach	nloride	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-Chlorotoluen	e	ND	1.0	µg/L	1	11/7/2006
4-Chlorotoluen	e	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-Dichloro	opropene	ND	1.0	µg/L	1	11/7/2006
1,2-Dibromo-3-	-chloropropane	ND	2.0	µg/L	1	11/7/2006
Dibromochloro	methane	ND	1.0	µg/L	1	11/7/2006
Dibromometha	ne	ND	2.0	µq/L	1	11/7/2006

1.0

1.0

µg/L

µg/L



1,2-Dichlorobenzene

1,3-Dichlorobenzene

1,4-Dichlorobenzene	ND	1.0	µg/L	1
Dichlorodifluoromethane	ND	1.0	µg/L	1
1,1-Dichloroethane	ND	2.0	µg/L	1
1,1-Dichloroethene	ND	1.0	µg/L	1
1,2-Dichloropropane	ND	1.0	µg/L	1
1,3-Dichloropropane	ND	1.0	µg/L	1
2,2-Dichloropropane	ND	2.0	µg/L	1
1,1-Dichloropropene	ND	1.0	µg/L	1
Hexachlorobutadiene	ND	2.0	µg/L	1
2-Hexanone	ND	10	µg/L	1
Isopropylbenzene	ND	1.0	µg/L	1
4-Isopropyltoluene	ND	1.0	µg/L	1
4-Methyl-2-pentanone	ND	10	µg/L	1
Methylene Chloride	ND	3.0	µg/L	1
n-Butylbenzene	ND	1.0	µg/L	1
n-Propylbenzene	ND	1.0	µg/L	1
sec-Butylbenzene	ND	2.0	µg/L	1
Styrene	ND	1.5	µg/L	1
tert-Butylbenzene	ND	1.0	µg/L	1
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1
Tetrachloroethene (PCE)	ND	1.0	µg/L	1
trans-1,2-DCE	ND	1.0	µg/L	1
trans-1,3-Dichloropropene	ND .	1.0	µg/L	1
1,2,3-Trichlorobenzene	ND	1.0	µg/L	. 1

ND

ND

Qualifiers:

*

Value exceeds Maximum Contaminant Level

Е Value above quantitation range

Analyte detected below quantitation limits j

Not Detected at the Reporting Limit ND

Spike recovery outside accepted recovery limite 19/42 S

Н Holding times for preparation or analysis exceeded

Analyte detected in the associated Method Blank

MCL Maximum Contaminant Level

RL Reporting Limit

В

Hall Envir	onmental Analysis	Labora	tory, Inc.	Date:	17-NC	
CLIENT:	Giant Refining Co			Client Sample ID:	BW-2	C
Lab Order:	0611016			Collection Date:	10/28	/2006 3:00:00 PM
Project:	Annual GW Samples 20	06 Ciniza		Date Received:	11/1/2	2006
Lab ID:	0611016-04			Matrix:	AQUI	EOUS
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES					Analyst: LMM
1,2,4-Trichlorot	penzene	ND	1.0	µg/L	1	11/7/2006
1,1,1-Trichloroe	ethane	ND	1.0	µg/L	1	11/7/2006
1,1,2-Trichloroe	ethane	ND	1.0	µg/L	1	11/7/2006
Trichloroethene	e (TCE)	ND	1.0	µg/L	1	11/7/2006
Trichlorofluoror	nethane	ND	1.0	µg/L	1	11/7/2006
1,2,3-Trichlorop	propane	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-Dic	chloroethane-d4	84.9	69.9-130	%REC	1	11/7/2006
Surr: 4-Brom	nofluorobenzene	107	75-139	%REC	1	11/7/2006
Surr: Dibrom	ofluoromethane	95.0	57.3-135	%REC	1	11/7/2006
Surr: Toluen	e-d8	89.9	81.9-122	%REC	1	11/7/2006
EPA 120.1: SP	ECIFIC CONDUCTANCE					Analyst: CMS
Specific Condu	ictance	1300	0.010	µmhos/cm	1	11/1/2006
EPA METHOD	150.1: PH					Analyst: CMS
рН		8.76	0.010	pH units	1	11/1/2006

Qualifiers:

Value exceeds Maximum Contaminant Level * Е Value above quantitation range

Analyte detected below quantitation limits J

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits 20 / 42 S

В Analyte detected in the associated Method Blank

Holding times for preparation or analysis exceeded Н

MCL Maximum Contaminant Level

RL Reporting Limit

CI IENT.	Giant Datining Co			ſ	Sont Comple 1	р. г	NV 25	x
	Giant Relining Co			C	lient Sample I	D: E	SW-3E	5
Lab Order:	0611016				Collection Da	te: 1	0/29/2	2006 10:00:00 AM
Project:	Annual GW Samples 2	006 Ciniza			Date Receive	ed: 1	1/1/20)06
Lab ID:	0611016-05				Matr	ix: A	AQUE	OUS
Analyses		Result	PQL	Qual	Units	I)F	Date Analyzed
	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, C	Orthophosphate (As P)	1.1	0.50	н	mg/L	1		11/4/2006 5:10:56 AM
Sulfate		53	0.50		mg/L	1		11/4/2006 5:10:56 AM
	7470: MERCURY							Analyst: MAR
Mercury		ND	0.00020		mg/L	1		11/14/2006
EPA 6010B: T	OTAL RECOVERABLE M	TALS						Analyst: NM
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		ma/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	1	0	11/16/2006 11:10:42 A
	0 8270C: SEMIVOLATILES							Analyst: BI
Acenaphthene	3	ND	10		µg/L	1		11/14/2006
Acenaphthyle	ne	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	l	11/14/2006
Benz(a)anthra	cene	ND	15		µg/L	1	I	11/14/2006
Benzo(a)pyrei	ne	ND	15		µg/L	1	1	11/14/2006
Benzo(b)fluora	anthene	ND	15		µg/L	1		11/14/2006
Benzo(g,h,i)pe	erylene	ND	10		µg/L	1	1	11/14/2006
Benzo(k)fluora	anthene	ND	10		µg/L	1	l	11/14/2006
Benzoic acid		ND	50		µg/L	1	ī	11/14/2006
Benzyl alcoho	l	ND	20		µg/L	1	1	11/14/2006
Bis(2-chloroet	hoxy)methane	ND	10		µg/L	1	1	11/14/2006
Bis(2-chloroet	hyl)ether	ND	15		µg/L	1	1	11/14/2006
Bis(2-chlorois	opropyl)ether	ND	15		µg/L		1	11/14/2006
Bis(2-ethylhe)	kyl)phthalate	ND	15		µg/L	1	l .	11/14/2006
Qualifiers:	* Value exceeds Maximum C	Contaminant Leve	el		B Analyte dete	cted in	n the ass	ociated Method Blank
	E Value above quantitation ra	nge			H Holding tim	es for p	preparat:	ion or analysis exceeded
	J Analyte detected below qua	intitation limits		1	MCL Maximum C	ontam	inant Le	evel
	ND Not Detected at the Report	ng Limit			RL Reporting L	imit		

- L Т. . T.

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Hall Environmental Analysis Laboratory, Inc.					ate: 17-N	17-Nov-06		
CLIENT: Lab Order: Project:	Giant Refining Co 0611016 Annual GW Samples 2	2006 Ciniza		Client Sample Collection D Date Receiv	ID: BW- ate: 10/29 /ed: 11/1/	3B 9/2006 10:00:00 AM 2006		
Lab ID:	0611016-05			Mat	rix: AQU	EOUS		
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 ph	thalate	ND	15	µg/L	1	11/14/2006		
Carbazole		ND	10	µg/L	1	11/14/2006		
4-Chloro-3-met	hylphenol	ND	20	µg/L	1	11/14/2006		
4-Chloroaniline		ND	20	µg/L	1	11/14/2006		
2-Chloronaphth	nalene	ND	10	µg/L	1	11/14/2006		
2-Chlorophenol	1	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 phtha	alate	ND	10	µg/L	1	11/14/2006		
Di-n-octyl phtha	alate	ND	15	µg/L	1	11/14/2006		
Dibenz(a,h)antl	hracene	ND	10	µg/L	1	11/14/2006		
Dibenzofuran		ND	10	µg/L	1	11/14/2006		
1,2-Dichlorober	nzene	ND	10	μg/L	1	11/14/2006		
1,3-Dichlorober	nzene	ND	10	µg/L	1	11/14/2006		
1,4-Dichlorober	nzene	ND	10	µg/L	1	11/14/2006		
3,3 ⁻ -Dichlorobe	enzidine	ND	15	µg/L	1	11/14/2006		
Diethyl phthala	te	ND	10	µg/L	1	11/14/2006		
Dimethyl phtha	late	ND	10	µg/L	1	11/14/2006		
2,4-Dichlorophe	enol	ND	10	µg/L	1	11/14/2006		
2,4-Dimethylph	nenol	ND	10	µg/L	1	11/14/2006		
4,6-Dinitro-2-m	ethylphenol	ND	50	µg/L	1	11/14/2006		
2,4-Dinitropher	lol	ND	50	µg/L	1	11/14/2006		
2,4-Dinitrotolue	ene	ND	10	µg/L	1	11/14/2006		
2,6-Dinitrotolue	ene	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		
Hexachloroben	zene	ND	10	µg/L	1	11/14/2006		
Hexachlorobuta	adiene	ND	10	µg/L	1	11/14/2006		
Hexachiorocycl	lopentadiene	ND	10	µg/L	1	11/14/2006		
Hexachloroetha	ane	ND	10	µg/L	1	11/14/2006		
Indeno(1,2,3-co	d)pyrene	ND	10	µg/L	1	11/14/2006		
Isophorone		ND	10	µg/L	1	11/14/2006		
2-Methylnaphth	halene	ND	10	µg/L	1	11/14/2006		
2-Methylpheno	bl	ND	15	µg/L	1	11/14/2006		

Qualifiers:

Naphthalene

3+4-Methylphenol

N-Nitrosodi-n-propylamine

N-Nitrosodimethylamine

N-Nitrosodiphenylamine

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

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits 22/42 S

ND

ND

ND

ND

ND

20

10

10

10

10

µg/L

µg/L

µg/L

µg/L

µg/L

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

1

1

1

1

1

11/14/2006

11/14/2006

11/14/2006

11/14/2006

11/14/2006

Date: 17-Nov-06

- MCL Maximum Contaminant Level
- RL Reporting Limit

^{*} Value exceeds Maximum Contaminant Level

CLIENT:	Giant Refining Co		C	Client Sample ID:	BW-3	BB
Lab Order:	0611016			Collection Date:	10/29	/2006 10:00:00 AM
Project:	Annual GW Samples 2	006 Ciniza		Date Received:	11/1/2	2006
Lab ID:	0611016-05			Matrix:	AQU	EOUS
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
Pentachlorophe	enol	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-Trichlorol	benzene	ND	10	µg/L	1	11/14/2006
2,4,5-Trichloro	phenol	ND	10	µg/L	1	11/14/2006
2.4.6-Trichloro	phenol	ND	15	μg/L	1	11/14/2006
Surr: 2,4,6-T	, Fribromophenol	61.7	16.6-150	%REC	1	11/14/2006
Surr: 2-Fluo	robiphenvl	60.1	19.6-134	%REC	1	11/14/2006
Surr: 2-Fluo	rophenol	47.8	9.54-113	%REC	1	11/14/2006
Surr: 4-Terp	henvl-d14	65.4	22.7-145	%REC	1	11/14/2006
Surr: Nitrobe	enzene-d5	56.4	14.6-134	%REC	1	11/14/2006
Surr: Pheno	I-d5	35.4	10.7-80.3	%REC	1	11/14/2006
						Applyst: L M
	OZOUD. VOLATILES	ND	1.0	uo/l	1	Analyst. Livit
Toluona		ND	1.0	р <u>9</u> /С µg/l	1	11/7/2006
Ethylbenzene			1.0	μg/L	1	11/7/2006
Mothyl tert but	vil ether (MTBE)	ND	1.0	р <u>д</u> /L	1	11/7/2000
1 2 A-Trimethy		ND	1.0	µg/L	1	11/7/2006
1 3 5-Trimethy	Ibenzene	ND	1.0	µg/L	1	11/7/2006
1.2 Dichloroett			1.0	μg/L	1	11/7/2006
1,2-Dibromoeti	hane (EDC)	ND	1.0	µg/L	1	11/7/2006
Nanhthalene		ND	2.0	μg/L μg/l	1	11/7/2006
1-Methylnapht	halene		4.0	μg/L	1	11/7/2006
2-Methylnapht	halene	ND	4.0	р <u>9</u> /с но/)	1	11/7/2006
	naiche		10	µg/L	1	11/7/2006
Bromobenzen	0	ND	10	р <u>9</u> /L	1	11/7/2006
Bromochlorom	oethane	ND	1.0	μg/L	1	11/7/2006
Bromodichloro	methane		1.0	р <u>9</u> /с ид/I	1	11/7/2006
Bromoform			1.0	μα/!	, 1	11/7/2006
Bromomother	٩	םא,	2.0	P9/-	1	11/7/2000
2-Butanone	6	ND	10	ру/с ua/L	1	11/7/2006
				P9'-	·	
Qualifiers:	* Value exceeds Maximum	Contaminant Lev	/el	B Analyte detected	d in the a	ssociated Method Blank
	E Value above quantitation r	ange		H Holding times for	or prepar	ation or analysis exceeded
	J Analyte detected below qu	antitation limits	i	MCL Maximum Cont	aminant	Level
	ND Not Detected at the Report	ing Limit		RL Reporting Limit		

Date: 17-Nov-06

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Spike recovery outside accepted recovery limits 23/42 S

Date: 17-Nov-06

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11/7/2006

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11/7/2006

CLIENT: Lab Order: Project:	Giant Refining Co 0611016 Annual GW Sample	Giant Refining CoClient Sample ID:BW-3B0611016Collection Date:10/29/2006 10:00:00 ANAnnual GW Samples 2006 CinizaDate Received:11/1/2006				9B /2006 10:00:00 AM 2006
Lab ID:	0611016-05			IVI 2	Atrix: AQUI	EOUS
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed
EPA METHOD	8260B: VOLATILES					Analyst: LMM
Carbon disulfid	e	ND	10	μg/L	1	11/7/2006
Carbon Tetrach	nloride	ND	2.0	µg/L	1	11/7/2006
Chlorobenzene	1	ND	1.0	µg/L	1	11/7/2006
Chloroethane		ND	2.0	µg/L	1	11/7/2006
Chloroform		ND	1.0	ua/L	1	11/7/2006

1.0

1.0

1.0

1.0

1.0

2.0

1.0

2.0

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

ND

ND

ND

ND

ND

ND

ND

ND

<u> </u>	
1	

Chloromethane

2-Chlorotoluene

4-Chlorotoluene

cis-1,3-Dichloropropene

Dibromochloromethane

Dibromomethane

1,2-Dibromo-3-chloropropane

cis-1,2-DCE

1,2-Dichlorob	enzen	е	ND	1.0	µg/L	1	11/7/2006
1,3-Dichlorob	enzen	e	ND	1.0	µg/L	1	11/7/2006
1,4-Dichlorob	enzen	e	ND	1.0	µg/L	1	11/7/2006
Dichlorodifluc	promet	hane	ND	1.0	µg/L	1	11/7/2006
1,1-Dichloroe	ethane		ND	2.0	µg/L	1	11/7/2006
1,1-Dichloroe	ethene		ND	1.0	µg/L	1	11/7/2006
1,2-Dichlorop	ropan	e	ND	1.0	µg/L	1	11/7/2006
1,3-Dichlorop	propan	e	ND	1.0	µg/L	1	11/7/2006
2,2-Dichlorop	oropan	e	ND	2.0	µg/L	1	11/7/2006
1,1-Dichlorop	oropen	e	ND	1.0	µg/L	1	11/7/2006
Hexachlorobu	utadier	ne	ND	2.0	µg/L	1	11/7/2006
2-Hexanone			ND	10	µg/L	1	11/7/2006
Isopropylben	zene		ND	1.0	µg/L	1	11/7/2006
4-Isopropylto	luene		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	ene		ND	1.0	µg/L	1	11/7/2006
n-Propylbenz	tene		ND	1.0	µg/L	1	11/7/2006
sec-Butylben	izene		ND	2.0	µg/L	1	11/7/2006
Styrene			ND	1.5	µg/L	1	11/7/2006
tert-Butylben:	zene		ND	1.0	µg/L	1	11/7/2006
1,1,1,2-Tetra	chloro	ethane	ND	1.0	µg/L	1	11/7/2006
1,1,2,2-Tetra	chloro	ethane	ND	1.0	μg/L	1	11/7/2006
Tetrachloroe	thene	(PCE)	ND	1.0	µg/L	1	11/7/2006
trans-1,2-DC	Έ		ND	1.0	μg/L	1	11/7/2006
trans-1,3-Dic	hlorop	ropene	ND	1.0	µg/L	1	11/7/2006
1,2,3-Trichlo	robenz	zene	ND	1.0	µg/L	1	11/7/2006
Qualifiers:	*	Value exceeds Maxim	uum Contaminant Level		B Ana	alyte detected in the ass	sociated Method Blank
	E	Value above quantitat	ion range		H Hol	lding times for preparat	ion or analysis exceeded
	J	Analyte detected below	w quantitation limits		MCL Ma	ximum Contaminant L	evel
	ND	Not Detected at the Re	eporting Limit		RL Rep	porting Limit	ъ с

Spike recovery outside accepted recovery limits 24/42 S

CLIENT:	Giant Refining Co			Cl	lient Sample ID:	BW-3	B	
Lab Order:	0611016			(Collection Date:	10/29	/2006 10:00:00 AM	
Project:	Annual GW Samples 20	06 Ciniza			Date Received:	11/1/2006		
Lab ID:	0611016-05				Matrix:	AQUI	EOUS	
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed	
EPA METHOD	8260B: VOLATILES						Analyst: LMN	
1,2,4-Trichlorob	enzene	ND	1.0		µg/L	1	11/7/2006	
1,1,1-Trichloroet	1,1,1-Trichloroethane		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	
Trichlorofluorom	lethane	ND	1.0		µg/L	1	11/7/2006	
1,2,3-Trichlorop	ropane	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-Dich	nloroethane-d4	86.8	69.9-130		%REC	1	11/7/2006	
Surr: 4-Bromo	ofluorobenzene	114	75-139		%REC	1	11/7/2006	
Surr: Dibromo	ofluoromethane	93.0	57.3-135		%REC	1	11/7/2006	
Surr: Toluene	e-d8	96.4	81.9-122		%REC	1	11/7/2006	
EPA 120.1: SPI	ECIFIC CONDUCTANCE						Analyst: CMS	
Specific Conduc	ctance	1500	0.010		µmhos/cm	1	11/1/2006	
EPA METHOD	150.1: PH						Analyst: CMS	
рH		8.12	0.010		pH units	1	11/1/2006	

Date: 17-Nov-06



- Value exceeds Maximum Contaminant Level *
- E Value above quantitation range
- Analyte detected below quantitation limits J
- ND Not Detected at the Reporting Limit
- Spike recovery outside accepted recovery limits 25/42 S
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit

- -- -- ------



CLIENT:	Giant Refining Co			C	lient Sample ID:	BW-3	С		
Lab Order:	0611016				Collection Date:	10/29/	2006 10:45:00 AM		
Project:	Annual GW Samples 2	2006 Ciniza			Date Received:	11/1/2006			
Lab ID:	0611016-06				Matrix:	AQUI	EOUS		
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed		
	0 300.0: 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	Н	mg/L	1	11/4/2006 5:45:46 AM		
Sulfate		280	2.5	2	mg/L	5	11/6/2006 5:33:27 PM		
EPA METHO	0 7470: MERCURY						Analyst: MAP		
Mercury		ND	0.00020		mg/L	1	11/14/2006		
EPA 6010B: 1	OTAL RECOVERABLE M	ETALS					Analyst: NMC		
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 PN		
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 Al		
ΕΡΑ ΜΕΤΗΟΙ	D 8270C: SEMIVOLATILES	6					Analyst: BL		
Acenaphthene	e	ND	10		µg/L	1	11/14/2006		
Acenaphthyle	ne	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)anthra	acene	ND	15		µg/L	1	11/14/2006		
Benzo(a)pyre	ne	ND	15		µg/L	1	11/14/2006		
Benzo(b)fluor	anthene	ND	15		µg/L	1	11/14/2006		
Benzo(g,h,i)p	erylene	ND	10		µg/L	1	11/14/2006		
Benzo(k)fluor	anthene	ND	10		µg/L	1	11/14/2006		
Benzoic acid		ND	50		µg/L	1	11/14/2006		
Benzyl alcoho	bl	ND	20		µg/L	1	11/14/2006		
Bis(2-chloroe	thoxy)methane	ND	10		µg/L	1	11/14/2006		
Bis(2-chloroe	thyl)ether	ND	15		µg/L	1	11/14/2006		
Bis(2-chlorois	sopropyl)ether	ND	- 15		µg/L	· 1	11/14/2006		
Bis(2-othylba	xyl)phthalate	ND	15		µg/L	1	11/14/2006		

RL Reporting Limit

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits 26/42S

CLIENT:	Giant Refining Co			Client Sample II): BW-3	С			
Lab Order:	0611016			Collection Dat	n Date: 10/29/2006 10:45:00 AT				
Project.	Annual GW Samples	2006 Ciniza		Date Receive	a. 11/1/2	: 11/1/2006			
	0611016 06			Matri	x: AOUI	AQUEOUS			
	0011010-00	Posult		ual Unite	DF	Date Analyzed			
		Result							
EPA METHOD	8270C: SEMIVOLATILES	5				Analyst: B			
4-Bromophenyl	phenyl ether	ND	10	hð\r	1	11/14/2006			
Butyl benzyl ph	thalate	ND	15	µg/L	1	11/14/2006			
Carbazole		ND	10	µg/L	1	11/14/2006			
4-Chloro-3-met	hylphenol	ND	20	μg/L	1	11/14/2006			
4-Chloroaniline		ND	20	µg/L	1	11/14/2006			
2-Chloronaphth	halene	ND	10	µg/L	1	11/14/2006			
2-Chlorophenol	1	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 phtha	alate	ND	10	hð\r	1	11/14/2006			
Di-n-octyl phtha	alate	ND	15	µg/L	1	11/14/2006			
Dibenz(a,h)antl	hracene	ND	10	µg/L	1	11/14/2006			
Dibenzofuran		ND	10	µg/L	1	11/14/2006			
1,2-Dichlorober	nzene	ND	10	hð\r	1	11/14/2006			
1,3-Dichlorober	nzene	ND	10	hð\r	1	11/14/2006			
1,4-Dichlorober	nzene	ND	10	µg/L	1	11/14/2006			
3,3'-Dichlorobe	enzidine	ND	15	µg/L	1	11/14/2006			
Diethyl phthala	te	ND	10	μg/L	1	11/14/2006			
Dimethyl phtha	late	ND	10	µg/L	1	11/14/2006			
2,4-Dichloroph	enol	ND	10	µg/L	1	11/14/2006			
2 4-Dimethylph	ienol	ND	10	µg/L	1	11/14/2006			
4,6-Dinitro-2-m	ethylphenol	ND	50	µg/L	1	11/14/2006			
2,4-Dinitropher	nol	ND	50	µg/L	1	11/14/2006			
2,4-Dinitrotolue	ene	ND	10	µg/L	1	11/14/2006			
2.6-Dinitrotolue	ene	ND	10	µa/L	1	11/14/2006			
Fluoranthene		ND	10	μg/L	1	11/14/2006			
Fluorene		ND	10	µg/L	1	11/14/2006			
Hexachlorober	nzene	ND	10	µg/L	1	11/14/2006			
Hexachlorobut	adiene	ND	10	µg/L	1	11/14/2006			
Hexachlorocvc	lopentadiene	ND	10	µg/L	1	11/14/2006			
Hexachloroeth	ane	ND	10	µg/L	1	11/14/2006			
Indeno(1,2,3-c	d)pyrene	ND	10	µg/L	1	11/14/2006			
Isophorone		ND	10	µg/L	1	11/14/2006			
2-Methylnapht	halene	ND	10	µg/L	1	11/14/2006			
2-Methylphend	bl	ND	15	µg/L	1	11/14/2006			
3+4-Methylphe	enol	ND	20	μg/L	1	11/14/2006			
N-Nitrosodi-n-r	oropylamine	ND	10	µg/L	1	11/14/2006			
N-Nitrosodime	thylamine	ND	10	µg/L	1	11/14/2006			
N-Nitrosodiphe	enylamine	ND	10	μg/L	1	11/14/2006			
Nanhthalana		ND	10	. o	1	11/14/2006			

Qualifiers:

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

ND Not Detected at the Reporting Limit

- Spike recovery outside accepted recovery limits 27 / 42 S
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded

- MCL Maximum Contaminant Level
- RL Reporting Limit



^{*} Value exceeds Maximum Contaminant Level

CLIENT:	Giant Refining Co			Client Sample ID:	BW-3	С
Lab Order:	0611016			Collection Date:	10/29	/2006 10:45:00 AM
Project:	Annual GW Samples 2	006 Ciniza		Date Received:	11/1/2	2006
Lab ID:	0611016-06			Matrix:	AQUI	EOUS
Analyses		Result	PQL Qua	Units	DF	Date Analyzed
EPA METHO	0 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	μα/L	1	11/14/2006
Pentachlorop	henol	ND	50	ua/L	1	11/14/2006
Phenanthrene))	ND	10	μg/L	1	11/14/2006
Phenol		ND	10	ra- ua/L	1	11/14/2006
Pyrene		ND	15	pg/c	1	11/14/2006
Pyridine		ND	30	мэл- ца/I	1	11/14/2006
1 2 A Trichlor	obonzono	ND	10	µg/L	1	11/14/2006
2.4.5 Trichlor		ND	10	pg/L	1	11/14/2006
2,4,5-11000	ephenol		15	μg/L μg/l	1	11/14/2000
2,4,0-110100	Tribramanhanal	ND 66 1	16 6 150		1	11/14/2006
Sun: 2,4,6		66. T	10.6-130	WREC	1	11/14/2006
Surr: 2-Flu	orodiprientyr	34.0	0 54 112	WREC	1	11/14/2006
Surr: 2-Flu		44.3 CC E	9.04-113	%REC	1	11/14/2006
Surr: 4-1er	phenyi-d14	66.5	22.7-145	%REC	1	11/14/2006
Surr: Nitrot Surr: Phen	ol-d5	50.6 32.0	14.6-134 10.7-80.3	%REC %REC	1	11/14/2006
	D 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-bu	utyl ether (MTBE)	ND	1.5	µg/L	1	11/8/2006
1,2,4-Trimeth	ylbenzene	ND	1.0	µg/L	1	11/8/2006
1,3,5-Trimeth	lylbenzene	ND	1.0	µg/L	1	11/8/2006
1,2-Dichloroe	thane (EDC)	ND	1.0	µg/L	1	11/8/2006
1,2-Dibromoe	ethane (EDB)	ND	1.0	µg/L	1	11/8/2006
Naphthalene		ND	2.0	µg/∟	1	11/8/2006
1-Methylnaph	nthalene	ND	4.0	µg/L	1	11/8/2006
2-Methylnaph	nthalene	ND	4.0	µg/L	1	11/8/2006
Acetone		ND	10	µg/L	1	11/8/2006
Bromobenzer	ne	ND	1.0	µg/L	1	11/8/2006
Bromochloro	methane	ND	1.0	µg/L	1	11/8/2006
Bromodichlor	romethane	ND	1.0	µg/L	1	11/8/2006
Bromoform		ND	1.0	µg/L	1	11/8/2006
Bromometha	ne	ND	2.0	µg/L	1	11/8/2006
2-Butanone		ND	10	hð\r	1	11/8/2006
Qualifiers:	* Value exceeds Maximum (Contaminant Lev	vel	B Analyte detected	d in the a	ssociated Method Blank
	E Value above quantitation n	ange		H Holding times f	or prepar	ation or analysis exceeded
	J Analyte detected below qu	antitation limits		MCL Maximum Cont	aminant	Level
	ND Not Detected at the Report	ing Limit		RL Reporting Limit		

CLIENT:	Giant Refining Co			Client Sa	ample ID:	BW-3	С	
ab Order:	0611016			Collect	ion Date:	10/29/2006 10:45:00 AM		
Project:	Annual GW Samples	2006 Ciniza		Date	Received:	11/1/2	006	
Lab ID:	0611016-06			Matrix:		EOUS		
Analyses		Result	PQL	Qual Units		DF	Date Analyzed	
PA METHOD							Analyst: I MN	
Carbon disulfide		ND	10	ug/L		1	11/8/2006	
Carbon Tetrach	oride	ND	2.0	ua/L		1	11/8/2006	
Chlorobenzene		ND	1.0	µg/1		1	11/8/2006	
Chloroethane		ND	2.0	pg/2		1	11/8/2006	
Chloroform		ND	1.0	µg/L		1	11/8/2006	
Chloromothane		ND	1.0	μg/L		1	11/8/2000	
2 Chlorataluana		ND	1.0	µg/L		1	11/0/2000	
2-Chlorotoluene		ND	1.0	µg/L		1	11/0/2000	
4-Chlorotoluene		ND	1.0	hð\r hð\r		1	11/8/2006	
CIS-1,2-DCE		ND	1.0	µg/L		1	11/8/2006	
cis-1,3-Dichloro	propene	ND	1.0	µg/L 		7	11/8/2006	
1,2-Dibromo-3-c	chloropropane	ND	2.0	µg/L		1	11/8/2006	
Dibromochlorom	nethane	ND	1.0	µg/L		1	11/8/2006	
Dibromomethan	ie	ND	2.0	µg/L		1	11/8/2006	
1,2-Dichloroben	zene	ND	1.0	µg/L		1	11/8/2006	
1,3-Dichloroben	zene	ND	1.0	µg/L		1	11/8/2006	
1,4-Dichloroben	zene	ND	1.0	µg/L		1	11/8/2006	
Dichlorodifluoro	methane	ND	1.0	µg/L		1	11/8/2006	
1,1-Dichloroetha	ane	ND	2.0	µg/L		1	11/8/2006	
1,1-Dichloroethe	ene	ND	1.0	µg/L		1	11/8/2006	
1,2-Dichloropro	pane	ND	1.0	µg/L		1	11/8/2006	
1,3-Dichloroprop	pane	ND	1.0	µg/L		1	11/8/2006	
2,2-Dichloropro	pane	ND	2.0	µg/L		1	11/8/2006	
1,1-Dichloropro	pene	ND	1.0	µg/L		1	11/8/2006	
Hexachlorobuta	diene	ND	2.0	µg/L		1	11/8/2006	
2-Hexanone		ND	10	µg/L		1	11/8/2006	
Isopropylbenzei	ne	ND	1.0	µg/L		1	11/8/2006	
4-Isopropvitolue	ene	ND	1.0	µq/L		1	11/8/2006	
4-Methyl-2-pent	tanone	ND	10	µg/L		1	11/8/2006	
Methylene Chlo	ride	ND	3.0	ua/L		1	11/8/2006	
n-Butvlbenzene	•	ND	1.0	µa/L		1	11/8/2006	
n-Propvibenzen	e	ND	1.0	ua/L		1	11/8/2006	
sec-Butvlbenze	ne	ND	2.0	µa/L		1	11/8/2006	
Styrene	· · =	ND	1.5	La/I		1	11/8/2006	
tert-Butvibenzei	ne	ND	1.0	ua/L		1	11/8/2006	
1.1.1.2-Tetrach	loroethane	ND	1.0	un/l		1	11/8/2006	
1 1 2 2-Totrach	loroethane	ND	1.0			1	11/8/2006	
Tetrachlorootho			1.0	P9/2		1	11/8/2000	
			1.0	ну/с uo//		1	11/0/2000	
trans 1.2 Dichl			1.0	μ <u>θ</u> /Γ		1	11/0/2000	
	oropropene		1.0	µg/∟		1	11/8/2006	
1,2,3-Trichlorob	benzene	ND	1.0	hð\r		3	11/8/2006	

Value above quantitation range Е

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits 29/42 S

MCL Maximum Contaminant Level

RL Reporting Limit

Hall Envir	onmental Analysis	c. Da	te: 17-N	17-Nov-06			
CLIENT: Lab Order:	Giant Refining Co 0611016	D: BW-3 te: 10/29	BW-3C 10/29/2006 10:45:00 AM				
Project:	Annual GW Samples 20	06 Ciniza		Date Receive	ed: 11/1/	2006	
Lab ID:	0611016-06			Matr	ix: AQU	IEOUS	
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	
EPA METHOD	8260B: VOLATILES					Analyst: LMN	
1,2,4-Trichlorob	penzene	ND	1.0	µg/L	1	11/8/2006	
1.1,1-Trichloroe	ethane	ND	1.0	µg/L	1	11/8/2006	
1,1,2-Trichloroe	ethane	ND	1.0	μg/L	1	11/8/2006	
Trichloroethene (TCE)		ND	1.0	µg/L	1	11/8/2006	
Trichlorofluoror	methane	ND	1.0	µg/L	1	11/8/2006	
1,2,3-Trichlorop	propane	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-Dic	hloroethane-d4	89.8	69.9-130	%REC	1	11/8/2006	
Surr: 4-Brom	ofluorobenzene	97.9	75-139	%REC	1	11/8/2006	
Surr: Dibrom	ofluoromethane	99.9	57.3-135	%REC	1	11/8/2006	
Surr: Toluen	e-d8	94.5	81.9-122	%REC	1	11/8/2006	
EPA 120.1: SP	ECIFIC CONDUCTANCE					Analyst: CMS	
Specific Condu	ictance	1400	0.010	µmhos/cm	1	11/1/2006	
EPA METHOD	150.1: PH					Analyst: CMS	
pН		8.72	0.010	pH units	1	11/1/2006	

Qualifiers: Е

* Value exceeds Maximum Contaminant Level Value above quantitation range

J Analyte detected below quantitation limits

ND Not Detected at the Reporting Limit

Spike recovery outside accepted recovery limits 30 / 42S

. . . .

. B Analyte detected in the associated Method Blank

-Holding times for preparation or analysis exceeded Н

MCL Maximum Contaminant Level

RL Reporting Limit

Page 30 of 32

CLIENT: Lab Order:	Giant Refining Co 0611016			C	lient Sample ID: Collection Date:	De ID: Trip Blank Date: reived: 11/1/2006			
Project:	Annual GW Samples	2006 Ciniza			Date Received:				
Lab ID:	0611016-07				Matrix:	TRIP	BLANK		
Analyses	· · ·	Result	PQL	Qual	Units	DF	Date Analyzed		
EPA METHOD	8260B: VOLATILES						Analyst: LMI		
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-buty	/I ether (MTBE)	ND	1.5		µg/L	1	11/7/2006		
1,2,4-Trimethyll	benzene	ND	1.0		µg/L	1	11/7/2006		
1,3,5-Trimethyll	benzene	ND	1.0		µg/L	1	11/7/2006		
1,2-Dichloroeth	ane (EDC)	ND	1.0		µg/L	1	11/7/2006		
1,2-Dibromoeth	nane (EDB)	ND	1.0		µg/L	1	11/7/2006		
Naphthalene		ND	2.0		µg/L	1	11/7/2006		
1-Methylnaphth	nalene	ND	4.0		µg/L	1	11/7/2006		
2-Methylnaphth	alene	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		
Bromochlorome	ethane	ND	1.0		µg/L	1	11/7/2006		
Bromodichloror	methane	ND	1.0		µg/L	1	11/7/2006		
Bromoform		ND	1.0		µg/L	1	11/7/2006		
Bromomethane	9	ND	2.0		µg/L	1	11/7/2006		
2-Butanone		ND	10		µg/L	1	11/7/2006		
Carbon disulfid	e	ND	10		µg/L	1	11/7/2006		
Carbon Tetrach	nloride	ND	2.0		µg/L	1	11/7/2006		
Chlorobenzene	}	ND	1.0		ua/L	1	11/7/2006		
Chloroethane		ND	2.0		ua/L	1	11/7/2006		
Chloroform		ND	1.0		µa/L	1	11/7/2006		
Chloromethane	2	ND	1.0		µg/L	1	11/7/2006		
2-Chlorotoluen	e	ND	1.0		F9/-	1	11/7/2006		
4-Chlorotoluen	e	ND	1.0		µg/L	1	11/7/2006		
cis-1.2-DCF	•	ND	1.0		µg/L	1	11/7/2006		
cis-1.3-Dichloro	opropene	ND	1.0		µa/L	1	11/7/2006		
1.2-Dibromo-3-	-chloropropane	ND	2.0		µa/L	1	11/7/2006		
Dibromochloro	methane	ND	1.0		µg/L	1	11/7/2006		
Dibromometha	ne	ND	2.0		µg/L	1	11/7/2006		
1.2-Dichlorobe	nzene	ND	1.0		µg/L	1	11/7/2006		
1,3-Dichlorobe	nzene	ND	1.0		μg/L	1	11/7/2006		
1,4-Dichlorobe	nzene	ND	1.0		μg/L	1	11/7/2006		
Dichlorodifluor	omethane	ND	1.0		μg/L	1	11/7/2006		
1.1-Dichloroeth	nane	ND	2.0		μα/L	1	11/7/2006		
1.1-Dichloroeth	nene	ND	1.0		ua/L	1	11/7/2006		
1.2-Dichloropro	opane	ND	1.0		ua/L	1	11/7/2006		
1.3-Dichloropro	opane	ND	1.0		ua/L	1	11/7/2006		
2.2 Dichloropre	00000	ND	20		F3/= .	1	11/7/2006		

Qualifiers:

- E Value above quantitation range
- J Analyte detected below quantitation limits
- ND Not Detected at the Reporting Limit
- S Spike recovery outside accepted recovery limitr 31/42
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- MCL Maximum Contaminant Level
- RL Reporting Limit



^{*} Value exceeds Maximum Contaminant Level

CLIENT:	Giant Refining Co			Client Sample ID	: Trip E	Blank		
Lab Order:	0611016			Collection Date	:			
Project:	Annual GW Samples	2006 Ciniza		: 11/1/2	2006			
Lab ID:	0611016-07			Matrix	: TRIP	TRIP BLANK		
Analyses		Result	PQL Q	ual Units	DF	Date Analyzed		
EPA METHOD	8260B: VOLATILES		· ·			Analyst: LMM		
1,1-Dichloropro	opene	ND	1.0	µg/L	1	11/7/2006		
Hexachlorobut	adiene	ND	2.0	µg/L	1	11/7/2006		
2-Hexanone		ND	10	µg/L	1	11/7/2006		
Isopropylbenze	ene	ND	1.0	µg/L	1	11/7/2006		
4-Isopropyltolu	ene	ND	1.0	µg/L	1	11/7/2006		
4-Methyl-2-per	ntanone	ND	10	µg/L	1	11/7/2006		
Methylene Chl	oride	ND	3.0	µg/L	1	11/7/2006		
n-Butylbenzen	e	ND	1.0	µg/L	1	11/7/2006		
n-Propylbenze	ne	ND	1.0	µg/L	1	11/7/2006		
sec-Butylbenze	ene	ND	2.0	µg/L	1	11/7/2006		
Styrene		ND	1.5	µg/L	1	11/7/2006		
tert-Butylbenze	ene	ND	1.0	µg/L	1	11/7/2006		
1,1,1,2-Tetract	nloroethane	ND	1.0	µg/L	1	11/7/2006		
1,1,2,2-Tetrack	nloroethane	ND	1.0	µg/L	1	11/7/2006		
Tetrachloroeth	ene (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-Dichl	loropropene	ND	1.0	µg/L	1	11/7/2006		
1,2,3-Trichloro	benzene	ND	1.0	µg/L	1	11/7/2006		
1,2,4-Trichloro	benzene	ND	1.0	µg/L	1	11/7/2006		
1,1,1-Trichloro	ethane	ND	1.0	µg/L	1	11/7/2006		
1,1,2-Trichloro	ethane	ND	1.0	µg/L	1	11/7/2006		
Trichloroethen	e (TCE)	ND	1.0	µg/L	1	11/7/2006		
Trichlorofluoro	methane	ND	1.0	µg/L	1	11/7/2006		
1,2,3-Trichloro	propane	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-Di	chloroethane-d4	88.6	69.9-130	%REC	1	11/7/2006		
Surr: 4-Bror	nofluorobenzene	104	75-139	%REC	1	11/7/2006		
Surr: Dibror	nofluoromethane	95.4	57.3-135	%REC	1	11/7/2006		
Surr: Toluer	ne-d8	95.1	81.9-122	%REC	1	11/7/2006		

Date: 17-Nov-06

- * Value exceeds Maximum Contaminant Level
 - Е Value above quantitation range
 - J Analyte detected below quantitation limits
 - ND Not Detected at the Reporting Limit
 - Spike recovery outside accepted recovery limits 32/42S

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

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QA/QC SUMMARY REPORT

Project: Giant Refining Project: Annual GW S	g Co amples 2(006 Ciniza					Work	Corder: 0611016
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RF	PDLimit Qual
Method: E300		w						
Sample ID: MBLK		MBLK			Batch I	D: 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 I	D: 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 II	D: 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 II	D: 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

J Analyte detected below quantitation limits

R RPD outside accepted recovery limits

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

S Snike recovery outside accepted recovery limits 33/42

Work Order:

QA/QC SUMMARY REPORT

lient: Project:

Giant Refining Co Annual GW Samples 2006 Ciniza

Analyte Result Units PQL %Rec LowLimit HighLimit %RPD RPDLimit Qual Method: SW8270C Sample ID: MB-11641 11/14/2006 MBLK Batch ID: Analysis Date: 11641 ND 10 Acenaphthene µg/L Acenaphthylene ND 10 µg/L 20 Aniline ND µg/L Anthracene ND µg/L 10 Azobenzene ND µg/L 10 ND 15 Benz(a)anthracene µg/L Benzo(a)pyrene ND µg/L 15 15 Benzo(b)fluoranthene ND µg/L 10 Benzo(g,h,i)perylene ND µg/L Benzo(k)fluoranthene ND 10 µg/L Benzoic acid ND µg/L 50 Benzyl alcohol ND µg/L 20 10 Bis(2-chloroethoxy)methane ND µg/L Bis(2-chloroethyl)ether 15 ND µg/L Bis(2-chloroisopropyl)ether ND µg/L 15 Bis(2-ethylhexyl)phthalate ND 15 µg/L 4-Bromophenyl phenyl ether ND 10 µg/L Butyl benzyl phthalate ND 15 µg/L Carbazole ND µg/L 10 20 4-Chloro-3-methylphenol ND µg/L 4-Chloroaniline ND µg/L 20 2-Chloronaphthalene ND µg/L 10 2-Chlorophenol ND µg/L 10 4-Chlorophenyl phenyl ether ND 15 µg/L Chrysene ND 15 µg/L Di-n-butyl phthalate ND μg/L 10 Di-n-octyl phthalate ND µg/L 15 Dibenz(a,h)anthracene ND 10 µg/L Dibenzofuran ND 10 µg/L ND 10 1,2-Dichlorobenzene µg/L 1,3-Dichlorobenzene ND µg/L 10 ND µg/L 10 1.4-Dichlorobenzene 3,3'-Dichlorobenzidine ND µg/L 15 10 ND Diethyl phthalate µg/L Dimethyl phthalate ND 10 µg/L 10 2,4-Dichlorophenol ND µg/L

10

50

50

10

10

10 10

10

S

Qualifiers:

2,4-Dimethylphenol

2,4-Dinitrophenol

2,4-Dinitrotoluene

2,6-Dinitrotoluene

Hexachlorobenzene

Fluoranthene

Fluorene

4,6-Dinitro-2-methylphenol

- Ε Value above quantitation range
- I Analyte detected below quantitation limits

ND

ND

ND

ND

ND

ND

ND

ND

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

µg/L

R RPD outside accepted recovery limits

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
 - Snike recovery outside accepted recovery limits 34/42

Work Order:

QA/QC SUMMARY REPORT

lient: roject:

Giant Refining Co

Annual GW Samples 2006 Ciniza

Analyte	Result	Units	PQL	%Rec	LowLimit	High	nLimit	%RPD	RPDLimit	Qual
Method: SW8270C					.				2-4	41/44/0000
Sample ID: MB-11641		MBLK 			Batch	ID:	11641	Analysis L	Jate:	11/14/2006
Hexachlorobutadiene	ND	µg/L	10							
Hexachlorocyclopentadiene		µg/L	10							
Hexachloroethane		µg/L	10							
Indeno(1,2,3-cd)pyrene		µg/∟	10							
Isophorone	ND	µg/L	10							
		µg/L	10							
	טאו	µg/L	CI 20							
N Nitropodi a angulamino		µg/L	20							
N-Nitrosodimethylamine		μg/L μο/Ι	10							
N-Nitrosodinbonylamine		µg/c uo/l	10							
Nanhthalana	ND	μα/I	10							
2-Nitroaniline	ND	49/5 U0/I	50							
3-Nitroaniline	ND	мэ, с По/Г	50							
4-Nitroanilipe	ND	ug/L	20							
Nitrobenzene	ND	ug/L	10							
2-Nitrophenol	ND	μα/L	15							
4-Nitrophenol	ND	ug/L	50							
entachlorophenol	ND	µa/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 I	Date:	11/14/2006
Acenaphthene	75.56	µg/L	10	75.6	11	12	23			
4-Chloro-3-methylphenol	128.8	µg/L	20	64.4	15.4	11	19			
2-Chlorophenol	109.7	μg/L	10	54.9	12.2	12	22			
1,4-Dichlorobenzene	44.08	μg/L	10	44.1	16.9	1(00			
2,4-Dinitrotoluene	70.12	µg/L	10	70.1	13	13	38			
N-Nitrosodi-n-propylamine	59.72	µg/L	10	59.7	9.93	12	22			
4-Nitrophenol	61.04	µg/L	50	30.5	12.5	87	.4			
Pentachlorophenol	89.54	µg/L	50	44.8	3.55	11	14			
Phenol	60.02	µg/L	10	30.0	7.53	73	3.1			
Pyrene	74.84	µg/L	15	74.8	12.6	14	40			
1,2,4-Trichlorobenzene	49.74	µg/L	10	49.7	17.4	98	3.7			
Sample ID: LCSD-11641		LCSD			Batch	ID:	11641	Anatysis I	Date:	11/14/200
Acenaphthene	72.80	µg/L	10	72.8	11	12	23	3.72	30.5	
4-Chloro-3-methylphenol	129.7	µg/L	20	64.8	15.4	1	19	0.697	28.6	
2-Chlorophenol	129.1	µg/L	10	64.5	12.2	12	22	16.2	107	
1,4-Dichlorobenzene	48.32	µg/L	10	48.3	16.9	1(00	9.18	62.1	
2,4-Dinitrotoluene	64.96	µg/L	10	65.0	13	1:	38	7.64	14.7	

Qualifiers:

Е Value above quantitation range

Analyte detected below quantitation limits J

R RPD outside accepted recovery limits

Н Holding times for preparation or analysis exceeded ND

Not Detected at the Reporting Limit

S

Spike recovery outside accepted recovery limits 35/42

Work Order:

QA/QC SUMMARY REPORT

	C	lie	nt:	
ŝ	Р	ro	ject	:

Giant Refining Co Annual GW Samples 2006 Ciniza

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8270C									
Sample ID: LCSD-11641		LCSD			Batch	D: 11641	Analysis [Date:	11/14/200
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	D: 11747	Analysis [Date:	11/14/200
Mercury	0.005025	mg/L	0.00020	100	75	125	2.07	20	
Sample ID: MB-11747		MBLK			Batch	D: 11747	Analysis [Date:	11/14/200
Mercury	ND	mg/L	0.00020						
Sample ID: LCS-11747		LCS			Batch	D: 11747	Analysis [Date:	11/14/200
Mercury	0.005385	mg/L	0.00020	108	80	120			
Sample ID: 0611016-06D ms		MS			Batch	D: 11747	Analysis [Date:	11/14/200
Mercury	0.005130	ma/l	0 00020	103	75	125			

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 36/42

Work Order:

QA/QC SUMMARY REPORT

lient: Project:

Giant Refining Co

t: Annual GW Samples 2006 Ciniza

Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual
Method:	SW6010A								
Sample ID:	MB-11746		MBLK			Batch	ID: 1174	6 Analysis Date	e: 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	ma/L	0.0050					
Sodium		ND	ma/L	1.0					
Sample ID:	MB-11746		MBLK			Batch	ID: 1174	6 Analysis Dat	e: 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: 1174	6 Analysis Dat	e: 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: 1174	6 Analysis Dat	e: 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: 1174	6 Analysis Dat	e: 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	n ID: 1174	6 Analysis Dat	e: 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		

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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 Solve recovery outside accepted recovery limits 37/42

Work Order:

QA/QC SUMMARY REPORT

Project:

Giant Refining Co

za

Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 0611016-04a msd		MSD			Batch	ID: R21321	Analysis [Date:	11/7/200
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:	11/7/200
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	ua/L	4.0						
2-Methylnaphthalene	ND	µg/l	4.0						
	ND	P9/C	10						
tromobenzene	ND	µg/L	10						
Bromochloromethane	ND	µg/2	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		µg/L	10						
Carbon Totrachlarida	ND	µg/L	20						
Chlorabanzana		µg/∟ vo/l	1.0						
Chlorodenzene	ND	µg/L	1.0						
	ND	µg/L	2.0						
Chloroform	ND	µg/L	1.0						
	ND	µg/L	1.0						
	ND	µg/L	1.0						
		µg/L	1.0						
CIS-1,2-DUE		µg/∟	1.0						
cis-1,3-Dicnioropropene		µg/∟	1.0						
		µg/∟	2.0						
		µg/L	1.0						
		µg/L	2.0						
	ND	µg/∟	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

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 38/42 covery outside accepted recovery limits

Work Order:

QA/QC SUMMARY REPORT

lient: Project:

Giant Refining Co

Annual GW Samples 2006 Ciniza

Analyte	Result	Units	PQL	%Rec	LowLimit	Hiç	ghLimit	%RPD	RPDLimit	Qual
Method: SW8260B										
Sample ID: 5mL rb		MBLK			Batch	ID:	R21321	Analysis E	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							
lsopropylbenzene	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	NÐ	µg/L	1.0							
Tetrachloroethene (PCE)	ND	μg/L	1.0							
trans-1,2-DCE	ND	μg/L	1.0							
rans-1,3-Dichloropropene	ND	µg/L	1.0							
1,2,3-Trichlorobenzene	ND	µa/L	1.0							
1.2.4-Trichlorobenzene	ND	µa/L	1.0							
1.1.1-Trichloroethane	ND	ua/L	1.0							
1.1.2-Trichloroethane	ND	ua/L	1.0							
Trichloroethene (TCE)	ND	ua/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							
Xvlenes Total	ND	µg/=	3.0							
Sample ID: 5ml rb		MBL K	0.0		Batch	uD.	R21342	Analysis ()ate [,]	11/8/2006
Bonzono		10221C	1.0		Dator	. 10.	1121042	7 (10) 313 1	Jaic.	11/0/2000
Teluene		µg/L	1.0							
Ethulhonzono		µg/L	1.0							
Mothyl tort butyl other (MTRE)		µg/L	1.0							
1.2.4 Trimethylbenzene		µg/∟	1.0							
1,2,4-Trimethylbenzene	ND	µg/L	1.0							
1,3,5-11methylbenzene	ND	µg/L	1.0							
1,2-Dichloroethane (EDC)		µg/L	1.0							
Nonthelene	ND	µg/L	1.0							
		µg/∟	2.0							
	ND	µg/∟	4.0							
		µg/L	4.0							
Acetone	UN	µg/L	10							
		µg/L	1.0		÷					
Bromochloromethane	ND	μg/L	1.0 1.0							
								• ·· · · · · · ·		
Qualifiers:										
E Value above quantitation rar	nge		Н	Holding	times for prer	paratio	on or analysi	s exceeded		
J Analyte detected below quar	ntitation limits		ND	Not Dete	cted at the Re	eporti	ng Limit			D 2

R RPD outside accepted recovery limits S

39/42 covery outside accepted recovery limits

QA/QC SUMMARY REPORT

Analyte	Result	Units	PQL	%Rec	LowLimit HighLimit	%RPD RPDLin	nit 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	ug/L	2.0				
1.2-Dichlorobenzene	ND	µg/L	1.0				
1.3-Dichlorobenzene	ND	µg/L	1.0				
A-Dichlorobenzene	ND	ua/L	1.0				
Dichlorodifluoromethane	ND	μg/L	1.0				
1 1-Dichloroethane	ND	ug/L	2.0				
1 1-Dichloroethene	ND	ua/L	1.0				
1 2-Dichloropropane	ND	µg/L	1.0				
1 3-Dichloropropane	ND	ug/L	1.0				
2 2-Dichloropropane	ND	ua/L	2.0				
1 1-Dichloropropene	ND	ua/L	1.0				
Hexachlorobutadiene	ND	µg/L	2.0				
2-Hexanone	ND	µg/1	10				
Isopropylbenzene	ND	µg/l	1.0				
4-Isopropyltoluene	ND	μg/L	1.0				
4-Methyl-2-pentanone	ND	ua/L	10				
Methylene Chloride	ND	µg/L	3.0				
n-Butylbenzene	ND	ug/L	1.0				
n-Propylbenzene	ND	ua/L	1.0				
sec-Butylbenzene	ND	µa/L	2.0				
Styrene	ND	µg/L	1.5				
tert-Butylbenzene	ND	µq/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	pg/L	1.0				
trans-1.2-DCE	ND	µg/L	1.0				
trans-1.3-Dichloropropene	ND	ug/L	1.0				
1.2.3-Trichlorobenzene	ND	μα/L	1.0				
1 2 4-Trichlorobenzepe	ND	ua/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

Project: Annual GW	Samples 20	006 Ciniza					ν	Vork Order	: 0611016
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B					U	····			
Sample ID: 5mL rb		MBLK			Batch II	D: R21342	Analysis D	ate:	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 I	D: R21321	Analysis D	ate:	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 I	D: R21342	Analysis D	ate:	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 I	D: R21321	Analysis D	ate:	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

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Page 4

	Sample Receipt	Checklist		
Client Name GIANTREFIN	_	Date and Time	Received:	11/1/2006
Work Order Number 0611016	()	Received by	TA	
Checklist completed by	h	//////////////////////////////////////		
Matrix	Carrier name Client dro	pp-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 r	eceived? Yes 🗹	No 🗌		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌		
Samples in proper container/bottle?	Yes 🗹	No 🗌		
Sample containers intact?	Yes 🗹	No 🗔		
Sufficient sample volume for indicated test?	Yes 🔽	No 🗔		
All samples received within holding time?	Yes 🔽	No		
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 Acceptal If given sufficient	ble time to cool.	
COMMENTS:		-		
	· · · · · · · · · · · · · · · · · · ·			·····
Client contacted	Date contacted:	Perso	on contacted	· · · · · · · · · · · · · · · · · · ·
Contacted by:	Regarding			
Comments:				
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Corrective Action				
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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

Dear Steve Morris:

Order No.: 0607244

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 Envir	onmental Analysis La	iborat	tory, Inc.	Date:	: 25-Ju	ul-06			
CLIENT:	Giant Refining Co			Client Sample ID:	: BW-2	2B			
Lab Order:	0607244			Collection Date:	: 7/19/2006 3:30:00 PM : 7/21/2006 : AQUEOUS				
Project:	Boundary Well 2B for Selen	ium		Date Received:					
Lab ID:	0607244-01			Matrix:					
Analyses	Re	esult	PQL Qu	1al Units	DF	Date Analyzed			
EPA METHOD Selenium	6010: DISSOLVED METALS	ND	0.050	mg/L	1	Analyst: NMO 7/25/2006 11:36:17 AM			
EPA 6010: TO	TAL RECOVERABLE METALS	ND	0.050	ma/l	1	Analyst: NMO 7/25/2006 9:13:00 AM			



- 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

QA/QC SUMMARY REPORT

Client: Gia Project: Bo	ant Refining Co undary Well 2B for S	Selenium					Work	Order: 0607244
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD RPI	DLimit Qual
Method: SW6010A Sample ID: MB		MBLK			Batch I	D: R20019	Analysis Date:	7/25/2006 11:27:24 AM
Selenium Sample ID: LCS	ND	mg/L LCS	0.050		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: 0607244-0	1AMSD	MSD			Batch II): 10853	Analysis Date:	7/25/2006 9:19:23 AM
Selenium Sample ID: MB-10853	0.4837	mg/L MBLK	0.050	96.7	75 Batch IE	125 D: 10853	0.983 2 Analysis Date:	0 7/25/2006 9:00:52 AM
Selenium Sample ID: LCS-1085	ND 3	mg/L LCS	0.050		Batch I	D: 10853	Analysis Date:	7/25/2006 9:03:56 AN
Selenium Sample ID: 0607244-0	0.4717 1AMS	mg/L MS	0.050	94.3	80 [°] Batch II	120 D: 10853	Analysis Date:	7/25/2006 9:17:04 AN
Selenium	0.4790	mg/L	0.050	95.8	75	125		



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 2/3
Hall Environmental Analysis Laboratory, Inc.

	Sample	Recei	ipt Ch	ecklist				
Client Name GIANTREFIN	\sim			Date and Time	Received:		7/:	21/2006
Work Order Number 0607244				Received by	AT			
Checklist completed by	h		Date	7/2//	<u>U</u> 6			
Matrix	Carrier name	FedE)	×					
Shipping container/cooler in good condition?		Yes		No 🗔	Not Present			
Custody seals intact on shipping container/cooler	?	Yes		No 🗌	Not Present		Not Shipped	
Custody seals intact on sample bottles?		Yes		No 🗹	N/A			
Chain of custody present?		Yes	\checkmark	No 🗌				
Chain of custody signed when relinquished and re	eceived?	Yes		No 🗌				
Chain of custody agrees with sample labels?		Yes		No 🗌				
Samples in proper container/bottle?		Yes	\checkmark	No 🗔				
Sample containers intact?		Yes		No 🗌				
Sufficient sample volume for indicated test?		Yes		No 🗔				
All samples received within holding time?		Yes		No 🗔				
Water - VOA vials have zero headspace?	No VOA vials subm	nitted		Yes 🗌	No 🗌			
Water - pH acceptable upon receipt?		Yes	\checkmark	No 🗌	N/A 🗌			
Container/Temp Blank temperature?		5	5°	4° C ± 2 Accepta	ble time to cool.			
COMMENTS:								
	=					:		
Client contacted	Date contacted:			Pers	on contacted			
Contacted by:	Regarding							
Comments:								
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				<u></u>				
Corrective Action								

ANALYSIS HEOUEST ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505.345.3975 Fax 505.345.4107 www.hallenvironmental.com	BTEX + MTBE + TMB's (8021) BTEX + MTBE + TPH (Gasoline Only) BTFX + MTBE + TPH (Gasoline Only) TPH Method 8015B (Gas/Diesel) EDB (Method 418.1) EDC (Method 408.1) EDC (Method 504.1) EDC (Method 504.1) B310 (PUA or PAH) Anions (F, Cl, N0 ₃ , N0 ₂ , P0 ₄ , S0 ₄) B081 Pesticides / PCB's (8082) 8260B (YOA) 8260B (YOA) 8270 (Semi-VOA) B2570 (Semi-VOA)		Ret KA Metal Total
QA/ GC Package: Std □ Level 4 □ Other: Project Name: Coundary Well 2 C for Relevirum Project #:	Project Manager: Rampler: Sampler: Sample Temperature: Number/Volume HgCl ₂ HNO ₃ HBCL	142000 X CRODUNT	Received By: (Signature)
CHAIN-OF-CUSTODY RECORD Client Curring Client Curring Address: Rut 2 Con 7	Fax#: Sample I.D. No.	7/12/36 1530 H2 O EW-2 B	Date Time: Relinquished By: (Signature) 129/96 14/00 14/00 Date: Time: Relinquished By: (Signature)



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

Dear Ed Riege:

Order No.: 0608046

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

	onmental Analysi	s Labora	atory, 11		- 22-A	ug-00
CLIENT:	Giant Refining Co			Client Sample ID	: GWN	<i>A</i> -1
Lab Order:	0608046			Collection Date:	: 8/2/2	006 2:00:00 PM
Project:	GWM-1 Annual 2006			Date Received:	8/4/2	006
Lab ID:	0608046-01			Matrix	AQU	EOUS
Analyses		Result	PQL	Qual Units	DF	Date Analyzed
	200 D. ANIONS					Apolyct: TEC
Fluorida	300.0. ANIONO	20	0.50	mn/i	5	R/4/2006 12:28:00 PM
Chloride		3700	10	mg/L	100	8/7/2006 1:51-51 PM
Nitrate (Ac Ni)+N	ditrite (Ac N)		20	mg/L	20	8/1//2000 7-17-23 DM
Photoborus Or	thoshorshate (Ar P)		2.0	mg/L	5	BIAIODO 101020 FIN
Phospholos, Or	inophosphate (AS F)	100	2.5	mg/L	5	0/4/2000 12:20:00 PM
Sullate		120	2.5	mg/L	5	8/4/2006 12:28:00 PM
EPA METHOD 7	7470: MERCURY					Analyst: MAF
Mercury		ND	0.00020	mg/L	1	8/15/2006
EPA 6010: TOT	AL RECOVERABLE MET	AIS				Analyst: CMC
Arsenic		0:077	0.020	ma/L	1	8/9/2006 2:35:20 PM
Barium		0.53	0.020	mo/l	1	8/10/2006 6:44:01 PM
Cadmium		ND	0 020	mo/l	1	8/9/2006 2-35-20 PM
Calcium		380	20	mall	20	8/10/2006 7:52:38 DM
Chromium		ND	0.000	mg/L	1	8/0/2000 2:25:20 PM
Lond		ND	0.0000	mg/L	4	9/0/2000 2.33.20 FW
Leau			0.000.0	mg/L	1	8/9/2006 2:35:20 PM
Magnesium Deteture		93	1.0	myr.	1	0/9/2006 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	B/10/2006 7:52:38 PM
EPA METHOD	3270C: 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)anthrace	ene	ND	15	μg/L	1	8/15/2006
Benzo(a)pyrene		ND	15	µg/L	1	8/15/2006
Benzo(b)fluorani	thene	ND	15	μg/L	1	8/15/2006
Benzo(a.h.i)perv	lene	ND	10	μ <u>ο</u> /L	1	8/15/2006
Benzo(k)fluorant	hene	ND	10	μ α/L	1	8/15/2006
Benzoic acid		ND	50	10/L	1	8/15/2006
Benzvi alcohol		ND	20	на. — 110/Л.,	1	8/15/2006
Bis/2-chloroetho	vv)methane	ND	10	р <u>а</u>	•	8/15/2000
Bie(2-chloroathui	Nether		15	29°-	1	8/15/2000
Ric(2-chloroicon	mulather	ND	15	ha.r	1	8/15/2000
	iopyi/suisi		10	uch HRim	1	
Bis(z-ethylnexyl)	thum gig te	ND	19	hair	1	or 15/2006

Qualifiers: ÷ Value exceeds Maximum Contaminant Level

Value above quantitation range Ε

Analyte detected below quantitation limits J

Spike Recovery outside accepted recovery limits S

Analyte detected in the associated Method Blank в

Holding times for preparation or analysis exceeded Н

ND Not Detected at the Reporting Limit

CLIENT:	Giant Refining Co			Client Same	le ID:	G₩№	1 -1
Lab Order:	0608046			Collection	Date	8/2/20	 106 2-00-00 PM
Project:	GWAA1 Annual 2006			Dete Deer	bare.	0/2/20	
				Date Kece	eivea:	8/4/20	
Lab ID:	0608046-01			141		AQUI	
Analyses		Result	PQL	Qual Units		DF	Date Analyzed
EPA METHOD	B270C: SEMIVOLATILES						Analyst: SC
4-Bromophenyl	phenyl ether	ND	10	µg/L		1	8/15/2006
Butyi benzyi phti	halate	ND	15	pg/L		1	8/15/2006
Carbazole		ND	10	µg/L		1	8/15/2006
4-Chloro-3-meth	yiphenol	ND	20	µg/L		1	8/15/2006
4-Chloroaniline		ND	20	μg/L		1	8/15/2006
2-Chloronaphiha	lene	ND	10	µg/∟		1	8/15/2006
2-Chlorophenol		ND	10	µg/L		1	8/15/2006
4-Chlorophenyl j	phenyl ether	ND	15	hð\r		1	8/15/2006
Chrysene		ND	15	μg/L		1	8/15/2006
Di-n-butyl phihal	ate	ND	10	µg/L		1	8/15/2006
Di-n-octyl phihal	ate	ND	15	µg/L		1	8/15/2006
Dibenz(a,h)anthi	racene	ND	10	µg/L		1	8/15/2006
Dibenzofuran		ND	10	μg/L		1	8/15/2006
1,2-Dichlorobenz	zene	ND	- 10	μg/L		1	8/15/2006
1,3-Dichlorobenz	zene	ND	10	μg/L		1	8/15/2006
1,4-Dichlorobenz	zene	ND	10	μg/L		1	8/15/2006
3.3'-Dichloroben	zidine	ND	15	µg/L		1	8/15/2006
Diethyl phthalate		ND	10	μα/L		1	8/15/2006
Dimethyl phihala	ite	ND	10	ug/L		1	8/15/2006
2.4-Dichloropher	loc	ND	10	ua/L		1	8/15/2006
2.4-Dimethylphe	nol	85	10	ua/L		1	8/15/2006
4.6-Dipitro-2-me	thvinhenol	ND	50	rs:- ua/L		1	B/15/2006
2 4-Dinifronheno	1	ND	50	но/!		1	8/15/2006
2.4-Dinitratoluen	n n	ND	10	HO/1		•	8/15/2008
2.6-Dinitrotoluen	о Р		10	10/		1	8/15/2006
Fluoranthene		ND	10	, un/l		1	8/15/2006
Fluorene		ND	10	. P9/C		1	8/15/2006
Hexachlorobenzo	ene	ND	10	uo/I		• 1	8/15/2006
Hexachlorobuter	liene	םא	10	uo/i		1	8/15/2006
Hexachiorocyclo	nentadiene	ND	10	10/1		1	B/15/2006
Hexachloroelhar	18	ND	10	р <u>а</u> ль Ца/Ц		1	8/15/2006
Indeno(1.2.3-cd)	nvrene	ND	10	110/l		1	8/15/2006
Isophorene	7,0.00	ND	10	P3/E		1	8/15/2008
2-Methyloanhiha	lene	ND	10	ua/l		1	8/15/2006
2-Methylohenol		ND	15	rs:		•	8/15/2006
3+4_Methylohon	nl	ND	ני. חפ	10/I		1	9/15/2000
N-Nitrogodi-n-or	Junioa	ND	10	ראי <i>ר</i> ויט/ו		1 4	0/10/2000
N-Nitrosodimeter	ulomine 		10	µgr⊑ ug/t		1 1	6/10/2008
N. Nitrosodiohaa	ylamite	םא חוא	10	µyr⊑ uo/		1	0/10/2000
- INHIOSOOIDRAN	yiamme	ND	10	py/L		1	0/15/2006

Qualifiers:

*

- Value exceeds Maximum Contaminant Level Ε Value above quantitation range

Analyte detected below quantitation limits J

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

ND Not Detected at the Reporting Limit

Hall Environmental Analysis	Labor	atory, II	le. Da	te: 22-A	ид-0б
CLIENT: Giant Refining Co			Client Sample I	D: GWA	<u>/</u> -1
Lab Order: 0608046			Collection Da	te: 8/2/2	006 2:00:00 PM
Project: GWM-1 Annual 2006			Date Receive	d. 8/4/2	006
			Matri	iv AOU	FOUS
Lad ID: 0008046-01					
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	B/15/2006
2-Nitrophenol	ND	15	µg/L	1	8/15/2006
4-Nitrophenol	ND	50	hð\r	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
FPA METHOD 8260B: VOLATILES					Analyst I MM
Benzene	12	10	uo/L	10	8/4/2006
Toluene	ND	10	рэсн Ца/L	10	8/4/2006
Elhylbenzene	ND	10	µg/l_	10	B/4/2006
Melhvi tert-butvi ether (MTBE)	160	15	uo/L	10	8/4/2006
1.2.4-Trimethylbenzene	ND	10	ua/L	10	8/4/2006
1.3.5-Trimethylbenzene	ND	10	ua/L	10	8/4/2006
1.2-Dichloroethane (EDC)	ND	10	ug/L	10	8/4/2006
1.2-Dibromoethane (EDB)	ND	10	uq/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
Aceione	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
Bromodichloromelhane	ND	10	µg/L	10	8/4/2006
Bromoform	ND	10	ug/L	10	8/4/2006
Bromomethane	ND	20	μg/L	10	8/4/2006
2-Butanone	ND	100	μg/L	10	8/4/2006

Qualifiers: * Value exceeds Maximum Contaminant Level

E Value above quantitation range

J Analyte detected below quantitation limits

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

ND Not Detected at the Reporting Limit

S Spike Recovery outside accepted recovery limits

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				······································			
CLIENT:	Giant Refining Co			Client S	ample ID:	G₩N	4-1
Lab Order:	0608046			Collec	tion Date:	8/2/2	006 2:00:00 PM
Project:	GWM-1 Annual 2006			Date	Received:	8/4/20	006
Lah ID:	0608046-01			•	Matrix:	AQU	EOUS
Analyses		Result	POL	Oual Units		DF	Date Analyzed
EPA METHOD	8260B: VOLATILES						Analyst: LMI
Carbon disulfide	2	ND	100	µg/L		10	8/4/2006
Carbon Tetrach	loride	ND	20	µg/L		10	8/4/2006
Chlorobenzene	,	ND	10	hð\r	•	10	8/4/2006
Chloroethane		ND	20	µg/L		10	8/4/2006
Chloroform		ND	10	hð\r		10	8/4/2006
Chloromethane		ND	10	µg/L		10	8/4/2006
2-Chlorotoluene	!	ND	10	µg/L		10	8/4/2006
4-Chlorololuene		ND	10	µg/L		10	8/4/2006
cis-1,2-DCE		ND	10	µg/L		10	8/4/2006
cis-1,3-Dichloro	propene	ND	10	µg/L		10	8/4/2006
1,2-Dibromo-3-0	chloropropane	ND	20	µg/L		10	8/4/2006
Dibromochlorom	nethane	ND	10	µg/L		10	8/4/2006
Dibromomethan	e	ND	20	µg/L		10	8/4/2006
1,2-Dichloroben	zene	ND	10	µg/L		10	8/4/2006
1,3-Dichloroben	zene	ND	10	µg/L		10	8/4/2006
1,4-Dichloroben	zene	ND	10	µg/L		10	8/4/2006
Dichlorodifluoro	methane	ND	10	μg/L		10	8/4/2006
1,1-Dichloroetha	ane	ND	20	μg/L		10	8/4/2006
1,1-Dichloroethe	ene	ND	10	µg/L		10	8/4/2006
1,2-Dichloroprop	bane	ND	10	µg/L		10	8/4/2006
1,3-Dichloroprop	bane	ND	10	μg/L		10	8/4/2006
2,2-Dichloroprop	bane	ND	20	µg/L		10	8/4/2006
1,1-Dichloroprop	bene	ND	10	µg/L		10	8/4/2006
Hexachlorobuta	diene	ND	20	μg/L		10	8/4/2006
2-Hexanone		ND	100	µg/L		10	8/4/2006
Isopropylbenzen	e	ND	10	μg/L		10	8/4/2006
4-Isopropyitolue	ne	ND	10	µg/L		10	8/4/2006
4-Methyl-2-penta	anone	ND	100	µg/L		10	B/4/2006
Methylene Chlor	ide	ND	30	µg/L		10	B/4/2006
n-Bulylbenzene		ND	10	µg/L		10	8/4/2006
n-Propylbenzene	9	ND	10	µg/L		10	B/4/2006
sec-Butylbenzen	e	ND	20	µg/L		10	8/4/2006
Styrene		ND	15	μg/L		10	8/4/2006
tert-Butylbenzen	e	ND	10	µg/L		10	8/4/2006
1,1,1,2-Tetrachlo	proethane	ND	10	μg/L		10	8/4/2006
1,1,2,2-Tetrachio	proethane	ND	10	μg/L		10	8/4/2006
Tetrachloroether	ie (PCE)	ND	10	µa/L		10	8/4/2006
Irans-1,2-DCE	. ,	ND	10	µg/L		10	8/4/2006
trans-1,3-Dichlor	ropropene	ND	10	μα/L		10	8/4/2006
1 2 3 Trichlorohu	 207208	ND	10	110/		10	8/4/2006

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Qualifiers:

В Analyte detected in the associated Method Blank

Έ Value above quantitation range

Analyte detected below quantitation limits J

Spike Recovery outside accepted recovery limits S

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

4/14

^{*} Value exceeds Maximum Contaminant Level

Hall Envir	onmental Analysis	Labora	atory, Ir	1C.	Date:	22-A1	иg-06
CLIENT: Lab Order: Project: Lab ID:	Giant Refining Co 0608046 GWM-1 Annual 2006 0608045-01			C	Client Sample ID: Collection Date: Date Received: Matrix:	GWN 8/2/20 8/4/20 AQU	4-1 005 2:00:00 PM 006 EOUS
Analyses		Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 4 1,2,4-Trichlorob 1,1,1-Trichloroe 1,1,2-Trichloroe Trichlorofhuorom 1,2,3-Trichlorop Vinyl chloride Xylenes, Total Surr: 1,2-Dich Surr: 4-Bromo Surr: Toluene	8260B: VOLATILES enzene thane thane (TCE) lethane ropane hloroethane-d4 phluorobenzene ofluoromethane -d8	ND ND ND ND ND 98.4 104 95.9 107	10 10 10 10 20 10 30 69.9-130 75-139 57.3-135 81.9-122		μg/L μg/L μg/L μg/L μg/L μg/L μg/L %REC %REC %REC %REC	10 10 10 10 10 10 10 10 10 10 10	Analyst: LMM 8/4/2005 8/4/2006 8/4/2006 8/4/2006 8/4/2006 8/4/2006 8/4/2006 8/4/2006 8/4/2006 8/4/2006 8/4/2006 8/4/2006
EPA 120.1: SPECIFIC CONDUCTANCE Specific Conductance 8500 0.010			µmhos/cm	1	Analyst: CMC 8/15/2006		
EPA METHOD ⁻ pH	150.1: PH	6.87	0.010		pH units	1	Analyst: CMC 8/4/2006

Qualifiers:

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



Client: Giant Refinin	g Co								
Project: GWM-1 Ann	ual 2006				.'			Wor	k Order: 0608046
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLin	nit	%RPD RI	PDLimit Qual
Method: E300				· · · · · · · · · · · · · · · · · · ·		ו•••			
Sample ID: MBLK		MBLK			Batch	ID: R20	174	Analysis Date:	8/3/20064:09:29 PM
Fluoride	ND	ma/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: R20	183	Analysis Date:	8/6/2006 1:57:31 PM
Fluoride	ND	ma/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: R20	196	Analysis Date:	8/7/2006 11:39:12 AM
Eluoride	ND	mo/l	0.10						
Chlorida	ND	ma/L	0.10						
Nitrate (As N)+Nitrite (As N)	ND	ma/L	0.10						
Phosphorus Orbonbosphale (As P)	ND	ma/L	0.50						
Sulfate	ND	ma/L	0.50						
Sample ID: MBLK		MBLK			Batch	ID: R20	300	Analysis Date:	8/14/2006 12:25:45 PM
Elucrido	ND	mo/l	0.10					2	
Chloride	ND	mgrc.	0.10						
Nitrota (Ac N)+Nitrita (Ac N)	ND	ma/l	0.10						
Phoenhouse Orthonhosphale (As P)	ND	ma/l	0.50						
Sulfate	ND	ma/L	0.50						
Sample ID: LCS ST300-06008		LCS			Batch	ID: R20	174	Analysis Date:	8/3/2006 4:26:53 PM
Fluoride	0.4796	ma/l.	0.10	95.9	90	110			
Chloride	4,897	mo/L	0.10	97.9	90	110			
Nitrate (As N)+Nitrite (As N)	3.440	mo/L	0.10	98.3	90	110			
Phosphorus Orthonhosphate (As P)	4.934	ma/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: R20	183	Analysis Date:	8/6/2006 2:14:55 PM
Fluoride	0.4843	ma/L	0,10	96.9	90	110			
Chloride	5.025	ma/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	D: R20	196	Analysis Date:	8/7/2006 11:56:36 AM
Eluoride	0.4523	ma/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	D: R20	300	Analysis Date:	8/14/2006 12:43:09 PM

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

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

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Snike Recovery outside accepted recovery limits 6/14

Client: Giant Re Project: GWM-1	fining Co Annual 2006						X	Work Order: 060	08046
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit Qual	
Method: E300								······································	
Sample ID: LCS ST300-0500	8	LCS			Batch	ID: R20300	Analysis D	ale: 8/14/2006 12:4	3:09 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) 4.97B	mg/L	0.50	99.6	90	110			
Sulfate	10.46	mg/L	0.50	101	90	110			

- 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 Contro Recovery outside accepted recovery limits 7/14

Page 2

Client: C	Giant Refining Co										
Project: C	GWM-1 Annual 200	06							Work O	rder:	1608046
Analyte	Resu	ult Units	PQL	%Rec	LowLimit	Hig	hLimit	%RPD	RPDL	imit C	Jual
Method: SW8270C											
Sample ID: mb-1098	7	MBLK			Batch	ID:	10987	Analysis I	Date:		8/15/2006
Acenaphthene	ND	µg/L	10								
Acenaphthylane	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/∟	20								
Bis(2-chloroethoxy)me	thane ND	µg/L	10								
Bis(2-chloroethyl)ether	ND	hð/r	15								
Bis(2-chloroisopropyl)e	ther ND	µg/L	15								
Bis(2-ethylhexyl)phthal	ate 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-methylphen	oľ 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/Ľ	10								
2,4-Dichlorophenol	ND	µg/∟	10								
2,4-Dimethylphenol	ND	μg/L	10								
4,6-Dinitro-2-methylpha	enol ND	µg/L	50								
2,4-Dinitrophenol	ND	µg/L	50								
2,4-Dinitrololuene	ND	hâ\r	10								
2,6-Dinitrololuene	ND	µg/L	10								
Fluoranthene	ND	hð\r	10								
Huorene	ND	µg/L	10								
Hexachlorobenzene	ND	µg/∟	10								

Qualifiers:

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

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

 $\frac{1}{8}$ $\frac{1}{14}$ ecovery outside accepted recovery limits

Client:	Giant Refining	Со								
Project:	GWM-1 Annu	al 2006						······	Work Order	: 0608046
Analyte		Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW82700						······	<u></u>			
Sample ID: mb-109	87 -		MBLK			Batch	ID: 10987	Analysis C	ate:	8/15/2006
Hexachlorobuladiene		ND	µg/L	10						
Hexachlorocyclopenta	idiene	ND	μg/L	10						
Hexachloroethane		ND	μg/L	10						
Indeno(1,2,3-cd)pyren	10	ND	µg/L	10						
Isophorone		ND	µg/L	10						
2-Methvinaphihalene		ND	µg/L	10						
2-Methylphenol		ND	μg/L	15						
3+4-Methvlphenol		ND	ι_ μg/L	20						
N-Nitrosodi-n-propylar	mine	ND	µg/L	10						
N-Nitrosodimethylami	ne	ND	µg/L	10						
N-Nitrosodiphenvlami	ne	ND	μg/L	10						
Naphthalene		ND	μg/L	10						
2-Nitroaniline		ND	µg/L	50						
3-Nitroaniline		ND	ug/L	50						
4-Nitroaniline		ND	μg/L	20						
Nitrobenzene		ND	μg/L	10						
2-Nitrophenol		ND	μg/L	15						
4-Nitrophenol		ND	μα/L	50						
Pentachlorophenol		ND	ug/L	50						
Phenanthrene		ND	ug/L	10						
Phenol		ND	ua/L	10						
Pvrene		ND	µg/L	15						
Pvridine		ND	µq/L	30						
1.2.4-Trichlorobenzen	e	ND	µg/L	10						
2.4.5-Trichlorophenol		ND	uq/L	10						
2.4.6-Trichlorophenol		ND	ug/L	15						
Sample ID: ics-1098	37		LCS			Batch I	D: 10987	Analysis D	ale:	8/15/2006
Assestites		85 7 0	un/l	10	65.7	11	102			_,
Acenaphinene 4 Chiere 3 methylobo	nol	1/0 0	µg/L ug/l	20	70.0	15 4	123			
4-Chlorosharel		194.1	ug/t	10	70.0 67.0	10.4	100			
2-Chlorophenol		53.10	yg/c ug/l	10	53.1	16.0	100			
2.4 Distratelyana		50.86	pg/c ug/l	10	66.6	10.5	138			
2,4-Dimitolouene	nine	67.28	pg/c ug/l	10	673	500	122			
A Nitrophanal	10116	87.46	29/- 10/1	50	412	12 5	87 4			
4-Mulophenui Restachlerophenol		155.2	P9'~	50	77.6	3 55	114			
Phanol		77.46	Par-	10	38.7	7.53	73.1			
Purano		74.88	P9/	15	74 9	12.6	140			
1 9 4 Trichlomberzen	0	58.80	P9'⊷ Na/i	10	58.8	17.4	987			
Sample Di Incd 100	87	00.00	10.50		00.0	Batch li	D. 10087	Apolycic Dr	to:	PHEIDONE
Sample in: ICSO IV				40	64 G - 1		400	mialysis Da	110.	6/10/2000
Acenaphlhene		64.90	µg/L	10	64.9	11	123	1.26	30.5	
4-Chloro-3-methylphe	וסו	135.0	hd/r	20	68.0	15.4	119	2.86	28.6	
2-Chlorophenol		125.8	µg/∟	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	hð\r	10	65.6	13	138	6.23	14.7	

Е Value above quantitation range

J Analyte detected below quantitation limits

RPD outside accepted recovery limits R

Η Holding times for preparation or analysis exceeded ND

Not Detected at the Reporting Limit

9/14S

Page 4

Dare: 22-Aug-06

Qualifiers:

Client: Project:	Giant Refining GWM-1 Annu	g Co al 2006								Work Order	: 0608046
Analyte		Result	Units	PQL	%Rec	LowLimit	HighLi	mit	%RPD	RPDLimit	Qual
Method: SW827	0C									•	<u></u>
Sample ID: lcsd-1	0987		LCSD			Batch I	D: 1	0987	Analysis D	ate:	8/15/2005
N-Nitrosodi-n-propyl	iamine	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-Trichlorobenze	ene	59.64	μց/Լ	10	59.6	17.4	98.7		1.42	36.4	
Method: SW747	D										
Sample ID: MB-11	039		MBLK			Batch I	D: 1	1039	Analysis D	ate:	8/15/2006
Mercury		ND	mg/L	0.00020							
Sample ID: LCS-1	1039		LCS			Batch I	D: 1	1039	Analysis D	ale:	8/15/2006
Mercury		0.005235	mg/L	0.00020	105	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 Sails Decovery outside accepted recovery limits 10/14

Date: 22-Aug-06

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Chent: Project:	Giant Refini GWM-1 Ani	ng Co nual 2006							¥	Vork (Order:	0608046
Analyte		Result	Units	PQL	%Rec	LowLimit	Highl	_imit	%RPD	RPD	Limit Q	ual
Method:	SW6010A											
Sample ID:	MB-10972		MBLK	*		Batch IC	D:	10972	Analysis D	ate:	8/9/200	61:17:52 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 Da	ate:	8/10/200	6 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 IC):	10972	Analysis Da	ate:	8/9/2006	6 t: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 Da	ite:	8/10/2008	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:

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

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R RPD outside accepted recovery limits

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

Control Decovery outside accepted recovery limits 11/14S

Client: Giant Refir Project: GWM-1 A	ning Co mual 2006						7	Work Orde	r: 0608046
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8250B									
Sample ID: 5mL rb		MBLK			Batch I	ID: R20181	Analysis E	ale:	8/4/2006
Renzene	ND	ua/L	1.0						
Toluene	ND	ua/L	1.0						
Fthylberizene	ND	µg/L	1.0						
Methvi tert-butvi ether (MTBE)	ND	ug/L	1.5						
1 2.4-Trimethylbenzene	ND	ug/L	1.0						
1 3.5-Trimelhylbenzene	ND	μα/L	1.0						
1.2-Dichloroethane (EDC)	ND	μg/L	1.0		•				
1 2-Dibromoethane (EDB)	ND	uq/L	1.0						
Naphthalene	ND	ug/L	2.0						
1-Methvinaphihalene	ND	uo/L	4.0						
2-Melhylpaphihalene	ND	ua/L	4.0						
Acetone	ND	ua/L	10						
Bromobenzene	ND	ua/L	1.0						
Bromochloromelhape	ND	ua/L	1.0						
Bromodichloromethane	ND	ug/L	1.0						
Bromotorn	ND	ug/L	1.0						
Bromomethane	ND	μg/L	2.0						
2-Butanone	ND	μg/L	10						-
Carbon disulfide	ND	μg/L	10						
Carbon Tetrachloride	ND	ug/L	2.0						
Chlorobenzene	ND	ug/L	1.0						
Chlomethane	ND	uq/L	2.0						
Chloroform	ND	µg/L	1.0						
Chloromethane	ND	µq/L	1.0						
2-Chlorotoluene	ND	μg/L	1.0						
4-Chloratoluene	ND	μg/L	1.0						
cis-1.2-DCE	ND	µq/L	1.0						
cis-1.3-Dichloropropene	ND	μg/L	1.0						
1.2-Dibromo-3-chloropropane	ND	µg/L	2.0						
Dibromochloromelhane	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-Dichloroelhene	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						
Hexachlorobuladiene	ND	µg/L	2.0						
2-Hexanone	ND	µg/L	10						
Isopropyibenzene	ND	µg/L	1.0						

Qualifiers:

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

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

Since Pecovery outside accepted recovery limits 12/14S

Client:Giant ReProject:GWM-1	Annual 2006						ч	ork Order	: 1608046
Analyte	Result	Units	PQL	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: SW8260B									
Sample ID: 5mL rb		MBLK			Batch	ID: R20181	Analysis Da	ite:	8/4/2008
4-isopropyltoluene	ND	µg/L	1.0						
4-Methyl-2-pentanone	ND	µg/L	10						
Melhylene Chloride	ND	µg/L	3.0						
n-Butylbenzene	ND	µg/L	1.0						
n-Propylbenzene	ND	µg/∟	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	hð\r	1.0						
Tetrachloroelhene (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/∟	1.0						
1,1,1-Trichloroethane	ND	µg/L	1.0						
1,1,2-Trichloroethane	ND	µg/L	1.0						
Trichloroethene (TCE)	ND	µց/∟	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 I	D: R20181	Analysis Dat	e:	8/4/2006
Benzene	19.09	μ g/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

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

 $\frac{5}{13/14}$ covery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

San	nple Receipt C	hecklist		
Client Name GIANTREFIN		Date and Ti	ne Received:	8/4/2006
Wark Order Number 0608046		Received	by GLS	
Checklist completed by	Date	- 9/4	104	
Matrix: Carrier na	me: <u>Client drop</u> -	<u>-off</u>		
Shipping container/cooler in good condition?	Yes 🗹	No 🗔	Not Present	
Custody seals intact on shipping container/cooler?	Yes 🗌	No 🗖	Not Present	Not Shipped
Cuslody seals intact on sample bottles?	Yes 🗋	No 🗔	N/A	
Chain of custody present?	Yes 🗹	No 🗌		
Chain of custody signed when relinquished and received?	Yes 🗹	No 🗆		
Chain of custody agrees with sample labels?	Yes 🗹	No 🗌		
Samples in proper container/bottle?	Yes 🗹	No 🗌		
Sample containers intact?	Yes 🗹	No 🗌		
Sufficient sample volume for indicated test?	Yes 🗹	No 🗔		
All samples received within holding time?	Yes 🗹			
Water - VOA vials have zero headspace? No VOA vials	submitted	Yes 🗹	No 🗌	
Water - pH acceptable upon receipt?	Yes 🗹	No 🗔	N/A	
Container/Temp Blank temperature?	3°	4° C ± 2 Accep If given sufficie	table nt time to cool.	
COMMENTS:				
Client contacted Date contacted:	•	Pe	son contacted	
Contacted by: Regarding:				
Comments:			·	
Corrective Action		······································		
				<u></u>

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HALL ENVIHONMENTAL ANALYSIS LABORATORY 4901 Hawkins NE, Suite D Albuquerque, New Mexico 87109 Tel. 505,345,3975 Fax 505,345,4107 www.hallenvironmental.com	للب (2808) (۲۰۵٬۲۰۵)	(FSD8 bor (HA9 no 4 slats (H0, NO, IC a' 50N, 10 2, SU, NO, 10 2, SU, 10 (AOV-ir (AOV-ir (AOV-ir	IteM (1990) 1000 1000 1000 1000 1000 1000 1000			×			X			CHEM = CATIONS, ANION
	(1300) (Vacuation (Vacuation) (Secoline Conty)	100 101 101 101 101 101 101 101 101 101	M + X318 HPH Meth HPH Meth HPH Meth HPH Meth									marks: GEN,
GA/GC Package: Std ロ Level 4 ロ Other: Project Name: StdM-/	Project Manager:	Sampler A + C Sampler A - C - Sampler A - C - C - C - C - C - C - C - C - C -	Number/Volume HgCl ₂ HNO ₃ HASK HEAL No.	1500ml X Northell	1500ml X - 1	150ml X/	16 PUNT UNDEREDUED -1	16 GUASS APPLICE UNDERSPUED	31/645			Received By: 151 (hattree) C. 9-4-000 R. Received By: (Signature) C. 950
USTODY RECORD	XIM 81301	722-3938 722-0216	Matrix Sample I.D. No.	HID GUM-1					4			Relinquished By: (Signature)

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6. Summary of Groundwater Testing

<u>OW-11</u>

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*

<u>OW-12</u>

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*

<u>OW-13</u>

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

<u>OW-14</u>

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.*

<u>OW-29</u>

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*

<u>OW-30</u>

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*

<u>BW-1-A</u>

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.

<u>BW-1-B</u>

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.

<u>BW-1-C</u>

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*

<u>BW-2-A</u>

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

<u>BW-2-B</u>

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).

<u>BW-2-C</u>

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.

<u>BW-3-A</u>

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.*

<u>BW-3-B</u>

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*

<u>BW-3-C</u>

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*

<u>GWM-1</u>

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

<u>GWM-2</u>

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.*

<u>GWM-3</u>

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.

<u>Pond 7</u>

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.

<u>PW-2</u>

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*

<u>PW-3</u>

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*

<u>PW-4</u>

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

<u>OW-1 and OW-10</u>

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



Plots of Water Table Elevations



GROUND WATER DEPTH TO WATER 2006

Marine and

WELL #	DTW:	BTM	DATE:
		<i></i>	
BW-1A	Dry	37.8	10-24-06
BW-1B	67.55	1ft H20	·))
BW-1C	7.55	ν	7 2
BW-2A	Z3.03		\$ ¥
BW-2B	27.78		ζζ
BW-2C	20.25		1>
BW-3A	Dry	52.60	1)
BW-3B	32.78		11
BW-3C	8.40		12
OW-11	Z1.05		<u></u>
OW-12	49.17		7 (
OW-13	2436		33
OW-14	27.38		15
OW-29	21.95		. ۲۲
OW-30	26.43		n
MW-1	7.58		-) /
			. 1
			<u> </u>
	l		\

BW-1B not enough water to sample.

e i. Accie Solar Schning Jongana, €1-1 10/26/06 DPW- 7.58 ft. Bold / Windy 1Pt Cloudy Attendees / Steve Morris, Cheryl Morris Start Purge 9:45 Sample 11:00 Am Sample 11.0-3 WVols. = 427.18 gals fuged 175 gal. Lost Suction, Waited 10 min. Woter Clear / No scior Calibrated fl + Cond. Meter 10.26.66 0945 Lold Winda <u> 11-11</u> Cold Windy Attendees steve morris & Charyl Morris Start Purge 13:15 pm 105 gals, purged Sample 14:00 pm Sample 14:00 pm Portable fimp Lowered to 55 ft. 3 W. Vols = 101.05 gals Water Clear / No lodar OW-12 10/26/06 Cold Windy 1 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

and the property of the second sec funged gals, Lost Suction time Pump Jepth 120 ft. Tried to lower primp to 130 feet but hit eather bottom of well or of atruction at about 120 feet. Water clear / No Dear 0W-12 10/27/06 Dtw 61.34 ft. 8:30 Am Clear skies, Cold, wind Still. 0.27.06 L'alibrated 2)H a Con. Mater Purge 20 gal-43 gals. Available in well Parge time = 8:45 Lowered Pump to 120ft. 1845 Sample time - 9:15 Water Clear / No odor SW-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 0W-29 10.27.06 1 clear steres, Cold, wind still Well Dept. 52 Dept. to Water 21.98 Purge time - 1100 Purged 44 gals + Lost Suction. Jumple time - 12:30

Page 3 9 ?? Out-29 Water Slightly Cloudy I No odor. OW-30 10.27.06 Clear, Cold, Slight Breeze Dtw - 26.45 Purge gals 48.5+ gals punge time 1330 Wail Depth 48.Ft. Pump Depth 42Ft 3. Well Vols = 47. 84 ft. Water Clear / NO 6 dor Sample time 1400 PW-3 10.27.06 Grab Sample 8260 X 3 Presentille. HCL Clear, Cold, Slight Breeze Sample time 01445 8270 ×1 None sathared water in 2 gal, filtered water jug 3 Cyanide X NaOH filled Sample bottles @ Shed, Vapors in Nitrates X2 1.H2504 the Ail @ PW-3 Well. RCRA metals total & 1

- The Contracted the Allene Applica east the V-1-C 10:28.06 Cold, Sunny, slight Breeze DED Pump Well Dp.th. 157 3 Well Ubla: = 73.08 Sample time - 01015 D+W- 7.55 ft. - 8260 VOA X3 HCL RCRAMINS totals Gen Chem 157 - 7.53 8270 > glass amber × 1 None ×.163 Genchem NONE X1 Gen Chem. H2SO4 X1 + 3 (7-Bottles) BW-2-A 10.28.04 Cold, Sunny, Slight Breeze Purger time - 1115 Purged 17 gal. S. Dtw- 31.98 ft. Well Dept. 65 ft. 3 well Nols = 16.15 gals DED Jump Sample time. 1130 Con. Pg. 5

to the second 1-2-B 10.28.06 Cold, Sunny, No Wind Purge time 1300 furged 16 gals Lost Dtw 27.78 Suction Waited 15 min. Sampled. D+w 27.78 Well Depth. 90.5 3 miel Vols. = 30.67 Sample fime - 1336 Cloudy Sample Water BW-2-C 10.28.06 Moderate, Sunny, No Wind Moderale, Junny, No with 28 gals, Lost suction Purge time - 1468 Purged 28 gals, Lost suction Waited 30 minse Sample Well Depth. 175 ft. 3 Well 1/015 = 73.22 Wen Dipth 190 Ft Con, Page la

page a gil 6-1-3- B-10.29-06 Cold, Particolly Cloudy, Slight Bracze Purge time 0900 Purged Amount 12 gals. Cloudy Water D+W- 32.75 ulen Depth 72 ft 3 Well Vols. = 19.19 gals VORX3 HEC sample time 1000 BW-3-0 10-29.06 Cold Partically Cloudy, Slight Breeze, Purge time 1015 purged amount 19.4/gal (History) Lowered fump to got (Notes) well ran over (Notes) well ran over in 10-12 gals lost Suetur 5 M.M. Lowered again to 120" DFW 8.40 Well Depth 155 FA ÷. 3 Well Vols = 71.69 gals. Lowered Pump to-Sample time 1045 Slightly Cloudy Water Con pg. 7

2014 Strates $\frac{1}{6}$ W-14 10.29.06 Cold, Dibreast, slight Breeze furge time - 1300 purged amount - 40 gals D+w - 27.25 Well Depth 45 Ft. 3 Well Vols = 39.40 VoA X 3 Sample fime 1330

WHELPOIDOR COMPANYS LOG

				OTV 14	orrigio	0111 20	0111	<u> </u>		· · · · · · · · · · · · · · · · · · ·			
	WELL #	OW-12	OW-13	0W-14	0₩29	UW-30	OW-II	MW-1					
	PURGE DATE	10-26.06	10.27.66	10-29.06	10.27.06	10-27.06	10/26/26	10/26/06					
24	PURGE TIME	14:30	0935	13.00	11:00	1330	13:15	9945	and the second			-	
3	OVA READING										_	21	
2	LIQUID DEPTH	49:14	24.38	27.25	21.98	26.45	21.10	7.58					
Ϋ́.	PUMP DEPTH	120ft	90ft		/45ft	YZFt.	55ft.	Ded.					
	IMMISC. LAYER				-	• \			······································				
	FLOW RATE								. / .				
	PUMPTIME					······································	· · · · · · · · · · · · · · · · · · ·	<u> </u>					
	l V	l		L		<u> </u>		L				l.·	-
· · ·	SAMPLE DAY	10.27.06	10.27.06	10.29.06	10.27.06	10-27.06	10/25/06	10/26/az					
	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	21.10	7.58'	:				•
	1) TEMP. F	56	56	57	55	56	56	56					
	рН	9.61	8.26	6.88	7.66	7.30	9.58	9.1					
	SP. COND.	1190	12.95	2540	1702	1675	2980	12:12			2 		,
• .	2) TEMP. F	56	56	57	55	56	56	56					10
	рН	9.65	8.31	6.83	7.53	7.25	8.52	9-22					
	SP. COND.	1177	12.95	2540	1696	1671	3000	1.1.92.					
	3) TEMP. F	56	56	51	55	56	56	5.6					
Ī	рH	9.64	8.28	6.81	7.48	7:24	8.55	9.16		ş	11		,
.	SP. COND.	1165	1293	2.520	1702	1670	2960	1180		4	rst f		
-	4) TEMP. F	56	56	57	55	56	56	56				· · ·	· · · · · · · · · · · · · · · · · · ·
	Нq	9.64	5.28	6.80	7.42	7.23	18.51	9.14					
	SP. COND.	1169	1287	2530	1698	1672	2990	1185					



	,					3				ana Ana gara	
VELL#	BW-1-C	BW-2-A	BW-2B	BW-2-C	BW-3-B	BW-ØC					
PURGE DATE	10.28.06	10.28.06	10.28.04	10.29.0	10,29.64	11.0.29.06			a haya da karan salakarana		
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	2				
IMMISC. LAYER						X					
FLOW RATE											
PUMP TIME								:			

24						<u>`,</u>		•				
SAMPLE DAY	10.28.06	10-28:06	10.28.00	10.28.04	10.29.06	10.29.06						
SAMPLÉ TIME	01015	1120	1336	15.00	1000	1045		Č.				
OVA READING							×	<u>i</u> t				-
LIQUID DEPTH	7.55	31.98	27.78	20.26	32.75	8.40		2		1		
TEMP. F	57	56	56	56	56	56		,i			-	
рН	8.39	7.44	7.58	8.52	7.98	8.39						
SP. COND.	1352	1352	2290	13 175	1547	1442				· ·		
2) TEMP. F	57	56	56	56	5.6	56	, ,					
pH	8.41	7.44	7.49	8.48	7.85	8.38						
SP. COND.	1352	13:50	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	13.60	1558	1439			Ì			
4) TEMP. F	51	56	56	56	56	56						
pH	8.36	7.44	7.51	8.50	1.82	8.38						
SP. COND.	1.346	1356	2310	1378	1550	1432		:				
				·····						<u></u>		
	1	·/	15		\							
		3			$t = t^{*}$					•		
Volume of Product Recovered



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

Date of measurement	Time	Quarter	<u>Well #</u>	Depth to Product (feet)	Depth to Water (feet)	Product Level Thickness (feet)	Volume of Product Bailed/ Pumped (gallons)	<u>Water</u> Gallons
2/22/2005	0830	lst.	RW-1	32'-5 1/2"	36'-6"	4'-0 1/2"	14	
3/2/2005	0745	lst.	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	lst.	RW-1	31'-11"	37'-6"	5'-7"	4	
3/11 to 3/18/05		1st.	RW-1	Started Pur	nping Well on	3/11/05	74	
3/18 to 3/23/05		lst.	RW-1	Cor	tinue Pumpin	g	48	
3/23 to 4/1/05		lst.	RW-1	Cor	tinue Pumpin	<u>o</u>	. 62	
4/1 To 4/4/05		2nd	RW-1	Pump shut	down to meas	ure 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	Cor	tinue Pumpin	g	50	
4-15 to 5-5-05	1230 Hrs	2nd	RW-1	Cor	tinue Pumpin	ა	45	154
5-5 to 6-17-05	1130 Hrs	2nd	RW-1	Cor	tinue Pumpin	o	24	196
6/27/2005	1400 Hrs	2.nd	RW-1	Pump shut	down to meas	ure well		
6/28/2005	1100 Hrs	2.nd 2.nd	RW-1	32' 5 1/2"	33' 3"	0' 9 1/2"		
6/28/2005	11001113	2nd	RW-1	Cor	tinue Pumpin	g		
6/17 to 7/8/2005	1030 Hrs	2nd	RW-1	Cor	tinue Lumpin	<u> </u>	19	146
7/8 to 8/9/2005	1330 Hrs	2nd 3rd	RW-1	Cor	tinue Pumpin	<u> </u>	10	350
8/9 to 9/16/2005	1135 Hrs	2rd	DW/1	36'- 5 1/2"	$\frac{1}{36'-6}$	<u>5</u>	20	240
12/5/2005	1315 Hrs	31U 44h	$\frac{KW-1}{DW/1}$	31' 11"	24' 8 1/2"	2' 0 1/2"	<u> </u>	240
12/8/2005	1400 Hrs	411		51-11	34-0 1/2	2-9 112		
12/0/2005	1520 Hrs	4th	KW-1	5	tart Pumping		e	100
12/22/2005	1530 Hrs	4th	RW-I	ŀ	Pulled Pump		5	120
12/29/2005	1400 Hrs	4th	RW-I	201.0.2/4	Hand Bailed	01.01	0.5	4.5
3/16/2006	1300 Hrs.	ist.	RW-I	32-2 3/4	34-5 3/4	2-3		
3/16/2006	1430 Hrs.	1st.	RW-I	S	tart Pumping			
3/23/2006	1430 Hrs.	1st.	RW-1	SI	nut Off Pump			
3/27/2006	1530 Hrs.	1st.		S	tart Pumping			
3/31/2006	1130 Hrs.	1st.	RW-1	Cor	tinue Pumpin	g	7	174
4/3/2006	1130 Hrs.	2nd	RW-1	Sto	pped Pumping	5	1	38
4/4/2006	1100 Hrs.	2nd	RW-1	32'-9"	33'-1"	0'~4"		
6/8/2006	1500 Hrs.	2nd 2nd	DW-1	32-4 3/4	<u>34-6 1/2</u>	(2 - 1 - 3/4)		
6/20/2006	1000 Hrs	2nd 2nd		Start Pulli	ping (Internit	ungiy)	Q	365
7/31/2006	1145 Hre	3rd	DW/ 1	33'.0 3/4"	23'-5 3/4"	<u>0' 5"</u>	0	
7/31/2006	1145 Hrs	3rd		00-00/4	tart Pumping	0-5		
8/3/2006	1420 Hrs	3rd	RW-1	Sto	nned Pumning		2	87
8/8/2006	0900 Hrs.	3rd	RW-1	Sie	tart Pumning	2		
8/10/2006	1530 HRS	3rd	RW-1	Start numping		· · · · · ·		
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	52 0 172	2-1/2	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 Ballad			0.25	ı ک م
				nally balled	· · · · · · · · · · · · · · · · · · ·		0.120	0
ļ		ļ						
					Total G	allons	457.275	2411

RW-1 HYDROCARBON RECOVERY 2007

WELL VOLUME SHEET

WELL	TOTAL DEPTH	DEPTH TO WATER	CAPACITY GALLON PER	ONE WELL VOLUME	THREE WELL VOLUME
			1001	,	
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		j	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		
					يا. مار
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		

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	<u>Time</u>	Quarter	Well #	<u>Depth to Product</u> (feet)	<u>Depth to</u> <u>Water (feet)</u>	<u>Product</u> <u>Level</u> <u>Thickness</u> (feet)	<u>Volume of</u> <u>Product Bailed</u> (gallons)
3/16/2006	1300 Hrs.	1 st	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"	00	0
3/16/2006	1450 Hrs.	1 st	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

* 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_{f} Gallons of Product.

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Signature:

RW1,2,5 & 6 1st Qtr 06

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	<u>Quarter</u>	<u>Well #</u>	Depth to Product (feet)	<u>Depth to</u> Water (feet)	Product Level Thickness (feet)	<u>Volume of</u> <u>Product Bailed</u> (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 per-	son who performed me	asurement:	Johnny Sar	ichez (Environmen	tal Specialist)		L

*** Pumped RW-1 from 6-8-06 to 6-29-06 intermittingly, 365 gallons of water and 8 gallons of product.

MM

Signature:

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	<u>Quarter</u>	Well #	Depth to Product (feet)	Depth to Water (feet)	Product Level Thickness (feet)	<u>Volume of</u> <u>Product Bailed</u> (gallous)
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		34'-1 1/2"	- 1'-1-1/2"	1 1/2
Name and Title of per	son who performed me	asurement:	Johnny Sar	ichez & Cheryl Jol	hnson (Envirou	mental Speciali	st)

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: ____

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

<u>Date of</u> measurement	Time	<u>Quarter</u>	<u>Well #</u>	Depth to Product (feet)	Depth to Water (feet)	Product Level <u>Thickness</u> <u>(feet)</u>	<u>Volume of Product</u> <u>Bailed (gallons)</u>
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	e of person who pe	erformed n	neasurem	ient:			

Cheryl Johnson (Environmental Specialist)

Signature:

CC: Ed Riege

Well Data Summary Table

1



Ita Summary Table - REVISED	nnual Groundwater Discharge Report	fining - Ciniza Refinery	2007 by Jim Lieb
Well Data Sumn	2006 Annual G	Giant Refining - C	August 2007 by Ji

		A	Well Casing				U	D=A-C	= 0.8B + D
	toomoniocoM	Well Casing Rim	Bottom	Total Mall Daath	Depth to SPH	B SPH Thickness	Depth to Water	Groundwater Elevation	Corrected Water Table Elevation
Well ID Number	Date	(H)	(ft)	(ft)	.(11)	(tt)	(11)	(#)	*(ff)**
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	вп	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
0W-1	9-Mar-06	6,868.00	6,773.96	94.04	na	na	00.0	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	eu	0.83	6,867,17	na
OW-1	13-Oct-06	6,868.00	6,773.96	94.04	вп	eu	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	па	na	3.43	6,868.57	na
OW-10	26-Jul-06	6,872.00	6,804.00	68.00	na	eu	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
0M-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	16-Mar-06				32.23	4.04	34.48	6,909.02	6912.252
(OW-27)	6-Jun-06	6 013 50			32.40	4.02	34.54	6,908.96	6912.176
	31-Jul-06	200			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	16-Mar-06				na	0	27.90	6,899.30	6899.3
(OW-28)	June 1,2006	6 927 20			na	0	27.98	6,899.22	6899.22
	26-Jul-06				na	0	28.23	6,898.97	6898.97
	13-Oct-06	_			a	- -	2R 23	6 898 97	6898 97

.

		A	Well Casing			145	U	D=A-C	= 0.8B + D
	Massurament	Well Casing Rim	Bottom	Total Well Douth	Depth to SPH	D Thickness	Depth to Water	Groundwater Elevation	Corrected Water Table Elevation
Well ID Number	Date	(ft)	(ft)	(ft)		(ff)	(¥)	(Ħ)	++(H) ++
RW-5	16-Mar-06				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	6,942.50	40.00		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				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	6,972.60	38.80		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	ВП	not sampled	not sampled	na
SMW-4	not sampled	6,882.54	6,760.40	122.14	na	na	not sampled	not sampted	na
SMW-6	not sampled	6,880.71	6,807.60	73.11	na	na	not sampled	not sampted	na
GWM-1	9-Mar-06	6,912.65	6,888.95	23.7	na	na	20.25	6892.4	ра
	26-May-06	6,912.65	6,888.95	23.7	ра	вп	20.16	6892.49	na
	26-Jul-06	6,912.65	6,888.95	23.7	BU	вп	20.72	6891.93	ца
	13-Oct-06	6,912.65	6,888.95	23.7	na	na	20.61	6892.04	ца
GVM-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	вu	ВП	DRY	DRY	DRY
	26-Jul-06	6,912.65	6,896.15	17.94	вп	na	DRY	DRY	DRY
	13-Oct-06	6,912.65	6,896.15	17.94	eu	na	DRY	DRY	DRY
*SPH = Separate Phase	Hydrocarbons elevations are only r	vovided if SDH was de	ptortor	2					

rna 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.





Well Inspection Logs

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 perso	n who performed mea	surement: Jo	ohnny Sanchez (Env	vironmental Specialist)

Signature:

CC: Ed Riege

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

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 perso	n who performed mea	I Jusurement: J	I ohnny Sanchez (Env	vironmental Specialist)

. MALA Signature:

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 perso (Environmental Speci	n who performed mea alist)	isurement: J	ohnny Sanchez & C	heryl Johnson

Throng Jung Signature:

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 perso	on who performed mea	surement: (Cheryl Johnson / En	vironmental Specialist

Signature:

CC: Ed Riege

Permit Requirement:

OCD, Section 9, Item 3

Monitoring Requirement:

Monthly Through 2005 GTR. START 2006

Date	Time	Month	Depth to Bottom (feet)	Comments (Dry?)					
1-18-06	09.58A	JAN	18.97	DRY					
	· · · · ·			/					
Name & Title of perso	n who performed mea	curement.							
	Name & Title of person who performed measurement:								
Signature:	- A	linn	Junch						

Permit Requirement:

OCD, Section 9, Item 3

Monitoring Requirement:

Date	Time	Qtr.	Depth to Bottom (feet)	Comments (Dry?)
5/26/2006	1400Hrs.	2nd	18.97'	To top of plastic. Dry.
			n tr	
Name & Title of perso Johnny Sanchez (Envir	n who performed mea ronmental Specialist)	surement:		· .

Signature:

Permit Requirement:

OCD, Section 9, Item 3

Monitoring Requirement:

Date	Time	Qtr.	Depth to Bottom (feet)	Comments (Dry?)
7/26/2006	1105Hrs.	3rd	18.97'	To top of plastic. Dry.
			·	
· · ·				
Name & Title of perso	n who performed mea	surement: mental Spec	rialist)	

Signature:

Permit Requirement:

OCD, Section 9, Item 3

Monitoring Requirement:

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 perso	n who performed mea	surement: (L Cheryl Johnson / En	vironmental Specialist

Signature:

Permit Requirement:

OCD, Section 9, Item 3

Monitoring Requirement:

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 perso	n who performed mea	asurement: (Cheryl Johnson / En	vironmental Specialist

Signature:

Permit Requirement:

OCD, Section 9, Item 4

Monitoring Requirement:

Date	Time	Quarter	Depth to Water (feet)	Comments
3/9/2006	1:45PM	1st	0	
Name & Title of perso	n who performed mea	surement: Jo	ohnny Sanchez (Env	vironmental Specialist)

Signature:



Permit Requirement:

OCD, Section 9, Item 4

Monitoring Requirement:

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 perso	n who performed me	asurement: J	ohnny Sanchez (Env	vironmental Specialist)

Signature:

Permit Requirement:

OCD, Section 9, Item 4

Monitoring Requirement:

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)				

Anny Sundy Signature:



Permit Requirement:

OCD, Section 9, Item 4

Monitoring Requirement:

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:



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:

CC: Ed Riege

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

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)					

Ë Signature:



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

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:__

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



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

Giant Refining - Gallup Refinery, 2006 Groundwater Report

Annual Product Thickness Map (Separate Phase Hydrocarbon Thickness)

Sonsela Water Piezometric Surface

2 2 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 Microsiemens 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 = $L \times F$ 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 TeflonTM 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:

Flow rate (gpm) = $\underline{\text{volume collected (gallons) x 60 seconds per minute}}$ 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 $^{\mbox{\scriptsize TM}}$
ТОХ	Pint amber glass with septa cap, H2SO4
TOC, Phenols, Nitrate, Ammonia	Quart glass jar, H2SO4
Extractable Organics	Quart glass jar with Teflon TM 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



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Giant Refining – Gallup Refinery, 2006 Groundwater Report