## AP - 069

# STAGE 1 REPORT

03/28/2006



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### Via Federal Express

March 28, 2006

Oil Conservation Division Environmental Bureau

Mr. Glenn von Gonten Senior Hydrologist New Mexico Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Stage I Abatement Plan Interim Report – Investigation Update El Paso Natural Gas Company / Praxair Nitrogen Plant San Juan County, New Mexico

Dear Mr. von Gonten;

El Paso Natural Gas Company (EPNG) has prepared this letter in response to New Mexico Oil Conservation Division's (NMOCD) January 23, 2006 approval of the *Proposed Workplan for a Phase 1 Investigation of Potential Hydrocarbon Impacts as Part of a Stage 1 Abatement Plan at the San Juan River Plant* (Workplan), submitted October 25, 2005. This letter has been developed following the field activities described in the Workplan, which were completed February 13-14, 2006.

### **Correspondence History**

In a letter dated August 16, 2005 regarding the *El Paso Natural Gas – San Juan River Plant Final 2004 Annual Report and Request for Additional Information and Workplan, GW039R*, NMOCD requested additional information from EPNG related to the 2004 Annual Report and stated that it considers EPNG to be the responsible party for hydrocarbon contamination in groundwater near the Praxair lined pond. NMOCD rejected EPNG's previous proposal to monitor the Praxair wells and requested that EPNG submit a workplan to investigate the extent of contamination in the area of the Praxair pond.

EPNG proposed a phased approach to the investigation in a letter dated September 30, 2005. The first phase of work consisted of a review of existing information regarding operations and monitoring at the SJRP, interviews with employees of the former San Juan River Plant, and a summary report to present the rationale and scope for the next phase of work in support of this investigation.

NMOCD replied to this plan in a letter dated October 11, 2005 in which it required EPNG to submit a Stage 1 Abatement Plan by October 27, 2005. EPNG submitted the Workplan on October 25, 2005. In a letter dated November 10, 2005, NMOCD required EPNG to "issue the enclosed Stage 1 notice of publication in the Santa Fe New Mexican and the Farmington Daily Times", as well as "written notice of the Stage 1 proposal". EPNG complied with this requirement, and submitted the notarized affidavits of publication in both the Santa Fe New

Mexican and Farmington Daily Times, as well as certificate of mailings for all written notices required on December 7, 2005.

On January 23, 2006, NMOCD approved EPNG's Workplan with the additional requirements that EPNG (1) advance all geoprobe soil borings at least five feet into the top of the water table, (2) obtain soil samples at least every 10 feet or at every significant change in lithology, (3) analyze soil and groundwater samples collected for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA SW-846 Method 8021B and analyze soil samples for total petroleum hydrocarbons (TPH) using EPA SW-846 Method 8915M, (4) submit a Stage 1 interim report within 30 days of receipt of analytical data, and (5) include a detailed phase 2 work plan for a permanent groundwater monitoring program and additional soil borings if the extent of soil and groundwater contamination cannot be defined.

### **Site History**

The SJRP is located in San Juan County, Township 29N, Range 15W, Section 1, near Kirtland, New Mexico. The SJRP was previously owned by EPNG, but has been owned and operated by Western Gas Resources (WGR) since June 1992. The plant is used to process natural gas collected from production wells located in the San Juan Basin of New Mexico and southern Utah. The SJRP is a 630-acre facility that has contained gas processing facilities, two raw water ponds (now closed), three wastewater evaporation ponds (now closed), a sulfur recovery plant, water and hydrocarbon tanks, a pigging station, flare pits, and several 16 to 24-inch diameter natural gas pipelines that cross the facility. Closure of the evaporation ponds, flare pits, and other potential hydrocarbon source areas was completed during a time period beginning in 1992 and ending in early 1996. Recently, the Praxair Nitrogen Plant was built in the area north of the SJRP, to the south of monitoring wells MW-8 and MW-9. Praxair constructed a lined evaporation pond in the location of the former EPNG raw water pond and installed five monitoring wells surrounding the pond. Monitoring wells MW-1, MW-2, MW-3 and MW-4 were installed in groundwater at total depths of 80 to 90 feet below ground surface (bgs). According to Praxair's field report, a perched zone was encountered during drilling MW-3 and therefore a second well, MW-5, was installed in the same boring as MW-3. Monitoring wells MW-3 and MW-5 were subsequently abandoned. Figure 1 presents a detailed site map of the SJRP.

Regional groundwater flow in the San Juan Basin is from the topographically high outcrop areas around the edges of the basin, towards the lower outcrop areas. A potentiometric surface map is presented on Figure 2 based on water-level measurements collected in November 2005. These measurements indicate a groundwater flow divide just north of the plant that directs flow to the southwest through the southern portion of the site, and to the northwest through the northern portion of the site, including the Praxair pond area. The San Juan River Valley is indicated as the main discharge area of the San Juan Basin (Stone, 1983). The San Juan River is located approximately two miles to the south of the SJRP site.

Dissolved-phase hydrocarbons have been observed in the northern portion of the site at MW-8 and MW-9. EPNG has been aggressively implementing active groundwater remediation in this area to reduce dissolved-phase hydrocarbons. The remediation consists of chemical oxygen enhancement and air sparging. Historic groundwater sampling conducted at the SJRP suggests that concentrations in monitoring well MW-8 have declined as a result of chemical oxygen enhancement using oxygen-releasing compound socks within this well. The air sparging system at MW-9 was shut down in February 2004, and has remained off through 2005, in order to assess groundwater conditions and pending additional investigation in the area.

Because elevated dissolved-phase hydrocarbon concentrations have been detected in EPNG wells MW-8 and MW-9 and free-product has been detected in shallow groundwater at Praxair well MW-5, which was subsequently abandoned, the investigation to assess the extent of hydrocarbons was focussed in these areas. In addition, a review of site history and site documents concluded that potential sources of the detected hydrocarbons included two natural gas lines, the 24-inch Barker Dome Line and the 16-inch Aneth-San Juan Line, and a pigging station, shown on Figure 3. Therefore, the Geoprobe investigation was designed to investigate these potential sources.

### **Fieldwork**

A truck-mounted, Geoprobe® rig was utilized to advance 15 soil borings and collect continuous soil cores. Geoprobe locations were labeled GPH-1 through GPH-15, and are shown on Figure 3. Soil samples were collected in polyethylene liners for visual inspection/logging and for soil headspace testing at all locations. Soils were sampled every 10 feet and at significant changes in lithology from the ground surface to the estimated depth of first groundwater. The field geologist logged soils in general accordance with Unified Soil Classification System (USCS) protocol. Soil headspace gas was monitored with a photoionization detector (PID) in all proposed borings from ground surface to total boring depth.

Each of the soil borings was advanced to either five feet below the estimated depth of groundwater or where refusal was met. All geoprobe borings met refusal at shallow depth; the greatest being GPH-12 which reached a depth of 15 ft. Geologic/lithologic logs for each soil boring are presented in Appendix A. As shown in the lithologic logs, most borings met refusal in either a hard shale layer or at sandstone. Due to the local geology, only four borings (GPH-6 through GPH-9) were able to penetrate below the depth of estimated first groundwater. One-inch piezometers were installed at these locations, of which only the piezometer located at GPH-7 produced enough water to sample. Soil samples were collected from all boring locations and submitted for total petroleum hydrocarbon analysis (TPH-GRO and TPH-DRO) using method EPA SW-846 8015M and for BTEX analysis using EPA SW-846 8021B. The groundwater collected from the piezometer installed in GPH-7 was analyzed for BTEX using method EPA SW-846 8021B. Visibly contaminated soil cuttings were collected for proper disposal; all other cuttings were spread out on the ground surface near the geoprobe location.

### **Analytical Results**

### Soil Results

Analytical results for the soil samples collected are presented in Table 1, 2006 Praxair Geoprobe Investigation Soil Sample Analytical Data. Laboratory reports are included in Appendix B.

### Total BTEX

Of the 15 soil samples collected from depth interval 0 to 1 ft below ground surface (bgs), there was one detection located at GPH-6. Total BTEX at this location was above NMOCD standards of 50 mg/kg at a concentration of 75.3 mg/kg (consisting of 0.55 mg/kg toluene, 4.9 mg/kg ethylbenzene, and 69.8 mg/kg total xylenes). There were 16 locations with soil samples collected between the intervals of 8 to 11 ft bgs. Of the 16 locations, only two locations detected total BTEX of the standard of 50 mg/kg at GPH-6 with a concentration of 520.9 mg/kg (consisting of 0.34 mg/kg benzene, 4.95 mg/kg toluene, 58.6 mg/kg ethylbenzene, and 457 mg/kg total xylenes) between 9 to 9.5 bgs and GPH-10 at a concentration of 278.5 mg/kg (consisting of 0.47 mg/kg benzene, 1.5 mg/kg toluene, 19.5 mg/kg ethylbenzene, and 257 mg/kg total xylenes). There were 8 locations with samples collected between the interval of 11 to 15 ft bgs. Two soil samples

collected exhibited concentrations above the NMOCD standards collected from GPH-6 between the interval of 11 to 12.5 ft bgs at a concentration of 249.4 mg/kg (consisting of 3.6 mg/kg toluene, 30.8 mg/kg ethylbenzene, and 215 mg/kg total xylenes) and the sample collected from GPH-8 at a concentration of 813 mg/kg (consisting of 411 mg/kg benzene, 50.4 mg/kg toluene, 16.6 mg/kg ethylbenzene, and 335 mg/kg total xylenes). Additionally, the benzene concentration in GPH-8 was also above the NMOCD standard of 10 mg/kg between the interval of 11.5 and 12.5 ft bgs at a concentration of 411 mg/kg.

### TPH

There were 7 boring locations with TPH detected in the soil interval 0 to 1 ft, GPH-6, GPH-8, GPH-10, GPH-11, GPH-12, and GPH-15. Only GPH-6 was above the NMOCD standard of 100 mg/kg at a concentration of 1,789 mg/kg (consisting of 1,540 mg/kg GRO and 259 mg/kg DRO). TPH was detected in five boring locations (GPH-6 through GPH-10) within the depth interval of 8 to 11 ft bgs. Soil samples were detected above NMOCD standards at a concentration of 8,970 mg/kg in GPH-6 (consisting of 7,200 mg/kg GRO and 1,770 mg/kg DRO) in the interval 9 to 9.5 ft bgs and 189 mg/kg (consisting of 141 mg/kg GRO and 47.9 mg/kg DRO) between the interval of 10 to 11 ft, 579 mg/kg in GPH-8 (consisting of 242 mg/kg GRO and 337 mg/kg DRO) between the interval of 10 to 11 ft. 567 mg/kg in GPH-9 (consisting of 191 mg/kg GRO and 376 mg/kg DRO) in the interval of 10 to 11 ft, and a concentration of 3,663 mg/kg at GPH-10 (consisting of 2,750 mg/kg GRO and 913 mg/kg DRO) in the interval of 10 to 11 ft bgs. Of the 8 samples collected between 11 to 15 ft bgs, there were five locations detected with TPH (GPH-6, GPH-8 through GPH-10, and GPH-12). Samples collected from GPH-6, GPH-8, and GPH-10 were above standards with a concentration of 5,815 mg/kg (consisting of 5,680 mg/kg GRO and 135 mg/kg DRO) at GPH-6, 3,840 mg/kg (consisting of 1,890 mg/kg GRO and 1,950 mg/kg DRO) at GPH-8, and 503 mg/kg (consisting of 382 mg/kg GRO and 121 mg/kg DRO). Samples from GPH-6 and GPH-8 were collected between 11 to 12.5 ft bgs, the sample from GPH-10 was collected from 13.5 to 14.5 ft bgs.

PID readings tended to be positively correlated with TPH concentrations in the soil samples. PID readings were above 100 ppm in GPH-6, GPH-8, GPH-9, and GPH-10. The results are presented in Table 1.

### **Groundwater Results**

Only borings GPH-6 through GPH-9 were able to penetrate below the depth of first groundwater. This was estimated based on historical depth to water measurements collected in nearby monitoring wells. Temporary piezometers were installed at these locations in an attempt to collect groundwater samples; however, only the piezometer installed in GPH-7 produced enough water to collect a sample. The sample was collected from GPH-7 on February 16, 2006, the results of which are presented in Table 2, 2006 Praxair Geoprobe Investigation Groundwater Analytical Data. The laboratory report is included in Appendix B. Benzene concentration in this sample was slightly above NMWQCC standards of 10  $\mu$ g/L at a concentration of 10.5  $\mu$ g/L. Toluene, ethylbenzene, and total xylenes concentrations were all below standards at 15.1  $\mu$ g/L, 3.8  $\mu$ g/L, and 46  $\mu$ g/L, respectively.

### **Stage I Interim Report Update**

Based on the total BTEX, TPH, and PID data, it appears the most heavily impacted area is to the northeast of the Praxair pond; between GPH-11 to the south, GPH-8 to the north, GPH-6 to the west, and GPH-9 and GPH-10 to the east. This area encompasses monitoring wells MW-8 and MW-9, which has been the focus of previous monitoring and active remediation at the SJRP.

In preparation of the Stage I Interim Report, EPNG has included a Geocheck Report, prepared by Environmental Data Resources, Inc., in Appendix C. This report includes a map identifying all water wells registered with Federal and State agencies within a one mile radius of the site. As shown on the Physical Setting Source Map, there are only three wells potentially downgradient of the impacted area near the Praxair facility. The closest well, identified as 1 on the map, is directly west of the Praxair investigation area, and is identified as a well with "no use of right or POD". The other two wells are identified as A on the map, and are both exploration wells. All domestic use water wells identified within one mile of the site are located to the south of the SJRP, on the opposite side of the groundwater divide, and are therefore unlikely to be impacted by any contamination near the Praxair facility.

During this investigation, EPNG expected to find a near-surface source for the contamination observed at monitoring wells MW-8, MW-9, and MW-5; however, based on the results presented in Table 1, no obvious source has been identified. None of the borings to the southeast of the Praxair pond showed substantial levels of BTEX or TPH, and the only locations with appreciable levels of contaminants near the surface were to the northeast of MW-5 in the area near MW-8 and MW-9. Based on the groundwater flow direction in this area, to the northwest, it is unlikely that this area could be a source for the contamination detected in MW-5. To verify this, EPNG will install a boring between GPH-12 and MW-5 to see if there is any indication of contamination contributing to the impacts detected in MW-5.

Topographically, the southern portion of the site is much higher than the north, where most of the impact has been seen. It is possible that the area beneath the Aneth-San Juan and Barker Dome lines, which is topographically lower than the area surrounding it, has acted as a corridor for any contaminant migration that has occurred. The extremely low levels of BTEX and TPH detected in this area suggest that any migration of contaminants in this area is no longer occurring, at least near the surface. EPNG has identified Former Pond #1, Flare Hill, and a former pigging station located to the south of the WGR pigging station as possible source areas. Soil boring locations SB-1, SB-3, and SB-8, shown on Figure 4, have been selected to investigate these possibilities. Additional borings located to the northwest of the Praxair pond, and to the northwest of Former Pond #1 may be installed if there is sufficient evidence of hydrocarbon impact in these areas detected during the next phase of the field investigation. Isoconcentration maps were generated depicting the results of the geoprobe investigation for total BTEX and TPH and included as Figures 5 to 10.

Because the geoprobe investigation failed to reach a depth greater than 15 ft below ground surface, EPNG believes there is not enough information at this time to produce an accurate and detailed site conceptual model and cross-sections that adequately show the subsurface lithology and area of impact. Therefore, EPNG proposes additional soil borings be completed to define the extent of contamination and reach a depth suitable for producing cross-sections of the site.

### **Next Phase of Work**

Based on the results of the phase I geoprobe investigation, EPNG has identified 8 areas for further investigation with a hollow-stem auger rig, shown on Figure 4. This investigation will focus on the area to the north and northeast of the Praxair pond, in the area showing the most impact during the phase I geoprobe investigation. Additional soil borings are proposed to the northwest of Former Pond #1 and to the northwest of the Praxair pond to address possible upgradient sources in these areas as well as identifying the extent of contamination. The additional locations may be modified in the field based on observations of the level of impact in these areas. Temporary piezometers or monitoring wells will be installed in soil borings with obvious signs of contamination for further investigation and monitoring. All temporary wells will

be surveyed and groundwater elevation data will be gathered to generate a more accurate groundwater elevation map in this area.

A detailed workplan for this investigation, Proposed Workplan for Additional Phase I Investigation of Potential Hydrocarbon Impacts as Part of a Stage I Abatement Plan at the San Juan River Plant, has been included in Appendix D.

In addition, EPNG will produce an updated site map that shows all current and former structures in the area. All locations will be surveyed, including existing monitoring wells, to aid in the generation of the new map. At this time, geoprobe and hollow-stem soil boring locations will be surveyed for use in generating cross-sections of the site.

Once the results of the additional phase I investigation have been received, EPNG will prepare a detailed site conceptual model. This will be used in preparing a phase 2 workplan for a permanent groundwater monitoring program at the site. If necessary, the report will also address what additional information is necessary for implementation of a Stage 2 remediation program, as set forth by NMOCD.

If you have any questions, please call me at (719) 520-4761.

Sincerely,

for

Todd J. Muelhoefer, P.G.

Project Manager

**Environmental Remediation** 

Chandler 5. Cole

El Paso Corporation

cc:

Mr. Denny Foust, NMOCD Aztec District Office

Dr. Robert Sterrett, EMS Chandler Cole, MWH

Todd Muelhoefer – General File

SJRP Praxair File

TABLE 1
2006 PRAXAIR GEOPROBE INVESTGATION
SOIL SAMPLE ANALYTICAL DATA
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<u>Bouroa</u>		Sample   Benzene   To	Toluene	Ethylbenzene	Total xylenes	Total BTEX	GRO	DBQ.	Hdl	פוט
location	Depth (ft)  (mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	<u>,</u>
, nac	0-1	0.00084J	0.0019	0.0022	0.0023	0.0	<5.7	6.8>	6.8>	0
בוב	8.5-9.5	<0.0011	0.00075J	<0.0011	0.0024	0.0	<6.2	<9.3	<9.3	0
C HOU	0-1	0.00036J	0.0011	0.00064J	0:00:0	0.0	<6.2	<9.3	6-65	0
GFILE	7-8	<0.0011	0.00042J	<00.11	0.0015J	0.0	<5.8	<9.1	<9.1	0
C 195	0-1	0.00036J	0.0009	0.00095J	0.0025	0.0	<5.3	<8.8	8.8>	0.1
SILD	10-11	0.00034J	0.00081J	<0.0011	0.0024	0.0	<5.6	<9.0	0.6>	0.7
V Ha⊃	0-1	<0.0013	<0.0013	<0.0013	<0.0026	0.0	<8.1	<4.4	4.4	0
+	6-8	0.00084J	0.0025	0.0010J	0.0136J	0.0	<6.3	<9.4	<9.4	0
	0-1	<0.0011	0.00051J	0.00069J	0.0015J	0.0	<5.8	<9.1	<9.1	0
GPH 5	10-11	0.002	0.0055	9700'0	0.0151	0.0	<6.7	<10	<10	0
	13-14	0.0025	0.0027	0.0014	0.0066	0.0	<7.5	<10	<10	0
	0-1	<0.067	0.552	4.900	008'69	75.3	1,540J	249	1,789	401
ט אם	9-9.2	0.339J	4.950J	28.600	457.000	520.9	7,200	1,770	026'8	842
5	10-11	0.0046	0.0285	0.935	1.280	2.2	141	47.9	189	861
	11-12.5	<1.3	3.600	30.800	215.000	249.4	5,680	135	5,815	326
2 HG5	0-1	<0.0011	<0.0011	<0.0011	<0.0023	0.0	<3.2	<9.4	<b>4.6</b> >	0
5	8-9	<0.0011	0.0014	<0.0011	0.0084	0.0	10.2	42.9	23	10
	0-1	<0.0012	0.00061J	<0.0012	0.0032	0.0	7.13	391	868	120
GPH 8	10-11	0.0252	0.070	0.465	9.290	6.6	242	337	629	1247
	11.5-12.5	411J	50.400	16.600	335.000	813	1890J	1,950	3,840	1262

# TABLE 1 2006 PRAXAIR GEOPROBE INVESTGATION SOIL SAMPLE ANALYTICAL DATA EPNG SAN JUAN RIVER PLANT SITE

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Boring	Sample	Benzene	Toluene	Ethylbenzene	Total xylenes	Total BTEX	GRO	DRO	TPH	
location	Depth (ft)	Depth (ft)   (mg/kg)   (mg	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	3
	0-1	<0.0054	0.0035J	<0.0054	0.0122	0.0	<6.1	<9.4	<9.4	9.3
GPH 9	10-11	<0.067	0.0382	0.346	5.340	5.7	191	928	292	1013
	11-12	<0.057	0.0583	960.0	1.130	1.3	88.81	10.3	99.1	915
	0-1	<0.0012UJ	0.00024J	<0.0012UJ	0.0013J	0.0	<6.6UJ	4.70	4.70J	5.6
GPH 10	10-11	0.474	1.5	19.500	257.000	278.5	2,750	913	3,663	1196
	13.5-14.5	0.0505J	0.337	1.710	10.200	12.2	3821	121	503	725
	0-1	<0.0010	<0.0010	<0.0010	0.00094J	0.0	<5.6	14.7	14.70	1.9
GPH 11	10-11	0.00053J	0.00027J	0.0028	0.0024	0.0	<6.3	<9.4	<9.4	3.0
	13-14	0.0013J	0.0017J	0.0051J	0.0589J	0.1J	<6.8	<9.8	<9.8	5.6
	0-1	<0.0010	<0.0010	<0.0010	<0.0021	0.0	<5.7	9.78	9.78	0
GPH 12	10-11	<0.0013	0.00053J	0.0011J	0.0027	0.0	<7.3	<10	<10	0
	14-15	<0.0012	0.00040J	<0.0012	0.0021J	0.0	5.17	6.6>	5.17	0
CDH 13	0-1	<0.0011	<0011	<0.0011	<0.0022	0.0	<6.3	<9.3	<9.3	0
2	8-9	<0.0012	<0.0012	<0.0012	<0.0024	0.0	<7.1	<10	<10	6.0
CDH 1//	0-1	<0.0011	<0.0011	<0.0011	<0.0022	0.0	<6.0	<9.3	<9.3	0
	7.25-8.25	<0.0011	<0.0011	<0.0011	<0.0022	0.0	<6.0	<9.4	<9.4	0
	0-1	<0.0011	0.00023J	<0.0011	<0.0022	0.0	5.57J	12.6	18.2	0
GPH 15	10-11	<0.0012	<0.0012	<0.0012	0.0017J	0.0	6.9>	<10	<10	0
	13.5-14.5	<0.0012	<0.0012	<0.0012	0.0031	0.0	<7.1	<10	<10	0

<sup>&</sup>lt; indicates the concentration is below the detection limit

J indicates the concentration is estimated

UJ indicates a possible false negative

Boided values indicated the concentration exceedes the NMOCD Reccomended Remediation Action Level

foot

mg/kg = milligrams per kilogram

BTEX = benzene, toluene, ethylbenzene, and total xylenes

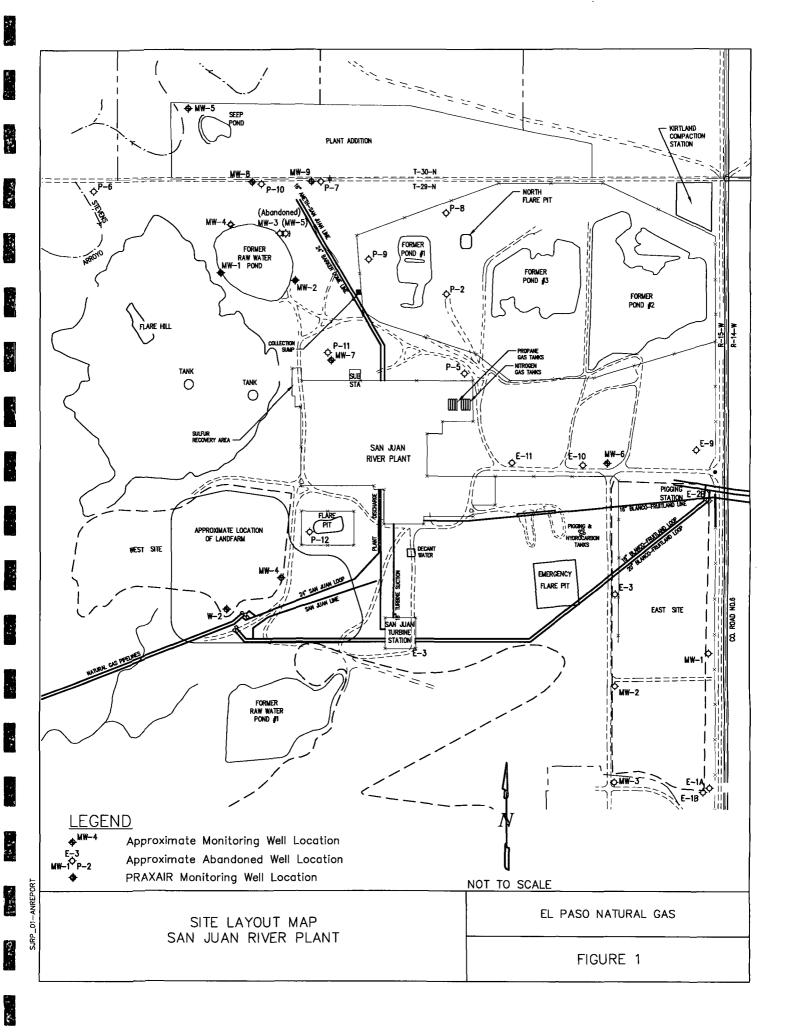
PID = photo ionization detector

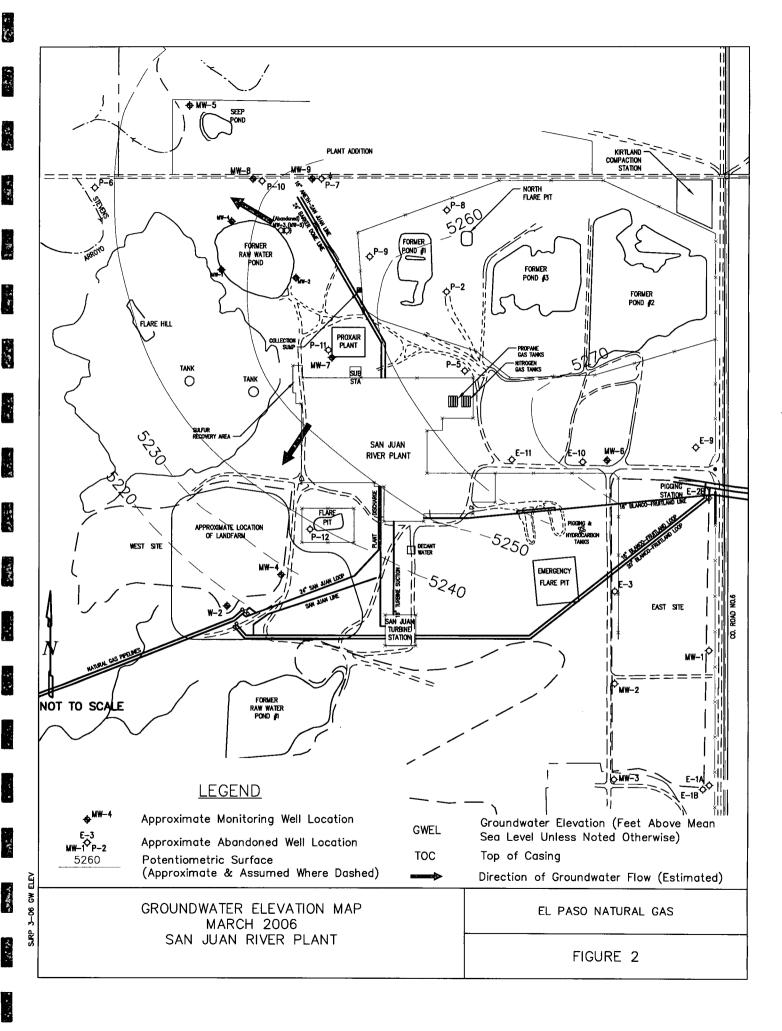
### TABLE 2 2006 PRAXAIR GEOPROBE INVESTGATION GROUNDWATER ANALYTICAL DATA EPNG SAN JUAN RIVER PLANT SITE

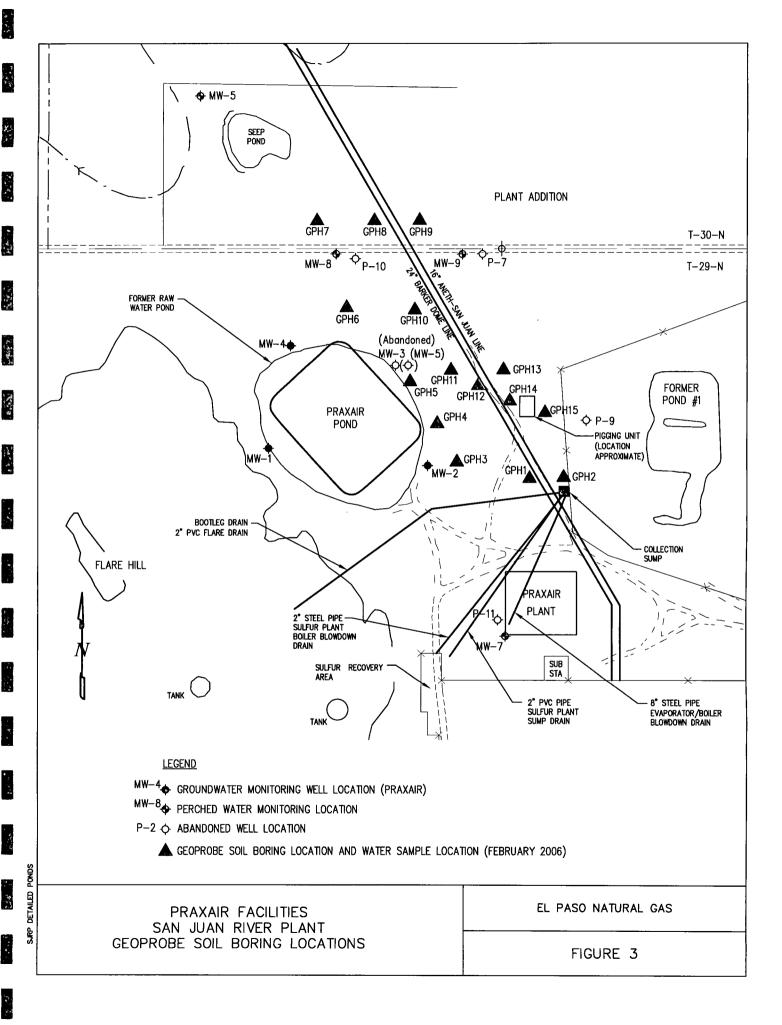
Piezometer Location	Sample Depth (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Total xylenes (ug/L)
GPH-7	8.5-9	10.5	15.1	3.8	46

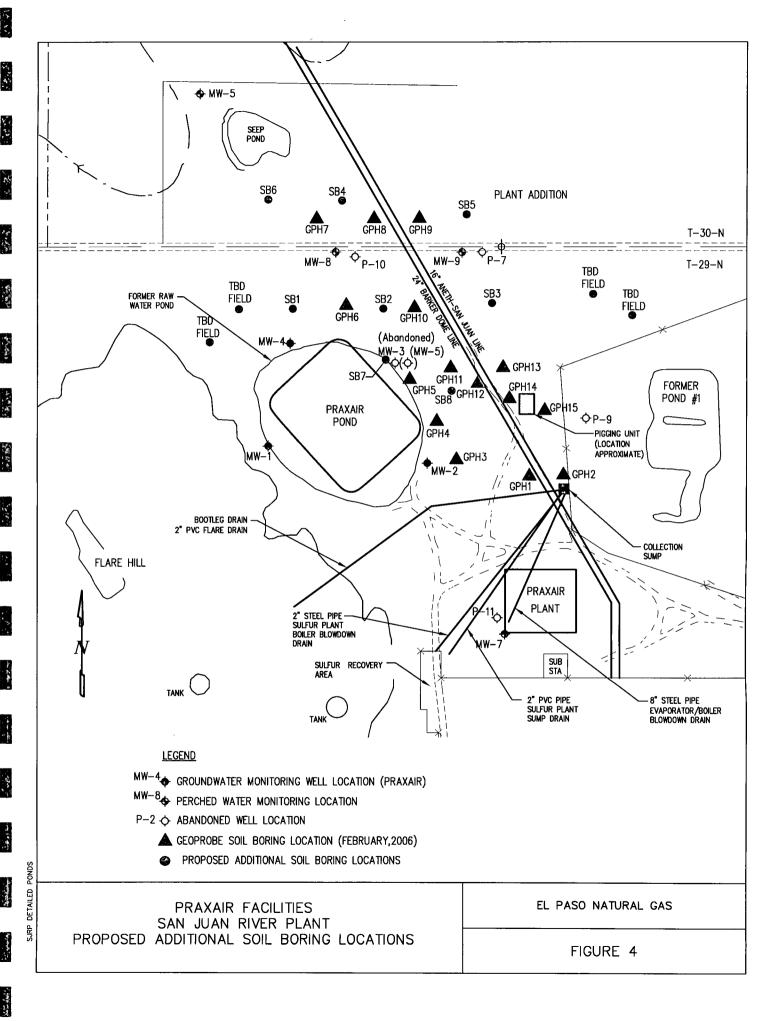
mg/L = milligrams per liter

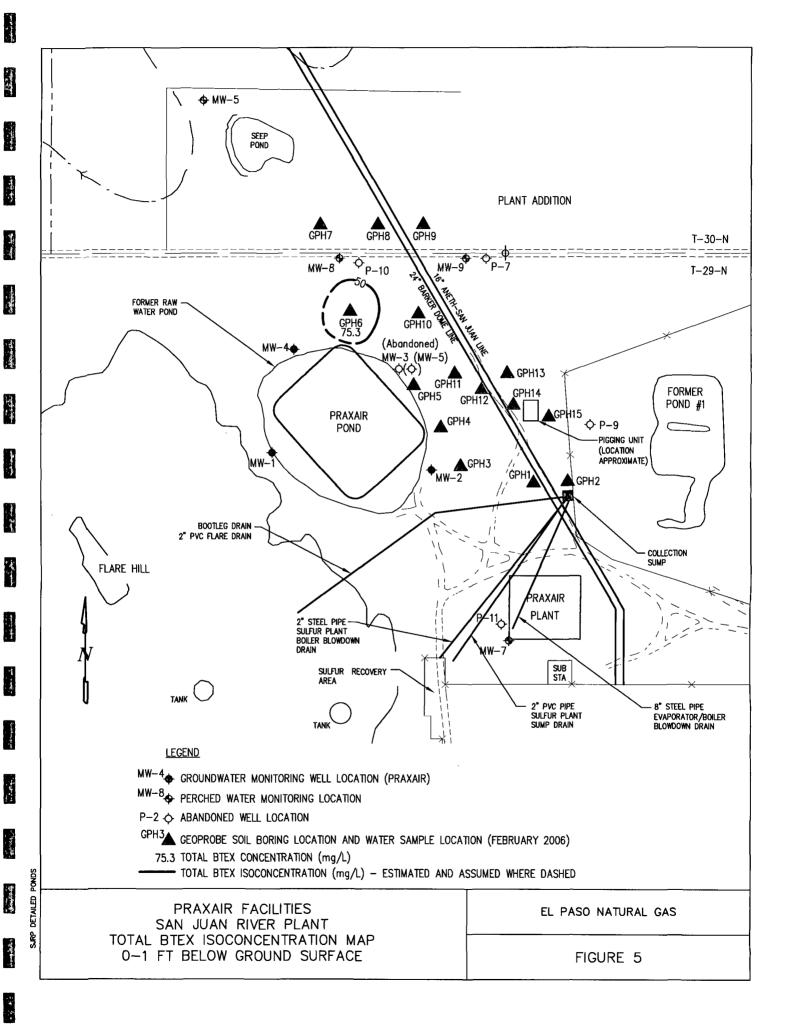
Bolded values indicated the concentration exceedes the NMWQCC Groundwater Standards

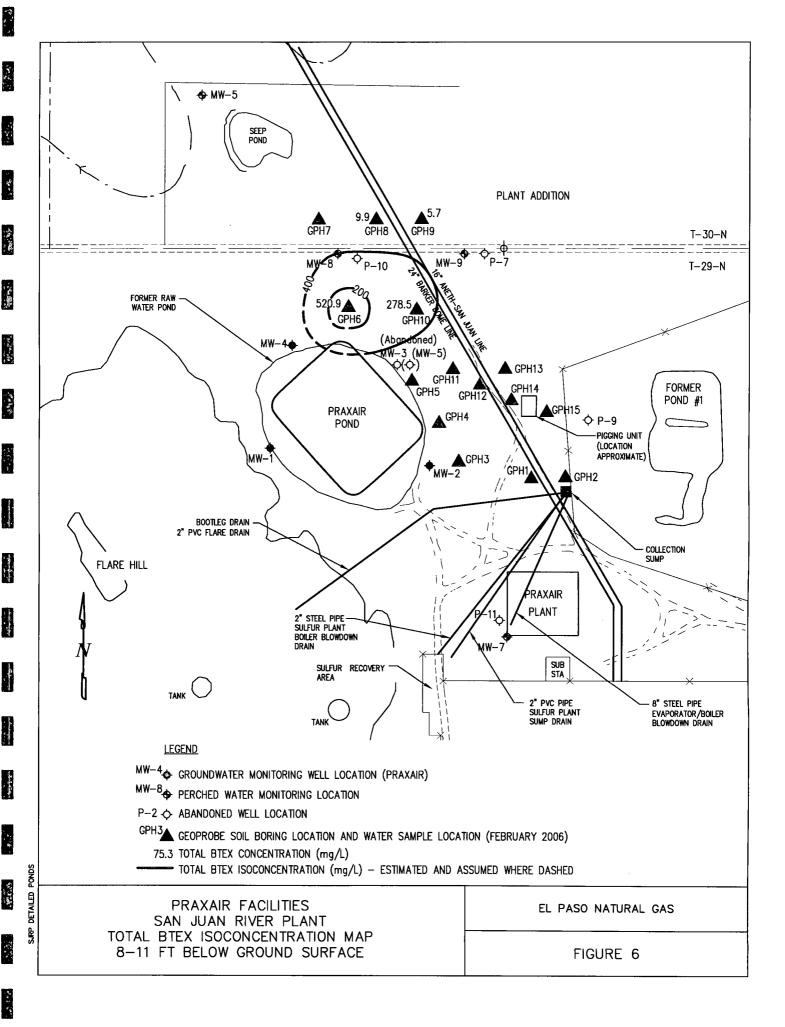


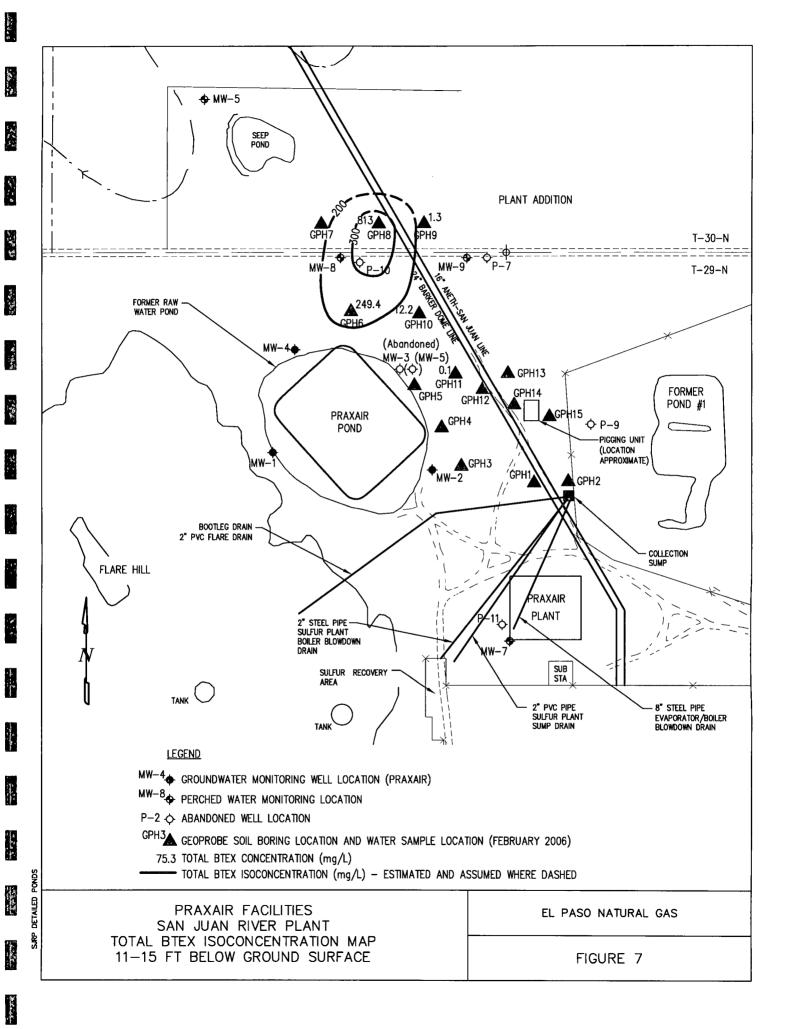


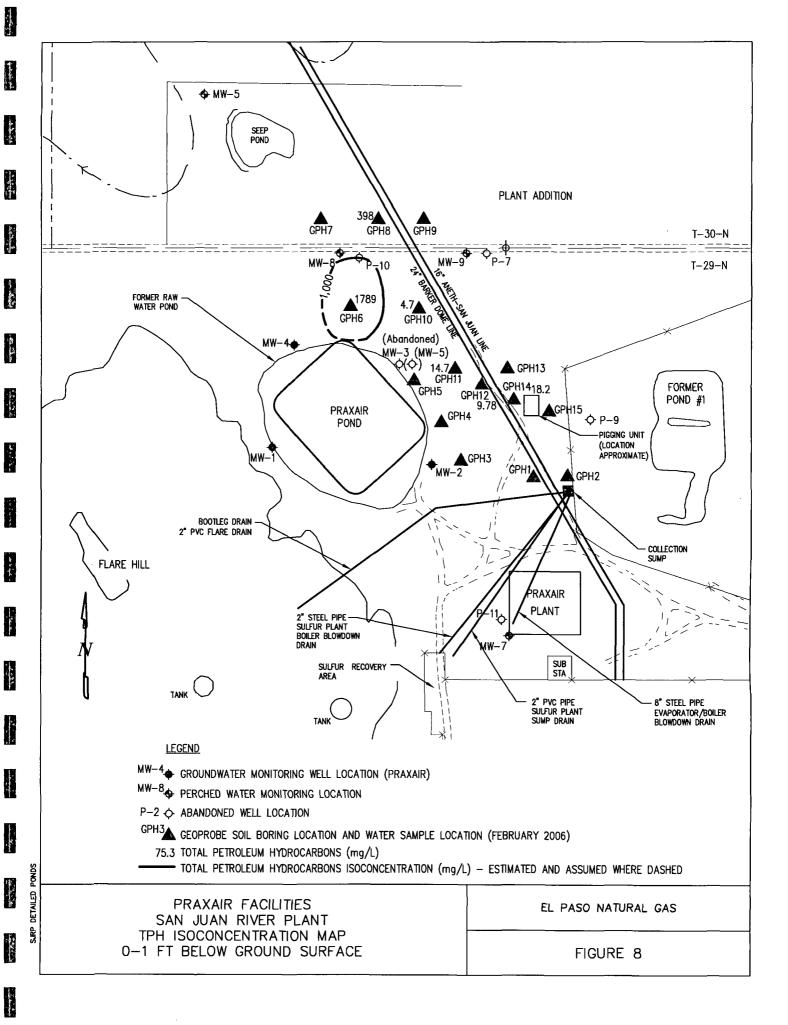


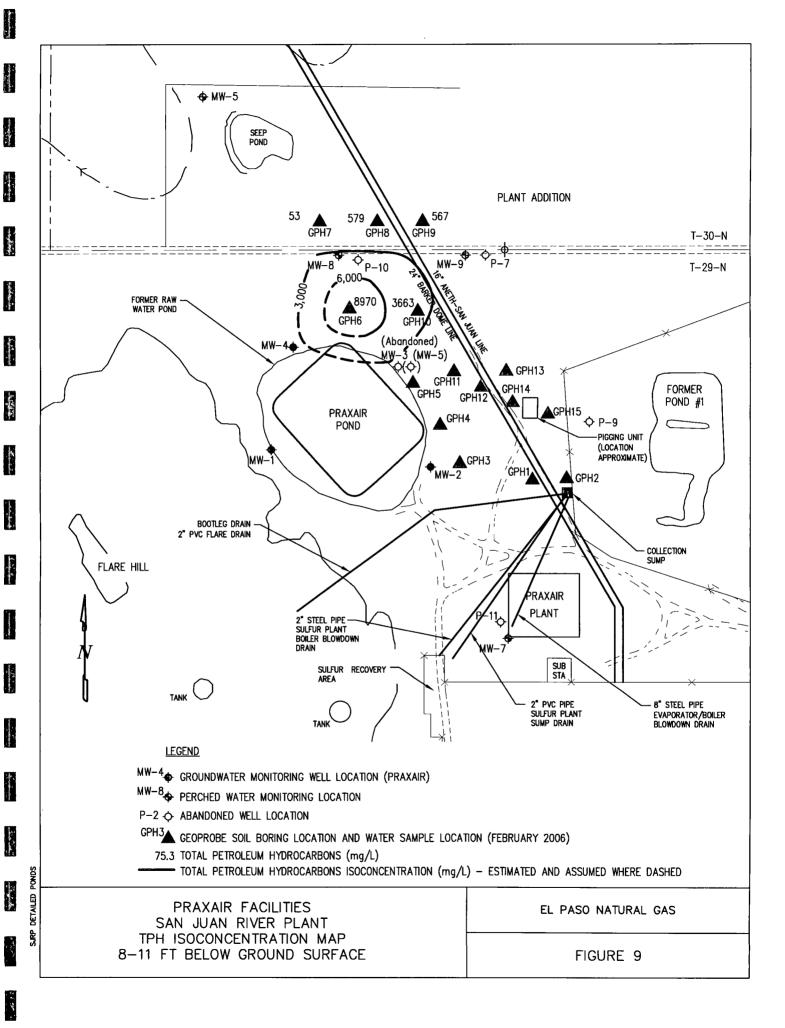


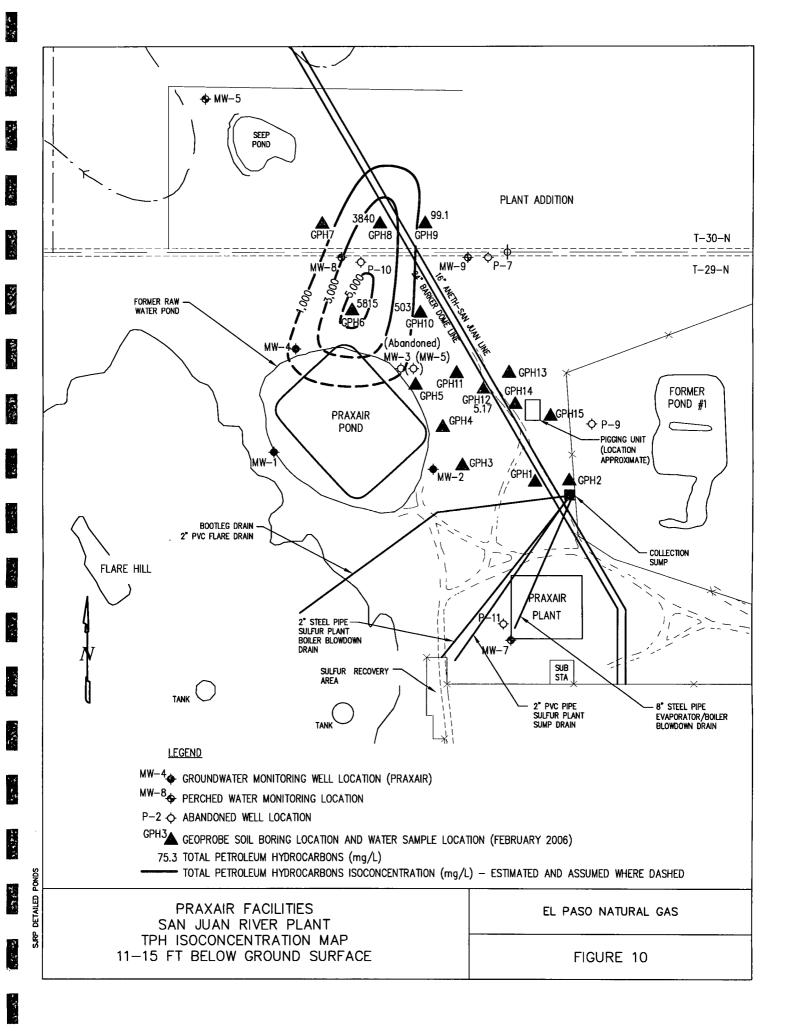












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farmington, New I 505) 334-2791	MOQCO 8/41	57		Project I	Number .ocetion	Teg	y R	Pha zw	atuen River Places SI by Santuen Co.
Elevation Borehole Local GWL Depth Logged By Orilled By	Lade	50 C	054	Contrac	gged By el On-Sile tors On-Sile ersonnel O	ú-256			Nec 151 day western G23 ex M Porter Direct Do
Date/Time Sta Date/Time Co	rted 2	14.04	61510	Drilling I Air Moni	lethod toning Meti	90d .	Яес.	pro	Vac Pin
Depth (Fool)	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lishology Change (fost)		Monitor nits: N£ BH	- 1	Drilling Conditions & Blow Counts
5	7////		con soud base clay to med. pebble granely, uncorsol- rounded to enjuly, poorly. Sorted chy Greatish or ensu			0		0,0	0-5 ecs4
10	<i>Hu</i> u		Very pele grand Very pele grand unconsol, dulotted, sub modwell sorted, sub angula, accessme S.C. chips dy			O			5-7 7-9 <sup>5</sup> hard
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PO Box 3681 Farmington, New I	Aeraico 874	96		Project i		Ec.	Pc	05	Antisca River A
(505) 334-2791				Project   Project		TZ	ias r		3, b, c
Elevation Borehole Local GWL Depth Logged By Drilled By	100 Dir.	5' cs 1+sta 1+1	<u>+</u>	Personr Contrac	gged By nei On-Site ters On-Si ersonnei C	X⊓-Siète			Nee
			06 1600	_	vea tou toring Met	hod		Pho	robe Fover PID
Depth (Foot)	Sample interval LAB	Recovery	•	USCS Symbol	Depth Lithology Change (test)	3	r PApriitor Inits: NE BH		Drilling Conditions & Blow Counts
	7/////	48	0-8 silty Send gray ion orange to dusky yellow@ 2.5; silt to V. fine send, well sorted, grades to weather			а		0	ort eesy
5		48	DEMONSTRUCTURE TO I			0		0	5-7 7-8 had
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Box 3681				Charles of 1	·	E1 m-	60 F.	n l:	s Divor Plant
rmington, N <del>ew</del> N 15) 334-2791	texico 874	29		Project   Project				Pha	
				Project I	ocation	T29N	R12\	V S 1,	b,c, San Juan Co. NM
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orehole Locat WL Depth	ion <u>/-</u> 4 t	2 <u>H 3</u>	· · · · · · · · · · · · · · · · · · ·		iel On-Site tors On-Sit		<u> 4</u>	<u>Mez</u> Ara	Har Westernland
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ate/Time Cor				_	toring Met	od	Photo	Vac:	2020
<del></del>	7	Sample		Т	Depth				
Death	Sample	Туре &	Sample Description	USCS	Lithology		Monito nits: NI	-	Drilling Conditions & Blow Counts
(Feet)	Interval LAB	Recovery (inches)	Classification System: USCS	Symbol	Change (feet)	BZ	BH	<u>s</u>	& Blow Counts
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5			Clay to come Repole from	Rang	edu	<u> </u>			
⊢		48%	25-6 Yellowish Grey	· "					
		40	V form grand well			٥		0.4	hand
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Lodestar Service	es, Inc							Page	<b>1</b> of 1
90 Box 3881				Project	Namo	El Pa		-	n River Plant
Farmington, New I (505) 334-2791	R8230CD-874	190		Project	Number Location			Pha	
Elevation			•	Well Lo	gged By		Mart	n Nee	
Borehole Loca				Person	nel On-Site		c n	1.000	for woten go
GWL Depth Logged By		19 eq	<u>5+</u>		tors On-Si 'ersonnel C		11-6		I'm Mike Porte
Drilled By Date/Time Sta		Push	103/	Orišing I	Mathael	GEO	PROB	F	
Date/Time Co					itoring Me			Vac:	2020
	1	Sample			Depte	Π.			D. W O - ettica - e
Dopth (Feet)	Sample	Recovery	Sample Description Classification System: USCS	USC5 Symbol	Lithology Change		ridondo Inits: Ni	-	Drilling Conditions & Blow Counts
	LAB	(inches)	0-5 yellowishong,	<del>                                     </del>	(feet)	82	BH	s	
IF I	MAG	14	Sith Clay, union sol	ch				1	0-5 edsy
<b> -</b>		12	moderall sorted.			0		0	, 1- 3 NOW
F 5	l	160	5-9 sittle clay worth, shale, Vingung degrees of sitt 2" to 6" alternite bonds of dark gray to orange with pasting	1					
	-		of silt 2" to 6" alternets	<b>.</b>	<b> </b>	<del>                                     </del>			5-9' hard
IF I		15%	bonds of dark guy	1	] .	0		U	
	ZIZZ	المماء	orange with Fasting						1210521 4
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			Geologist :	Signatu	re	4	4		2-13-00

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adestar Services	, Inc							Page	1 or 1
C Box 3681 armington, New Max 505) 334-2791	nico 87491	9		Project   Project   Project	Number			Ph	n River Plant ase b,c, San Juan Co. NM
Jrilled By	25 Lodesta Direct F	ar Serv Push	ooes	Contrac Client P	iel On-Sile tors On-Sil ersonnel O	e en-Site	15-	Re	cedor mly Miketoku
Date/Time Starte Date/Time Comp				Dritting i Air More	Aathod toring Med		PROB Photo	E Vac	2020
Depth (Feel)	Interval	Semple Type & Recovery (inches)	Sample Description Classification System: USCS	USÇ\$ Symbol	Depth Lithology Change (feet)		r Monitor kuits: M£ EH	_	Drilling Conditions & Blow Counts
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E	77/JP 77/J	52/	Portra Surtises well Formsoldstelial vfine grand well committed so that is			υ		0	hand refused \$14"
			2"thick @ 8" bg 5 on top of v finegrand send & 12" that, onconsolidated					****	dry
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Comments:	\  Su	2-64	152/2/4 Bg 7 1/3	bag	3/9	6	ent	1	hips to

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O 80x 3681				_	Same - • •	·	ei n		a 1	Dhar Diar
arminglon, New M	4mico 874	99			Yolect i		EIPa	SO 52	n Juar Phe	River Plant
505) 334-2781					-	Number Location	T29N	R12		ise b.c, San Juan Co. NM
levation				u	Vell Lor	ged By		Marti	n Nee	
iorehole Locat	ing /es	PH (	2		-	el On-São		_	Mez	dos western
SWL Depth		6.3		C	Contract	tors On-Si	æ	De	rom	her M. Poil
ogged By	Lodes	tar Serv		C	dient Pe	ersonnel C	n-Site			
orilled By Date/Time Star	nted Z	1500			nilling t		GEO			
Date/Time Cor	npleted_	2130	1320	ΑΑ	ir Moni	tonng Meti	nod	Phot	Vac 2	2020
Depth	Sample	Sample Type &	Sample Description		uscs	Depth Lithology	,,	Monito	ónn	Drilling Conditions
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			cres to ighter	2					100	Eesy.
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2-9-5	7777		# 1		- 1			ŀ		
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F-''	777.77	1	212.5% 9-9.5'X	<b>'</b> 1					320	nerd
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		4	1/1ce sand + . 5 pg 3			,				O

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Lodestar Servi	ices, Inc							Paga	1 of 1
PO Box 3681 Farmington, New (585) 334-2791	Mexico 874	99		Project I Project I Project I	Aumber			Pha	River Plant se b.c, San Juan Co. NM
Elevation Borehole Loc GWI. Depth Logged By Drilled By	5	∠′ Cex tar Serv	505+	Contract Client Pr	el On-Site tors On-Sit ersonnel O	e n-S4e	<u>D</u>	rm	do asserm, la ly M fata
Date/Time S Date/Time C				_	Aethod toring Met		Photo		2020
Depth (Feet)	Sample Interval LAB	Recovery (inches)		USCS Symbol	Depth Lithology Change (feet)		Monitori nits: ND BH	-	Oriting Conditions 8 Slow Counts
0	77.77	60	0-1.25 clay mod- yellowish brown grading to V finesons	CC		0 -		0,0	Ecsy
10	ונענ	28/00	1.25-4-5 5 mdy c tery 1.54 olive grey 4.5-5. 55? med grey 6.225 5 w/Acid ven, hand highly romo. 5-9' westhered shale greenist grey Fe Staining on posting surface.	CL		0		101	nerd refuseled dry
- - - 15			Seemist great Forting						dry
20			SUTTECES.		•				
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Comments:	10' See	x = 0	to 10" above ground	I, zve k	Sind Vent	te	, 6 10	1 bg	is than Iscreen to
			Geologist	Signatu	re /	11		2	-13-06

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Lodestar	Scrvi	ces, Inc							·
PO Box 386	Ř1							Page	1 of 1
acminglon	, Naw	Maxico 87	199		Project		El Paso S	~	River Plant
505) 334-2	791					Number Location	T29N R12	Pha WVS 1.	b,c, San Juan Co. NM
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Elevation Sorehok		ation (s	PH 8			gged By nel On-Site		in Nee	
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Depth		Sampl	Sample Type &	Sample Description	USCS	Dopth Lithology	Air Monit	oring	Drilling Conditions
(Fest)		Interve LAB		Classification System: USCS	Symbol	Change (feet)	Units: N BZ BH	IDU S	& Blow Counts
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		(82)	22	11-12-5 sith Sand	1			1202	had Refusal 125 dry
E			10	Vight gray gilt to Ven	1		) )	130	0/125
┡ ,	15	1	10	Corted subancuba					Refuse (2)
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Lodestar Service	s, luc								
PO Box 3681 Farmington, New M (505) 334-2791	lexico 8741	<b>9</b> 9		-	Name Number Location		so Sar	Pha	River Plant see b,c, San Juan Co. NM
Elevation			· · · · · · · · · · · · · · · · · · ·	Well Lo	gged By	72.01	Martin		2,5, 5311121 55. 1111
Sorehole Locat SWL Depth .ogged By	Lodes	10 ·		Contrac	hel On-Site tors On-Si ersonnel O		DP.	ron	ley Miloster
Onited By Date/Time Star Date/Time Con		300		Dritting I Air Moni	Method toring Met		PROBE Photo		2020
Depth (Foot)	Sample		Sample Description Classification System: USCS	USCS Symbol	_	Ĺ	r Monitori Inits; NDI BH	U	Drilling Conditions & Blow Counts
<b>0</b>	LAB	(inches)	brown white skills on serlings & through	CL	(feet)	D D		9.3	eesy
5		58	1-11 weathered shale			6		25°+	5-7 EZZY
10		60	Staning on preting surfaces iloset 11-12 westherd 35			0		913	7-9 9-11 mod
15	MIT.	160	silly send listedgray, silt to timesend mod well sorted sub and mod well consoluted			0		915	11-12- hard
			mod well consolated						Refuse of
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35									
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Comments:	4:	12	20/2/		cont			一	1. 1.

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Lodestar Ser	vice	. Inc							٠						
	1100	-,							Page	1 of 1					
PO Box 3681 Farmington, Na (585) 334-2791	Farmington, New Mendoo 87499 (585) 334-2791							Project Name Project Number Project Location Project Location Project Location T28N R12W S 1, b.c, San Juan Co. NM							
Elevation Borehole Lo GWL Deptil Logged By Drilled By	h	1	<i>∑ e s</i> ar <b>Se</b> rv	· · · · · · · · · · · · · · · · · · ·	Well Lop Persone Contrac Client Pr	gged By nel On-Site tors On-Si ensonnel C	ie In-Site	Marti Cha D Fr	n Nee cli≪		nlar:				
				06 0842 06 0147	Drilling i Air Moni	Aethod Inning Met		PROB Photo	E Vac	2020					
Depth (Feet)		Sample	Sample Type & Recovery	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change		ir Monito		Drilling Conditions 8 Blow Counts					
0	ļ	LAB	(inches)			(feet)	BZ	BH	s						
E	-		38	brown, fine send to clay, soonly sailed minon, pebblag reach			ō		5.6	0-5 Easy					
5			48	1.54 9' Sanda Clay mod y Mush brown	CL		0	:	14.1	5-7 Ees4					
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E		1111	36	9-145 weatherd Shake olive gray to 9.5 Grayish Black to 105 10.5-14 grades to			0		725	13-145					
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Lodesta	n Ser	vice	s, lac							Page	1 of 1				
PO Box 3	681														
Farmingto	HL, No	w He	noico 874	99		Project	Name	El Paso San Juan River Plant							
(505) 334-2791					Project	Number	Phase								
• •						Project	Location	T29N R12W S 1, b.c, San Juan Co. NM							
Elevation	อก					Well Lo	gged By			n Nee					
Boreho	ie Lo	catio	on lat	7411		Persons	net On-Site			me	dor western (523				
GWL (	)epth	1	20	ク' <b>#</b> 5	<u> </u>	Contrac	zors On-Si	ie .	$\mathfrak{D}_{\mathfrak{C}}$	om	by m Porter D.				
Logged	I By		Lodes	tar Serv	rices	Client P	ersonnel C	n-Site			<u> </u>				
Drilled			Direct					**		1.1.1					
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Date/Ti	me (	Com	pleted	2.14-0	× 1038	Air Mon	itoring Mat	hod	Photo	Vac:	2020				
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(Fee	D		Interval		• .	Symbol	Change	ez	Was Mi	xu S	& Blow Counts				
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<b>]</b>			7/7/7		1. m. taling hopen tog!	j		<u> </u>							
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I  -	15		77.7	48	Es obusine on 12 tive			·		2.6	7.9 mod 9-11 11-13 mod 13-14 had retuse 14'				
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Lodestar Sc	rvice	s, Inc						Page	1 of 1			
	PO Box 3681 Farmington, New Mexico 87499 (505) 334-2791						El Paso San Juan River Plant Phase T29N R12W S 1, b.c. San Juan Co. NM					
Elevation Borehole Li GWL Dept Logged By Drilled By Date/Time Date/Time	h Stan	Lodes Direct	tar Serv Push	6 11 35	Persons Contrac Client P Drilling	gged By hel On-Site tors On-Sit ersonnel O Method itoring Met	en-Sies GEOPRO	don mostro (30 110, m Porto 121				
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02/27/06



### **Technical Report for**

**Montgomery Watson** 

San Juan River Plant (SJRP)

**D-ALAB-GROUNDREM-004** 

Accutest Job Number: T12660

Sampling Date: 02/14/06

Report to:

MWH Americas, Inc.

jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 34



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino Laboratory Manager



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## **Sample Summary**

**Montgomery Watson** 

Job No:

T12660

San Juan River Plant (SJRP) Project No: D-ALAB-GROUNDREM-004

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
T12660-1	02/14/06	14:32	02/16/06	so	Soil	GPH1-S(0-1)1432
T12660-2	02/14/06	14:46	02/16/06	SO	Soil	GPH1-S(8.5-9.5)1446
T12660-3	02/14/06	15:20	02/16/06	so	Soil	GPH2-S(0-1)1520
T12660-4	02/14/06	15:35	02/16/06	so	Soil	GPH2-S(7-8)1535













Client Sample ID: GPH1-S(0-1)1432

Lab Sample ID:

T12660-1

Matrix:

SO - Soil

Method: Project:

SW846 8015

Date Sampled: Date Received:

02/14/06

02/16/06

Percent Solids: 93.6

San Juan River Plant (SJRP)

Analyzed

**Prep Date** Prep Batch Analytical Batch

Run #1 EE023848.D 1 02/22/06 JH n/a n/a **GEE1057** JΗ EE023810.D 02/21/06 **GEE1056** Run #2 1 n/a n/a

By

**Initial Weight** Final Volume Methanol Aliquot

Run #1 5.00 gRun #2 5.19 g 5.0 ml 5.0 ml

DF

100 ul 100 ul

CAS No. Compound

File ID

Result

RL

**MDL** 

Units Q

TPH-GRO (C6-C10)

ND

2.8

mg/kg

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

59% **78**% 94% 89% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sam Lab Sampl Matrix: Method: Project:	e ID: T12660 SO - So SW846	il	nt (SJRP)		Date I	Sampled: Received: nt Solids:	02/	14/06 16/06	
Run #1 Run #2	File ID KK11364.D	DF 1	Analyzed 02/25/06	By JH	Prep D n/a	ate	Prep n/a	Batch	Analytical Batch GKK749
Run #1 Run #2	Initial Weight 5.03 g	Final Vol 5.0 ml	ume						
Purgeable	Aromatics	. ,							
CAS No.	Compound		Result	RL	MDL	Units	Q		
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene		0.84 1.9 2.2 2.3 0.79 1.5	1.1 1.1 1.1 2.1 2.1 2.1	0.32 0.21 0.32 0.64 0.32 0.64	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J		
CAS No.	Surrogate Rec	overies	Run# 1	Run# 2	Lim	its			
460-00-4 98-08-8	4-Bromofluoro aaa-Trifluoroto		79% 84%			.54% .51%			

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH1-S(0-1)1432

Lab Sample ID:

T12660-1

Matrix:

SO - Soil

Method:

SW846 8015 M SW846 3550B

Date Sampled: 02/14/06 Date Received:

02/16/06 Percent Solids: 93.6

Project: San Juan River Plant (SJRP)

Run #1

File ID CC11338.D DF 1

Analyzed 02/17/06

By

RC

**Prep Date** 02/17/06

Prep Batch OP5520

**Analytical Batch** 

GCC529

Run #2

**Initial Weight** 30.0 g

Final Volume

Run #1 Run #2

1.0 ml

CAS No.

Compound

Result

RL

**MDL** 

3.6

Units

Q

TPH (C10-C28)

ND

8.9

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

78%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH1-S(8.5-9.5)1446

Lab Sample ID: Matrix:

T12660-2

SO - Soil

SW846 8015

Date Sampled:

02/14/06

Date Received:

02/16/06

**Percent Solids:** 89.4

Method: Project:

San Juan River Plant (SJRP)

**Analytical Batch** File ID DF Analyzed By Prep Date Prep Batch Run #1 EE023849.D 1 02/22/06 JH n/a **GEE1057** n/a

Run #2 EE023811.D 02/21/06 JH n/a n/a **GEE1056** 

Initial Weight Final Volume Methanol Aliquot 5.00 g Run #1

Run #2 5.23 g 5.0 ml 5.0 ml 100 ul 100 ul

Compound

Result

RL

**MDL** 

3.1

Units Q

TPH-GRO (C6-C10)

ND

6.2

mg/kg

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

460-00-4 98-08-8

CAS No.

4-Bromofluorobenzene aaa-Trifluorotoluene

51% a 74%

73% 89% 56-139% 46-136%

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH1-S(8.5-9.5)1446

Lab Sample ID: Matrix:

T12660-2

SO - Soil

Date Sampled: Date Received:

02/14/06 02/16/06

Method:

SW846 8021B

Percent Solids: 89.4

Project:

San Juan River Plant (SJRP)

DF

Run #1

File ID

Analyzed 02/25/06

**Prep Date** 

**Analytical Batch** Prep Batch

KK11365.D

By JH

n/a

n/a

**GKK749** 

Run #2

**Initial Weight** 

Final Volume

Run #1 5.08 g 5.0 ml

Run #2

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 0.75 ND 2.4 ND 2.1	1.1 1.1 1.1 2.2 1.1 2.2	0.33 0.22 0.33 0.66 0.33 0.66	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	68% 79%			54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH1-S(8.5-9.5)1446

Lab Sample ID:

T12660-2

Matrix:

SO - Soil

Method:

SW846 8015 M SW846 3550B

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids: 89.4

Project:

San Juan River Plant (SJRP)

DF File ID Analyzed By **Prep Date** Prep Batch **Analytical Batch** Run #1 CC11339.D 1 02/17/06 RC 02/17/06 OP5520 GCC529

Run #2

**Initial Weight** 

Final Volume

Run #1

30.1 g

1.0 ml

CAS No.

Run #2

Compound

Result

RL

MDL

3.7

Units Q

TPH (C10-C28)

ND

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

72%

41-153%

ND = Not detected

RL = Reporting Limit **E** = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID:	GPH2-S(0-1)1520
I -L Commis ID.	T12000 2

Lab Sample ID: Matrix:

T12660-3 SO - Soil

SW846 8015

Date Sampled: 02/14/06 Date Received:

02/16/06 Percent Solids: 89.2

Method: Project:

CAS No.

San Juan River Plant (SJRP)

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE023850.D	1 -	02/22/06	JĤ	n/a	n/a	GEE1057
Run #2	EE023812.D	1	02/21/06	JH	n/a	n/a	GEE1056

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.00 g	5.0 ml	100 ul
Run #2	5.04 g	5.0 ml	100 ul

Compound

Result

RL

Units

TPH-GRO (C6-C10)

ND

3.1

**MDL** 

mg/kg

CAS No. **Surrogate Recoveries**  Run# 1

Run# 2 Limits

56-139%

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

50% a **58**% 70% 75%

46-136%

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID: GPH2-S(0-1)1520

Lab Sample ID:

T12660-3

SO - Soil SW846 8021B

Date Sampled:

02/14/06

Date Received: 02/16/06

Percent Solids: 89.2

Method: Project:

Matrix:

San Juan River Plant (SJRP)

Prep Batch **Analytical Batch** 

Run #1

File ID KK11366.D DF 1

Analyzed By 02/25/06 JH **Prep Date** n/a

n/a

**GKK749** 

Run #2

**Initial Weight** 

5.00 g

Final Volume 5.0 ml

Run #1 Run #2

71-43-2

108-88-3

100-41-4

1330-20-7

95-47-6

CAS No.

**Purgeable Aromatics** 

CAS No. Compound

Benzene

Toluene

o-Xylene

Ethylbenzene

Xylenes (total)

Surrogate Recoveries

Result RL **MDL** 

Units

Q

1.1 1.1

1.1

2.2

1.1

2.2

ug/kg 0.34 0.22

ug/kg ug/kg

0.34 0.67 0.34

0.67

ug/kg ug/kg ug/kg

m,p-Xylene

Run# 1

0.36

1.1

0.64

5.0

0.57

4.4

Run# 2

Limits

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

79% 83% 43-154% 46-151%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID: GPH2-S(0-1)1520

Lab Sample ID:

T12660-3

Matrix:

Method: Project:

SO - Soil

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/14/06 02/16/06

**Percent Solids:** 89.2

File ID DF **Prep Date** Prep Batch **Analytical Batch** Analyzed By Run #1 CC11340.D 1 02/17/06 RC 02/17/06 OP5520 GCC529

Run #2

**Initial Weight** 

Final Volume

Run #1 30.1 g

1.0 ml

Run #2

CAS No. Compound Result

RL

**MDL** 

Units

Q

ND

3.7

mg/kg

CAS No.

Surrogate Recoveries

TPH (C10-C28)

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

75%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

**E** = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH2-S(7-8)1535

Lab Sample ID:

T12660-4

Matrix: Method: SO - Soil

SW846 8015

Date Sampled: 02/14/06

02/16/06

Date Received:

Percent Solids: 91.6

Project:

San Juan River Plant (SJRP)

DF

1

**Prep Date** n/a

Prep Batch

**Analytical Batch** 

Run #1 Run #2

EE023813.D

File ID

Final Volume

By

JĤ

n/a

Q

GEE1056

Initial Weight 5.08 g

5.0 ml

Methanol Aliquot

100 ul

Run #1 Run #2

CAS No.

Compound

Result

Analyzed

02/21/06

RL

MDL

2.9

Units

TPH-GRO (C6-C10)

ND 5.8

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

67% 85% 56-139% 46-136%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH2-S(7-8)1535

Lab Sample ID:

T12660-4

Matrix:

SO - Soil

Method: Project:

SW846 8021B

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids: 91.6

File ID DF **Prep Date** Prep Batch **Analytical Batch** Analyzed By Run #1 KK11367.D 1 02/25/06 JH n/a n/a **GKK749** 

Run #2

**Initial Weight** 

**Final Volume** 

Run #1 5.01 g 5.0 ml

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 0:42 ND 1.5 ND 1.3	1.1 1.1 1.1 2.2 1.1 2.2	0.33 0.22 0.33 0.65 0.33 0.65	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its .	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	68% 76%			54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH2-S(7-8)1535

Lab Sample ID:

T12660-4

Matrix:

Method: Project:

SO - Soil

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids: 91.6

Run #1

File ID CC11341.D DF 1

Analyzed 02/18/06

By RC **Prep Date** 02/17/06

Prep Batch OP5520

**Analytical Batch** GCC529

Run #2

Initial Weight

30.2 g

Final Volume

Run #1 Run #2

1.0 ml

CAS No. Compound Result

MDL - Method Detection Limit

RL

**MDL** 

Units

Q

TPH (C10-C28)

ND 9.1

3.6

mg/kg

CAS No.

Surrogate Recoveries

Run#1

Run# 2

Limits

84-15-1

o-Terphenyl

76%

41-153%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range J = Indicates an estimated value

B = Indicates analyte found in associated method blank











## Misc. Forms

# **Custody Documents and Other Forms**

#### Includes the following where applicable:

• Chain of Custody

	CHAIN OF CUSTODY 14	10206 mNO3
ZACCUTEST.	10165 Harwin Drive, Ste. 150, Houston, TX 77036 FEDEX Track	ing # Bottle Order Control #
Laboratories	www.accutess.com Accutest Qualit	
Cilent / Recording Information	Project Information Project Name	
EL PESO	San Turn River Plant (SJRP) &	DW - Orinking With
Address 2 North Nevade	Street	
	City State	SW - Surface Wat
Worldo Springs CO 80903		\$0 - Soil
Project Contact SCOTT PORE E-mail	Project# 80 8	SL-Sludge Oj-Oli
Phone #		LIG-Other Librar
719 520 4433 Sampler's Name	Fax 8 ) 19 5 20 47 16 8	AIR AF
MNec	Z A	BOL - Other So
Accutest Field ID / Point of Collection SUMMA #	Collection Number of preserved Bottless V	WP-Wipe
MECH Viel #	Date Time Sarroled Matrix Soft P S S S S S S S S S S S S S S S S S S	LAB USE ONLY
1 (2)41-5(0-1)1432	21406 1432 5 \ X X	<del> </del>
2 19841-5(8295)1446	214041446 5 1 1 X X	
	2/14/2	
3 4 GPH2-5(0-1) 1520	214061520 51 1 XX	
4 5 GPH 2 -S(7-8) 1535	21906 1535 GIIIXX	
an		
	Oala Deliverable Information	_Comments / Remarks
DE 10 Day STANDARD Approved By: / Date:	Commercial 'A' EDO Format	•
☐ 3 Day EMERGENCY	□ Reduced Tier 1	
2 Day EMERGENCY	□ Full Tier 1	
1 Day EMERGENCY	☐ TRRP13	
Other	Commercial "A" = Results Only	•
Francescu & Rush T/A data susilable V/A   ehi ink	Connected v = 1789/00 Only	

T12660: Chain of Custody

4.Q.

Page 1 of 3



veelved with the property of t	CLIENT:	F Paso	DATE/TIME RECEIVED: 11/0/OU   10. OU	IVED:	PJOUP / 10	多类		
Couler;   Coul	Gendition/Variance (C Y Sample rec 3.7 (C Sample rec 5.7 (Sample vol 7. (N Chain of Cu	circle "Y" for yes are seived in undamag seived with proper furme sufficient for ustody matches sa seal received inta	nd "N" for no or NA ed condition. ph. analysis.	1. If "N" is circ 2. & 4. & alysis on con	cled, see vari N Samples N Sample N Sample Itainers.	ance for expla s received with received in pr received with	ination): nin temp. rar oper contain chain of cus	nge. ters.
	SAMPLE OFF	/ seal received inta	act and tamper not part by DATE SAMPLED	evident on bo	ottles.	LOCATION	PRESERV.	ž
123456 123456 123456 123456 123456 123456 123456 123456	_	_	210	S	404	VREF	1,2,3,4,5,6	
12.34.56 12.34.56						/	1,2,3,4,5,6	
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12,3,4,5,6 12,3,4,5,6							1,2,3,4,5,6	
12,3,4,5,6							1,2,3,4,5,6	
1,2,3,4,5,6 1,2,3,		/					1,2,3,4,5,6	
12,3,4,5,6   12,							1,2,3,4,5,6	
12.3.4.5,6 12.3.4.5,6						,	1,2,3,4,5,6	
12,3,4,5,6	0.0	Trollo	$\times$				1,2,3,4,5,6	
1,2,3,4,5,6 1,2,3,		0.10					1,2,3,4,5,6	
1,2,3,4,5,6 1,2,3,						,	1,2,3,4,5,6	
1,2,3,4,5,6   1,2,3,4,5,5   1,2,3,4,5,5   1,2,3,4,5,5   1,2,3,4,5,5   1,2,3,4,5,5   1,2,3,4,5,5   1,2,3,4,5,5							1,2,3,4,5,6	
## COOLER TEMP.  1,2,3,4,5,6							1,2,3,4,5,6	
## Substitution:    1,2,3,4,5,6						/	1,2,3,4,5,6	
## State   1,2,3,4,5,6   1,2,4,5,6   1,2,4,5   1,2,4,5,6   1,2					-		1,2,3,4,5,6	
i: Walk-in VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer  S: 1: None 2: HCL 3: HN03 4: H2504 5: NAOH 6: Other  Comments:  Comments:  Cooler Temp: 4. O							1,2,3,4,5,6	U, Q, >12, 1
scked excluding volatiles  COOLER TEMP. 4.0	LOCATION: Wi: WalkIn PRESERVATIVES: 1: No	VR: Votatije Refrig one 2: HCL 3: HNO:	a. SUB: Subcentra 3 4: H2SO4 5: NAO	4 5	o Freezer			
od: Courier: 4.0	pH of waters checked exc	cluding volatiles						
The state of the s	Delivery method: Cou		<b>,</b>		COOLER TEMP:	1 1 1	COOLER TEMP	id W

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安吉里

T12660: Chain of Custody Page 2 of 3

854638306190

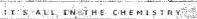
T12660: Chain of Custody Page 3 of 3

> 20 of 34 ACCUTEST. T12660











## GC Volatiles

# QC Data Summaries

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number:

T12660

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GEE1056-MB

File ID EE023792.D 1

DF

Analyzed 02/21/06

By JH **Prep Date** 

n/a

n/a

**Prep Batch** 

**Analytical Batch** 

Page 1 of 1

GEE1056

The QC reported here applies to the following samples:

Method: SW846 8015

T12660-1, T12660-2, T12660-3, T12660-4

CAS No.

Compound

Result

RL

MDL

Units Q

TPH-GRO (C6-C10)

ND 5.0

2.5

mg/kg

CAS No.

**Surrogate Recoveries** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

93% 107% 56-139% 46-136%

**Method Blank Summary** 

Page 1 of 1

Job Number:

T12660

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

DF

Sample
GEE1057-MB

File ID EE023823.D 1 Analyzed 02/22/06

By JH **Prep Date** n/a

Prep Batch

**Analytical Batch** 

n/a

**GEE1057** 

The QC reported here applies to the following samples:

Method: SW846 8015

T12660-1, T12660-2, T12660-3

CAS No.

Compound

Result

RL.

**MDL** 

Units Q

TPH-GRO (C6-C10)

ND 5.0

2.5

mg/kg

CAS No.

Surrogate Recoveries

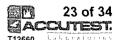
Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

80% 99% 56-139% 46-136%





# Method Blank Summary Job Number: T12660 Account: MWHSLCUT Montgomery Watson Project: San Juan River Plant (SJRP)

Sample GKK749-MB	File ID KK11342.D	DF 1	Analyzed 02/24/06	By JH	Prep Date n/a	Prep Batch n/a	Analytical Batch GKK749
			•				

The QC reported here applies to the following samples:

Method: SW846 8021B

Page 1 of 1

T12660-1, T12660-2, T12660-3, T12660-4

CAS No.	Compound	Result	RL	MDL	Units Q
71-43-2	Benzene	ND	1.0	0.30	ug/kg
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/kg
108-88-3	Toluene	ND	1.0	0.20	ug/kg
1330-20-7	Xylenes (total)	ND /	2.0	$0.60^{\circ}$	ug/kg
	m,p-Xylene	ND	2.0	0.60	ug/kg
95-47-6	o-Xylene	ND	1.0	0.30	ug/kg
CAS No.	Surrogate Recoveries		Limi	ts	
460-00-4	4-Bromofluorobenzene	106%	43-1	54%	
98-08-8	aaa-Trifluorotoluene	107%	46-1	51%	

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

I	Sample
ĺ	GEE1056-BS

DF File ID EE023793.D 1

Analyzed 02/21/06

By JĤ

**Prep Date** n/a

Prep Batch

**Analytical Batch** 

n/a

GEE1056

The QC reported here applies to the following samples:

Method: SW846 8015

T12660-1, T12660-2, T12660-3, T12660-4

CAS No. Compound Spike **BSP**  **BSP** 

mg/kg mg/kg %

Limits

TPH-GRO (C6-C10)

20

18.5

93 70-119

CAS No.

**Surrogate Recoveries** 

**BSP** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

108% 113%

56-139% 46-136%

Blank Spike Summary Job Number: T12660

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

DF

Sample GEE1057-BS

File ID EE023824.D 1 Analyzed 02/22/06

By JĤ **Prep Date** n/a

Prep Batch

**Analytical Batch** 

Page 1 of 1

n/a GEE1057

The QC reported here applies to the following samples:

Method: SW846 8015

T12660-1, T12660-2, T12660-3

CAS No. Compound Spike

**BSP** 

**BSP** 

mg/kg mg/kg %

86

Limits

TPH-GRO (C6-C10)

20

17.2

70-119

CAS No.

Surrogate Recoveries

BSP

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

93% 99% 56-139% 46-136%

# Blank Spike/Blank Spike Duplicate Summary Job Number: T12660

Page 1 of 1

MWHSLCUT Montgomery Watson Account:

San Juan River Plant (SJRP) Project:

Sample	File ID	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK749-BS	KK11340.D	02/24/06	JH	n/a	n/a	GKK749
GKK749-BSD	KK11341.D	02/24/06	JH	n/a	n/a	GKK749

The QC reported here applies to the following samples:

Method: SW846 8021B

T12660-1, T12660-2, T12660-3, T12660-4

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD	
71-43-2	Benzene	20	20.1	101	19.4	97	4	46-150/30	
100-41-4	Ethylbenzene	20	21.4	107	20.4	102	5	69-134/30	
108-88-3	Toluene	20	20.6	103	19.9	100	3	67-132/30	
1330-20-7	Xylenes (total)	60	63.1	105	60.4	101	4	67-134/30	
	m,p-Xylene	40	42.3	106	40.4	101	5	68-135/30	
95-47-6	o-Xylene	20	20.8	104	20.0	100	4	66-133/30	
CAS No.	Surrogate Recoveries	BSP	BS	D .	Limits				
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	103% 106%	999 100		43-154% 46-151%	•			



Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12660

Page 1 of 1

Account:

Project:

MWHSLCUT Montgomery Watson San Juan River Plant (SJRP)

Sample	File ID	1	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T12659-6MS	EE023800.D		02/21/06	JH	n/a	n/a	GEE1056
T12659-6MSD	EE023801.D		02/21/06	JH	n/a	n/a	GEE1056
T12659-6	EE023799.D		02/21/06	JH	n/a	n/a	GEE1056
Į.							

The QC reported here applies to the following samples:

Method: SW846 8015

T12660-1, T12660-2, T12660-3, T12660-4

CAS No.	Compound	T12659-6 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	26.9	22.7	84	23.0	85	1	66-122/21
CAS No.	Surrogate Recoveries	MS	MSD	Т12	659-6	Limits		•	
CAS No.	Surrogate recoveries		WISD	112		Limits	•		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	90% 96%	90% 96%	71% 83%		56-139% 46-136%			

# Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12660

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson San Juan River Plant (SJRP)

Project:

The QC reported here applies to the following samples:

Method: SW846 8015

T12660-1, T12660-2, T12660-3

CAS No.	Compound	T12661-6 mg/kg (	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		27.5	22.8	83	23.8	86	4	66-122/21
CAS No.	Surrogate Recoveries	MS	,	MSD	T12	2661-6	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	87% 92%		92% 97%		6 6	56-139% 46-136%			



# Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12660 Account: MWHSLCUT Montgomery Watson

Page 1 of 1

Project:

San Juan River Plant (SJRP)

The QC reported here applies to the following samples:

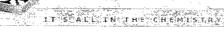
Method: SW846 8021B

T12660-1, T12660-2, T12660-3, T12660-4

CAS No.	Compound	T12659-4 ug/kg (	Spike Q ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	0.84	22.2	17.6	75	18.0	77	2	46-140/15
100-41-4	Ethylbenzene	1.0	22.2	17.7	75	18.4	78	4	69-122/11
108-88-3	Toluene	2.5	22.2	18.1	70	18.5	72	2	64-125/14
1330-20-7	Xylenes (total)	13.6	66.7	54.7	62*	56.3	64*	3	66-124/13
	m,p-Xylene	11.4	44.5	36.8	57*	38.0	59*	3	67-124/12
95-47-6	o-Xylene	2.2	22.2	17.9	71	18.3	72	2	62-124/15
CAS No.	Surrogate Recoveries	MS	MSD	T1	2659-4	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	75% 79%	76% 82%	759 879	HTML COLOR	43-154 46-151			







GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



**Method Blank Summary** 

Job Number:

T12660

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample OP5520-MB File ID CC11323.D 1

DF

Analyzed 02/17/06

By RC **Prep Date** 02/17/06

**Prep Batch** OP5520

**Analytical Batch** 

Page 1 of 1

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12660-1, T12660-2, T12660-3, T12660-4

CAS No.

Compound

Result

RL.

MDL

Units Q

TPH (C10-C28)

ND

3.3

mg/kg

CAS No.

**Surrogate Recoveries** 

Limits

84-15-1

o-Terphenyl

41-153%

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date 02/17/06	Prep Batch	Analytical Batch
OP5520-BS	CC11324.D	1	02/17/06	RC		OP5520	GCC529
			•				

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12660-1, T12660-2, T12660-3, T12660-4

CAS No. Compound

**BSP** Spike **BSP** 

% mg/kg mg/kg

Limits

TPH (C10-C28)

33.2 28.3 85 55-131

CAS No. Surrogate Recoveries **BSP** 

Limits

84-15-1 o-Terphenyl

41-153% 77%



Matrix Spike/Matrix Spike Duplicate Summary
Job Number: T12660
Account: MWHSLCUT Montgomery Watson

Page 1 of 1

Project:

San Juan River Plant (SJRP)

Sample OP5520-MS OP5520-MSD T12659-1	File ID CC11351.D CC11352.D CC11325.D	1	Analyzed 02/18/06 02/18/06 02/17/06	By RC RC RC	Prep Date 02/17/06 02/17/06 02/17/06	Prep Batch OP5520 OP5520 OP5520	Analytical Batch GCC529 GCC529 GCC529
ŀ	•						

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12660-1, T12660-2, T12660-3, T12660-4

CAS No.	Compound	T12659-1 mg/kg Q	Spike mg/kg	MS MS mg/kg %	MSD mg/kg	MSD % RPD	Limits Rec/RPD
	ТРН (С10-С28)	ND	35.1	31.2	33.5	95 7	49-139/24
CAS No.	Surrogate Recoveries	MS	MSD	T12659-1	Limits		
84-15-1	o-Terphenyl	75%	81%	73%	41-1539	%	



02/27/06



#### **Technical Report for**

**Montgomery Watson** 

San Juan River Plant (SJRP)

D-ALAB-SANJUAN-003

Accutest Job Number: T12659

Sampling Date: 02/13/06

Report to:

MWH Americas, Inc.

jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 52



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino Laboratory Manager

1956 - 2006

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Accutest
Laboratories

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## **Sample Summary**

**Montgomery Watson** 

Job No:

T12659

San Juan River Plant (SJRP) Project No: D-ALAB-SANJUAN-003

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
T12659-1	02/13/06	09:41 MN	02/16/06	so	Soil	GPH3-S(0-1) 0941
T12659-2	02/13/06	09:45 MN	02/16/06	so	Soil	GPH3-S(10-11) 0945
T12659-3	02/13/06	10:40 MN	02/16/06	so	Soil	GPH4-S(0-1) 1040
T12659-4	02/13/06	10:50 MN	02/16/06	SO	Soil	GPH4-S(8-9) 1050
T12659-5	02/13/06	11:15 MN	02/16/06	so	Soil	GPH5-S(0-1) 1115
T12659-6	02/13/06	11:25 MN	02/16/06	SO	Soil	GPH5-S(10-11) 1125
T12659-7	02/13/06	11:32 MN	02/16/06	so	Soil	GPH5-S(13-14) 1132
T12659-8	02/13/06	12:40 MN	02/16/06	so	Soil	GPH6-S(0-1) 1240
T12659-9	02/13/06	12:47 MN	02/16/06	SO	Soil	GPH6-S(9-9.5) 1247
T12659-10	02/13/06	12:50 MN	02/16/06	SO	Soil	GPH6-S(10-11) 1250

Soil samples reported on a dry weight basis unless otherwise indicated on result page.











Client Sample ID:

GPH3-S(0-1) 0941

Lab Sample ID:

T12659-1

Matrix: Method: SO - Soil

SW846 8015

Date Sampled: 02/13/06

Date Received:

02/16/06

Percent Solids:

95.0

Project:

San Juan River Plant (SJRP)

DF

1

**Analytical Batch** Prep Batch

Run #1 Run #2

EE023794.D

File ID

5.19 g

JH

By

**Prep Date** 

n/a

n/a

GEE1056

**Initial Weight** 

Final Volume 5.0 ml

Methanol Aliquot

100 ul

Run #1 Run #2

CAS No.

Compound

Result

RL

**MDL** 

Units Q

TPH-GRO (C6-C10)

ND

Analyzed

02/21/06

2.7

mg/kg

CAS No.

**Surrogate Recoveries** 

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

72% 84% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank





Page 1 of 1

**GKK749** 

Client Sample ID:	GPH3-S(0-1	0941
-------------------	------------	------

KK11354.D

Lab Sample ID:

T12659-1

Matrix: Method: SO - Soil SW846 8021B

Date Sampled: 02/13/06

Date Received: 02/16/06

n/a

Percent Solids:

n/a

95.0

Project:

Run #2

San Juan River Plant (SJRP)

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11343.D	1 .	02/24/06	JĤ	n/a	n/a	GKK749

JΗ

	Initial Weight	Final Volume			
Run #1	5.26 g	5.0 ml	•		•
Run #2	1.08 g	5.0 ml			

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene	0.36 0.99 0.95 2.5 1.0	1.0 1.0 1.0 2.0	0.30 0.20 0.30 0.60 0.30	ug/kg ug/kg ug/kg ug/kg ug/kg	J J J
	m,p-Xylene	1.5	2.0	0.60	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	89% 98%	87% 88%		54% 51%	

02/24/06

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH3-S(0-1) 0941

Lab Sample ID: Matrix:

T12659-1

SO - Soil

SW846 8015 M SW846 3550B

Date Sampled: 02/13/06

Date Received: 02/16/06 Percent Solids: 95.0

Method: Project:

San Juan River Plant (SJRP)

**Prep Date** 

02/17/06

Prep Batch OP5520

**Analytical Batch** GCC529

Run #1 Run #2

**Initial Weight** 

CC11325.D

File ID

Final Volume 1.0 ml

DF

1

Run #1 30.0 g

Run #2

CAS No. Compound

Result

Analyzed

02/17/06

RL

8.8

Ву

RC

**MDL** 

3.5

Units

Q

mg/kg

CAS No.

Surrogate Recoveries

ND Run#1

Run# 2

Limits

84-15-1

o-Terphenyl

TPH (C10-C28)

73%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH3-S(10-11) 0945

Lab Sample ID:

T12659-2

Matrix:

SO - Soil

Method:

SW846 8015

Date Sampled:

02/13/06

Date Received:

02/16/06

Percent Solids: 92.5

Project: San Juan River Plant (SJRP)

> File ID EE023795.D

5.23 g

DF

Analyzed 02/21/06

By JΗ **Prep Date** 

Prep Batch

Q

**Analytical Batch** 

GEE1056

Run #1 Run #2

Initial Weight

Compound

Final Volume 5.0 ml

Methanol Aliquot

RL

Run #1

Run #2

CAS No.

Result

**MDL** 

Units

TPH-GRO (C6-C10)

100 ul

2.8

mg/kg

CAS No.

Surrogate Recoveries

Run#1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

69% 82% 56-139% 46-136%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID:

GPH3-S(10-11) 0945

San Juan River Plant (SJRP)

Lab Sample ID:

T12659-2

Matrix: Method:

Project:

SO - Soil

SW846 8021B

Date Sampled:

02/13/06

Date Received: 02/16/06

Percent Solids: 92.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11344.D	1 .	02/24/06	JĤ	n/a	n/a	GKK749
Run #2	KK11368.D	1 .	02/25/06	JH	n/a	n/a	GKK749

	Initial Weight	Final Volume
Run #1	5.11 g	5.0 ml
Run #2	1.28 g	5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	0.34 0.81 ND 2.4 0.36 2.1	1.1 1.1 1.1 2.1 1.1 2.1	0.32 0.21 0.32 0.63 0.32 0.63	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	] ]
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	91% 94%	85% 86%		54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH3-S(10-11) 0945

Lab Sample ID:

T12659-2

Matrix:

SO - Soil

SW846 8015 M SW846 3550B

Method: Project:

San Juan River Plant (SJRP)

Date Sampled: 02/13/06

Date Received:

02/16/06

Percent Solids:

92.5

File ID Run #1 CC11326.D DF 1

Analyzed 02/17/06

**Prep Date** By RC 02/17/06

Prep Batch OP5520

**Analytical Batch** GCC529

Run #2

Initial Weight

Final Volume

Run #1 Run #2 30.1 g

1.0 ml

CAS No. Compound Result

RL

**MDL** 

Units

Q

TPH (C10-C28)

ND 9.0

3.6

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

69%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH4-S(0-1) 1040

Lab Sample ID: Matrix:

T12659-3

Method: Project:

SO - Soil

SW846 8015

Date Sampled: Date Received:

02/13/06 02/16/06 Percent Solids: 75.9

San Juan River Plant (SJRP)

Run #1

DF File ID EE023796.D 1

Analyzed 02/21/06

Ву JH **Prep Date** n/a

Prep Batch n/a

**Analytical Batch GEE1056** 

Run #2

**Initial Weight** Run #1 5.06 g Run #2

Final Volume 5.0 ml

Methanol Aliquot

100 ul

CAS No.

Compound

Result

RL

MDL Units

4.0

mg/kg

Q

TPH-GRO (C6-C10)

ND Run# 1

Run# 2

460-00-4 98-08-8

CAS No.

4-Bromofluorobenzene aaa-Trifluorotoluene

Surrogate Recoveries

76% 93%

56-139% 46-136%

Limits

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH4-S(0-1) 1040

Lab Sample ID:

T12659-3

Matrix:

SO - Soil

SW846 8021B

Date Sampled:

02/13/06

Date Received:

02/16/06

Percent Solids: 75.9

Method: Project:

San Juan River Plant (SJRP)

File ID DF Analyzed By **Prep Date** Prep Batch KK11345.D Run #1 02/24/06 JH n/a n/a

**Analytical Batch GKK749** 

Run #2

Initial Weight

Final Volume

Run #1

Run #2

5.06 g5.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	<b>1.3</b>	0.39	ug/kg	
108-88-3	Toluene	ND	1.3	0.26	ug/kg	
100-41-4	Ethylbenzene	ND	1.3	0.39	ug/kg	
1330-20-7	Xylenes (total)	ND	2.6	0.78	ug/kg	
95-47-6	o-Xylene	ND	1.3	0.39	ug/kg	
	m,p-Xylene	ND	2.6	0.78	ug/kg	•
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits	
460-00-4	4-Bromofluorobenzene	80%		43-1	54%	
98-08-8	aaa-Trifluorotoluene	89%		46-1	51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH4-S(0-1) 1040

Lab Sample ID:

T12659-3

Matrix: Method:

Project:

File ID

SO - Soil

SW846 8015 M SW846 3550B

Date Sampled: 02/13/06 Date Received:

02/16/06

Percent Solids: 75.9

San Juan River Plant (SJRP)

Analyzed

02/17/06

By

RC

Prep Batch OP5520

**Analytical Batch** GCC529

Run #1 Run #2

**Initial Weight** 

CC11327.D

Final Volume

Run #1

30.1 g

Compound

TPH (C10-C28)

1.0 ml

DF

1

Run #2

CAS No.

Result

ND

RL

MDL

4.4

**Prep Date** 

02/17/06

Units

Q

mg/kg

CAS No.

**Surrogate Recoveries** 

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

74%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank





Page 1 of 1

Client	Sample ID:	GPH4-S(8-9)	1050

Lab Sample ID:

T12659-4

Matrix: Method:

98-08-8

SO - Soil

SW846 8015

Date Sampled: 02/13/06

46-136%

Date Received: 02/16/06

Percent Solids: 88.5

Project: San Juan River Plant (SJRP)

aaa-Trifluorotoluene

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
	EE023797.D	1	02/21/06	JH	n/a	n/a	GEE1056
Run #2				100			•

	Initial Weight	Final Volume	Methanol Aliquot	
Run #1 Run #2	5.00 g	5.0 ml	100 ul	
			<del></del>	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.3	3.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	78%	£ '	56-1	39%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit E = Indicates value exceeds calibration range J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH4-S(8-9) 1050

Lab Sample ID:

T12659-4

Matrix: Method: SO - Soil

SW846 8021B

Date Received:

n/a

Date Sampled: 02/13/06 02/16/06

Percent Solids: 88.5

By

JH

Analyzed

02/24/06

Project: San Juan River Plant (SJRP)

> **Prep Date** Prep Batch

> > n/a

Analytical Batch **GKK749** 

Run #1 Run #2

**Initial Weight** 

KK11346.D

File ID

Final Volume

Run #1 5.00 g

5.0 ml

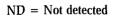
DF

1

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.84	1.1	0.34	ug/kg	J
108-88-3	Toluene	2.5	1.1	0.23	ug/kg	
100-41-4	Ethylbenzene	1.0	1.1	0.34	ug/kg	J
1330-20-7	Xylenes (total)	13.6	2.3	0.68	ug/kg	
95-47-6	o-Xylene	2.2	1.1	0.34	ug/kg	
	m,p-Xylene	11.4	2.3	0.68	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	75%	×	43-1	54%	
98-08-8	aaa-Trifluorotoluene	87%		46-1	51%	



MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID:

GPH4-S(8-9) 1050

Lab Sample ID:

T12659-4

Matrix: Method: SO - Soil

SW846 8015 M SW846 3550B

Date Sampled: Date Received:

02/13/06 02/16/06

Percent Solids:

88.5

Project: San Juan River Plant (SJRP)

File ID

DF 1

Analyzed 02/17/06

By RC **Prep Date** 02/17/06

Prep Batch OP5520

Analytical Batch GCC529

Run #1 Run #2

**Initial Weight** 

CC11328.D

Final Volume

Run #1 Run #2

CAS No.

30.1 g

1.0 ml

Compound

TPH (C10-C28)

Result

RL

MDL

3.8

Units

Q

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

ND 9.4

Run# 2

Limits

84-15-1

o-Terphenyl

73%

41-153%

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH5-S(0-1) 1115

Lab Sample ID:

T12659-5

Matrix: Method: SO - Soil

SW846 8015

1

Date Sampled: 02/13/06 Date Received:

02/16/06

Percent Solids: 91.6

Project: San Juan River Plant (SJRP)

EE023798.D

DF File ID Analyzed

**Prep Date** Prep Batch n/a

**Analytical Batch** GEE1056

Run #1 Run #2

> **Initial Weight** 5.13 g

Final Volume 5.0 ml

Methanol Aliquot

By

JH

100 ul

Run #1 Run #2

CAS No.

Compound

Result

02/21/06

RL

MDL

2.9

n/a

Units

Q

ND.

mg/kg

CAS No.

**Surrogate Recoveries** 

TPH-GRO (C6-C10)

Run# 1

Run# 2

Limits 56-139%

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

68% 84%

46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B = Indicates \ analyte \ found \ in \ associated \ method \ blank$ 



Client Sample ID: GPH5-S(0-1) 1115

Lab Sample ID:

T12659-5

Matrix:

SO - Soil

Method: Project:

SW846 8021B

San Juan River Plant (SJRP)

Date Sampled:

02/13/06

Date Received: 02/16/06

Percent Solids:

91.6

**Prep Date** File ID DF Analyzed By Prep Batch **Analytical Batch** Run #1 KK11351.D 02/24/06 JH **GKK749** 1 n/a n/a

Run #2

**Initial Weight** 5.07 g

Final Volume

Run #1

Run #2

5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 0.51 0.69 1.5 0.52 0.97	1.1 1.1 1.1 2.2 1.1 2.2	0.32 0.22 0.32 0.65 0.32 0.65	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J J J J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	91% 92%		_	54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH5-S(0-1) 1115

Lab Sample ID:

T12659-5

Matrix: Method:

Project:

SO - Soil

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: 02/13/06 Date Received: 02/16/06

Percent Solids: 91.6

File ID DF Prep Batch **Analytical Batch** Analyzed By **Prep Date** Run #1 CC11329.D 02/17/06 RC 02/17/06 GCC529 1 OP5520 Run #2

**Initial Weight** Final Volume 30.0 g

Run #1

1.0 ml

Run #2

CAS No. Compound RL **MDL** Units Q Result

TPH (C10-C28)

9.1 ND 3.6 mg/kg

CAS No. **Surrogate Recoveries** 

Run# 2 Limits Run# 1

84-15-1 o-Terphenyl 74%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH5-S(10-11) 1125

File ID

EE023799.D

Lab Sample ID:

T12659-6

Matrix: Method: SO - Soil

SW846 8015

San Juan River Plant (SJRP)

DF

1

Date Sampled: 02/13/06

Date Received: 02/16/06

Percent Solids: 83.1

Project:

By **Prep Date** Prep Batch **Analytical Batch** JH GEE1056 n/a

Run #1 Run #2

**Initial Weight** Final Volume Methanol Aliquot Run #1 5.27 g 5.0 ml 100 ul

Run #2

MDL CAS No. RLUnits Q Compound Result

Analyzed

02/21/06

TPH-GRO (C6-C10)

ND . 3.4 mg/kg

n/a

CAS No. Surrogate Recoveries

Run#1 Run# 2 Limits

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

71% 83% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH5-S(10-11) 1125

Lab Sample ID:

T12659-6

pie ir

SO - Soil

Matrix: Method:

SW846 8021B

Date Sampled:

02/13/06 02/16/06

Date Received: 02

Percent Solids: 83.1

Project: San Juan River Plant (SJRP)

File ID DF Analyzed By Prep Date Run #1 KK11352.D 1 02/24/06 JH n/a

Prep Batch Analytical Batch n/a GKK749

Run #2

Initial Weight

Final Volume

Run #1 5.11 g

5.0 ml

Run #2

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	2.0 5.5 2.6 15.1 1.4 13.7	1.2 1.2 1.2 2.4 1.2 2.4	0.35 0.24 0.35 0.71 0.35 0.71	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	75% 86%			.54% .51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID:

Lab Sample ID:

GPH5-S(10-11) 1125 T12659-6

Matrix:

SO - Soil

Method:

San Juan River Plant (SJRP)

SW846 8015 M SW846 3550B

Date Received:

Date Sampled: 02/13/06 02/16/06

**Percent Solids:** 83.1

Project:

File ID CC11388.D DF 1

Analyzed 02/19/06

By RC **Prep Date** 02/17/06

**Prep Batch** 

OP5520

**Analytical Batch** GCC529

Run #1 Run #2

Run #1

**Initial Weight** 

30.2 g

Final Volume 1.0 ml

Run #2

Compound

TPH (C10-C28)

Result

RL

MDL

4.0

Units

Q

mg/kg

CAS No.

CAS No.

**Surrogate Recoveries** 

Run#1.

Run# 2

Limits

84-15-1

o-Terphenyl

76%

41-153%

ND = Not detected

MDL - Method Detection Limit RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID: GPH5-S(13-14) 1132

Lab Sample ID:

T12659-7

Matrix:

SO - Soil

Method:

SW846 8015

Analyzed

02/21/06

Date Sampled: 02/13/06 Date Received:

02/16/06

Percent Solids:

79.6

Project:

File ID

San Juan River Plant (SJRP)

DF

1

By JH

**Prep Date** n/a

Prep Batch

**Analytical Batch** 

Run #1 Run #2

**Initial Weight** Final Volume

n/a

Q

GEE1056

5.07 g

5.0 ml

Methanol Aliquot

100 ul

Run #1 Run #2

CAS No.

Compound

EE023804.D

Result

RL

**MDL** Units

TPH-GRO (C6-C10)

ND

3.7

mg/kg

CAS No.

Surrogate Recoveries

Run#1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

72% 87% 56-139% 46-136%

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Page 1 of 1

Client Sample ID: GPH5-S(13-14) 1132

Lab Sample ID:

T12659-7

Matrix: Method: SO - Soil

SW846 8021B

Date Sampled: Date Received:

02/13/06

02/16/06 79.6

Project:

San Juan River Plant (SJRP)

Percent Solids:

File ID DF KK11353.D 1

By JΗ **Prep Date** n/a

Prep Batch

**Analytical Batch GKK749** 

Run #1 Run #2

**Initial Weight** Final Volume

Run #1

5.09 g

5.0 ml

Run #2

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2.5	1.2	0.37	ug/kg	
108-88-3	Toluene	2.7	1.2	0.25	ug/kg	
100-41-4	Ethylbenzene	1.4	1.2	0.37	ug/kg	
1330-20-7	Xylenes (total)	6.6	2.5	0.74	ug/kg	
95-47-6	o-Xylene	0.84	1.2	0.37	ug/kg	J
	m,p-Xylene	5.8	2.5	0.74	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
460-00-4	4-Bromofluorobenzene	80%		43-1	54%	
98-08-8	aaa-Trifluorotoluene	89%	· · · · · · · · · · · · · · · · · · ·	46-1	151%	

Analyzed

02/24/06

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID: GPH5-S(13-14) 1132

Lab Sample ID:

T12659-7

Matrix: Method: Project:

SO - Soil

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled:

02/13/06 02/16/06

Date Received:

Percent Solids: 79.6

Run #1

File ID CC11331.D DF 1

Analyzed 02/17/06

By RC **Prep Date** 02/17/06

**Prep Batch** OP5520

**Analytical Batch** GCC529

Run #2

Initial Weight

Compound

Final Volume

Run #1

Run #2

CAS No.

30.0 g

1.0 ml

Result

RL

MDL

4.2

Units

Q

mg/kg

TPH (C10-C28)

ND ... Run# 1

Run# 2

Limits

84-15-1

CAS No.

o-Terphenyl

Surrogate Recoveries

72%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID:

GPH6-S(0-1) 1240

Lab Sample ID:

T12659-8

Matrix: Method: SO - Soil

SW846 8015

Date Sampled:

02/13/06

Date Received:

02/16/06

Percent Solids:

Project:

San Juan River Plant (SJRP)

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	EE023806.D	- 10	02/21/06	JĤ	n/a	n/a	GEE1056
Run #2	EE023873.D	50	02/23/06	JH	n/a	n/a	GEE1058

	Initial Weight	Final Volume	Methanol Aliquot	
Run #1	5.19 g	5.0 ml	100 ul	
Run #2	5.19 g	5.0 ml	100 ul	

CAS No. Compound Result

RL

Units Q

TPH-GRO (C6-C10)

1540 a 330

170

**MDL** 

mg/kg

CAS No. **Surrogate Recoveries**  Run# 1 Run# 2 Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

363% b

153% <sup>b</sup> 94%

56-139% 46-136%

(a) Result is from Run# 2

(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH6-S(0-1) 1240

Lab Sample ID:

T12659-8

Matrix: Method: Project: SO - Soil SW846 8021F

SW846 8021B San Juan River Plant (SJRP) Date Sampled: 02/13/06 Date Received: 02/16/06

Percent Solids: 84.2

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11355.D	1	02/24/06	JH	n/a	n/a	GKK749
Run #2	KK11356.D	20	02/24/06	JH	n/a	n/a	GKK749

	Initial Weight	Final Volume	Methanol Aliquot		
Run #1	5.19 g	5.0 ml	100 ul	•	*
Run #2	5.19 g	5.0 ml	100 ul		ļ

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 552; 4900 69800 a 1970 a 67800 a	67 67 67 2700 1300 2700	20 13 20 800 400 800	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	127% 119%	115% 100%	1040	54% 51%	

(a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Lab Sample ID:

T12659-8

SO - Soil

Date Sampled: 02/13/06

SW846 8015 M SW846 3550B

Date Received: 02/16/06

Percent Solids: 84.2

Method: Project:

Matrix:

San Juan River Plant (SJRP)

Run #1 Run #2	File ID CC11332.D CC11389.D	DF 1 10	Analyzed 02/17/06 02/19/06	By RC RC	Prep Date 02/17/06 02/17/06	Prep Batch OP5520 OP5520	Analytical Batch GCC529 GCC529
Tun "D					05/11/00	01 0020	00000

111111	al Weight Final Volume	
Run #1 30.0	g 1.0 ml	
Run #2 30.0	g 1.0 ml	

CAS No.	Compound	Result	RL	MDL	Units	Q

TPH (C10-C28)	249 <sup>a</sup>		99		40	mg/kg
---------------	------------------	--	----	--	----	-------

CAS No.	Surrogate Recoveries	Run# 1 Run# 2	Limits
84-15-1	o-Terphenyl	89% 80%	41-153%

<sup>(</sup>a) Result is from Run# 2

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID:

GPH6-S(9-9.5) 1247

Lab Sample ID:

T12659-9

Matrix: Method: Project:

SO - Soil

SW846 8015 San Juan River Plant (SJRP) Date Sampled:

02/13/06 02/16/06

Date Received:

Percent Solids: 76.6

Run #1

File ID EE023874.D DF 200 Analyzed 02/23/06

Ву JH **Prep Date** n/a

Prep Batch n/a

**Analytical Batch** 

**GEE1058** 

Run #2

Initial Weight

Final Volume

Methanol Aliquot

Run #1 Run #2

5.01 g

5.0 ml

100 ul

CAS No.

Compound

Result

RL

MDL Units

Q

TPH-GRO (C6-C10)

7200

1600

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2 Limits

800

56-139%

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

120% 94%

46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH6-S(9-9.5) 1247

Lab Sample ID:

T12659-9

Matrix:

SO - Soil

SW846 8021B

Date Sampled: Date Received:

02/13/06

Date Received:

02/16/06

Method: Project:

San Juan River Plant (SJRP)

Percent Solids: 76.6

File ID **Analytical Batch** DF Analyzed **Prep Date** By Prep Batch KK11357.D 02/24/06 **GKK749** Run #1 1 JH n/a n/a Run #2 KK11358.D 02/24/06 **GKK749** 20 JH n/a n/a

-	Initial Weight	Final Volume	Methanol Aliquot			· · · · · · · · · · · · · · · · · · ·	1
Run #1	5.01 g	5.0 ml	100 ul				
Run #2	5.01 g	5.0 ml	100 ul		•		

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	339	<b>8</b> 0	24	ug/kg	
108-88-3	Toluene	4950	80	16	ug/kg	
100-41-4	Ethylbenzene	58600 a	1600	480	ug/kg	
1330-20-7	Xylenes (total)	457000 a	3200	970	ug/kg	
95-47-6	o-Xylene	2090 a	1600	480	ug/kg	
	m,p-Xylene	455000 a	3200	970	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits	
460-00-4	4-Bromofluorobenzene	81%	125%	43-1	154%	
98-08-8	aaa-Trifluorotoluene	2081% <sup>b</sup>	106%	46-1	151%	

<sup>(</sup>a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



<sup>(</sup>b) Outside control limits due to matrix interference. Confirmed by reanalysis.

Page 1 of 1

Client Sample ID: GPH6-S(9-9.5) 1247

Lab Sample ID: Matrix: T12659-9 SO - Soil Date Sampled:

02/13/06

Method:

SW846 8015 M SW846 3550B

Date Received: 02/16/06

Project:

San Juan River Plant (SJRP)

Percent Solids: 76.6

Prep Date Prep Batch Analytical Batch

Run #1 CC11336.D Run #2 CC11390.D

File ID

DF 1 100 Analyzed By 02/17/06 RC 02/19/06 RC

02/17/06 02/17/06

MDL

OP5520 OP5520 GCC529 GCC529

Initial Weight Final Volume Run #1 30.1 g 1.0 ml

Run #2 30.1 g

1.0 ml

CAS No. Compound

Result

RL

Units

s Q

TPH (C10-C28)

1770 a

1100 430

mg/kg

CAS No. Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1 o-Terphenyl

111%

90%

41-153%

(a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH6-S(10-11) 1250

Lab Sample ID:

T12659-10

Matrix: Method: SO - Soil

SW846 8015

Date Sampled: Date Received:

02/13/06 02/16/06

Percent Solids: 84.3

Project:

San Juan River Plant (SJRP)

**Prep Date** 

Prep Batch n/a

**Analytical Batch** GEE1058

Run #1 Run #2

**Initial Weight** 

EE023875.D

File ID

5.15 g

Final Volume 5.0 ml

DF

10

Methanol Aliquot

By

JH

100 ul

Run #1 Run #2

CAS No.

Compound

Result

Analyzed

02/23/06

RL

**MDL** 

33

n/a

Units

Q

mg/kg

TPH-GRO (C6-C10)

141 Run# 1

Run# 2

Limits

460-00-4 98-08-8

CAS No.

4-Bromofluorobenzene

aaa-Trifluorotoluene

Surrogate Recoveries

100%

56-139%

46-136% 75%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

**E** = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID:

GPH6-S(10-11) 1250

San Juan River Plant (SJRP)

Lab Sample ID:

T12659-10

Matrix: Method: Project:

SO - Soil

SW846 8021B

Date Sampled: Date Received:

02/13/06 02/16/06

Percent Solids: 84.3

File ID DF Analyzed By **Prep Date** Prep Batch Analytical Batch Run #1 KK11359.D 1 02/24/06 JH **GKK749** n/a n/a

Run #2 KK11360.D 1 02/24/06 JH n/a n/a **GKK749** 

	Initial Weight	Final Volume	Methanol Aliquot		1
Run #1	1.07 g	5.0 ml			•
Run #2	5.15 g	5.0 ml	100 ul	•	•

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	4.6 28.5 935 1280 28.8 1250	5.5 5.5 5.5 11 5.5	1.7 1.1 1.7 3.3 1.7 3.3	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run#	2 Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	74.2% <sup>a</sup> 82.7% <sup>a</sup>	83.7% 71% a		54% 51%	

(a) %Recovery adjusted for adding wrong spiking solution. Spike added is ten times the amount.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH6-S(10-11) 1250

Lab Sample ID:

T12659-10

Matrix: Method: SO - Soil

SW846 8015 M SW846 3550B

Date Sampled: 02/13/06

Date Received: 02/16/06

Project:

San Juan River Plant (SJRP)

Percent Solids: 84.3

DF

1

**Prep Date** 02/17/06

Prep Batch OP5520

**Analytical Batch** GCC529

Run #1 Run #2

Initial Weight

CC11337.D

Run #1 Run #2

CAS No.

30.1 g

File ID

Final Volume 1.0 ml

Compound

Result

Analyzed

02/17/06

RL

By RC

MDL

3.9

Units

mg/kg

Q

TPH (C10-C28)

47.9

9.9

CAS No.

**Surrogate Recoveries** 

Run#1.

Run# 2

Limits

84-15-1

o-Terphenyl

74%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank











Misc. Forms

**Custody Documents and Other Forms** 

Includes the following where applicable:

• Chain of Custody

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T12659: Chain of Custody Page 1 of 3



1. 2. A. S. S.

	Paso			DATECTIME RECEIVED: 1 LE CEL LOCAL	X		
Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is procled, see variance for explanation):  1. (M) Sample received in undamaged condition.  2. (M) Sample received with proper ph.  3. (M) Sample received with proper ph.  5. (A) N Sample received with proper ph.  7. (M) Sample volume sufficient for analysis.  8. (A) N Sample received with chain of Custody matches sample iDs and analysis on containers.  8. (A) N A Custody areal received intact and tamper not evident on cooler.	Variance (Circle "Y" for yes and "N" for no of Sample received in undamaged condition.  Sample received with proper ph.  Sample volume sufficient for analysis.  Chain of Custody matches sample 10s and Decision of Custody seaf received intact and tample 10s. Chairdy seaf received intact and tample 10s.	Nariance (Circle "Y" for yes and "N" for no or NA. If "N" is arcted, see Sample received in undemaged condition.  Sample received with proper pH.  Sample volume sufficient for analysis.  Chain of Custody matches sample its and analysis on containers.  Chain of Custody seal received intact and tamper not evident on cooler.  Chain conditions and interval and tamper not evident on cooler.	N. If "N" is pricted.  2 N A A N B B N B N B B N B N B N B N B N	ed, see varian Samples N Samples N Sample N Sample I Sample I samp	see variance for explanation): Samples received within temp. range. Sample received in proper containers. Sample received with chain of custody, ers.	nation): nin temp. ran oper contain chain of cus	ge. ers. tody.
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		X				1,2,3,4,5,6	U, 42, >12, NA
	2					1,2,3,4,5,6	U, <2, >12, NA
7	2					1,2,3,4,5,6	U, <2, >12, NA
S.	\					1,2,3,4,5,6	U, 4, >12, NA
2						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6 U, Q, >12, NA	U, Q, >12,
					,	1,2,3,4,5,6	U, Q, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
LOCATION: Wil Walk-In VR: Volatile Refrig. SUB: Subcontract EF: En PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: HZSO4 5: NAOH 6: Other	VR: Volatile Refrig.	g. SUB: Subcontract EF: Encore Freezer	act EF: Encor OH 6: Other	e Freezer			
pH of waters checked excluding volatiles	cluding votatiles		Comments:				
pH of solls N/A	B				4.0		
Delivery method: Courier:				COOLER TEMP:		COOLER TEMP:	į.

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T12659: Chain of Custody Page 2 of 3 T12659: Chain of Custody Page 3 of 3

> 38 of 52 SACCUTEST. T12659

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# GC Volatiles

# QC Data Summaries

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



**Method Blank Summary** 

Page 1 of 1

Job Number:

T12659

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GEE1056-MB File ID

EE023792.D 1

DF

Analyzed 02/21/06

By JH Prep Date n/a

Prep Batch

n/a

**Analytical Batch** 

GEE1056

The QC reported here applies to the following samples:

Method: SW846 8015

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8

CAS No.

Compound

Result

RL

MDL

2.5

Units Q

TPH-GRO (C6-C10)

ND

5.0

mg/kg

CAS No.

**Surrogate Recoveries** 

Limits

460-00-4 98-08-8 4-Bromofluorobenzene aaa-Trifluorotoluene 93%

56-139% 46-136% Method Blank Summary Job Number: T12659

Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE1058-MB	EE023858.D	1	02/23/06	JH	n/a	n/a	GEE1058

The QC reported here applies to the following samples:

Method: SW846 8015

T12659-8, T12659-9, T12659-10

CAS No. Compound Result

RL

MDL

Units Q

TPH-GRO (C6-C10)

ND 5.0 2.5

mg/kg

CAS No. **Surrogate Recoveries**  Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

70%

56-139% 46-136%

### Method Blank Summary

Job Number:

T12659

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample File ID DF Analyzed By Prep Date Prep Batch Analytical Batch GKK749-MB KK11342.D 1 02/24/06 JH n/a n/a GKK749

The QC reported here applies to the following samples:

Method: SW846 8021B

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8, T12659-9, T12659-10

Compound	Result	RL	MDL	Units Q
Benzene	ND	1.0	0.30	ug/kg
Ethylbenzene	ND	1.0	0.30	ug/kg
Toluene	ND 🖑 🦾	1.0	0.20	ug/kg
Xylenes (total)	ND .	2.0	0.60	ug/kg
	ND	2.0	0.60	ug/kg
o-Xylene	ND	1.0	0.30	ug/kg
Surrogate Recoveries		Limi	ts	
4-Bromofluorobenzene	106%	2010000		
	Eenzene Ethylbenzene Toluene Xylenes (total) m,p-Xylene o-Xylene Surrogate Recoveries	Eenzene Ethylbenzene Toluene Xylenes (total) m,p-Xylene o-Xylene  Surrogate Recoveries  4-Bromofluorobenzene	Eenzene Ethylbenzene Toluene Xylenes (total) m,p-Xylene o-Xylene  Surrogate Recoveries  ND 1.0 ND 1.0 ND 2.0 ND 2.0 ND 1.0  Limi 4-Bromofluorobenzene	Elenzene

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Page 1 of 1

Blank Spike Summary Job Number: T12659

Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE1056-BS	EE023793.D	1	02/21/06	JH	n/a	n/a	GEE1056

The QC reported here applies to the following samples:

Method: SW846 8015

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8

CAS No.	Compound	Spike mg/kg	BSP mg/k	BSP g %	Limits
	TPH-GRO (C6-C10)	20	18.5	93	70-119
CAS No.	Surrogate Recoveries	BSP	. 1	Limits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	108% 113%		66-139% 6-136%	



Blank Spike Summary Job Number: T12659

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GEE1058-BS

DF File ID EE023859.D 1

Analyzed 02/23/06

By JH **Prep Date** n/a

Prep Batch n/a

**Analytical Batch** 

Page 1 of 1

**GEE1058** 

The QC reported here applies to the following samples:

Method: SW846 8015

T12659-8, T12659-9, T12659-10

CAS No. Compound Spike mg/kg **BSP** 

**BSP** 

80

mg/kg %

Limits

TPH-GRO (C6-C10)

20

16.0

70-119

CAS No.

**Surrogate Recoveries** 

**BSP** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

87% 100% 56-139% 46-136%

Blank Spike/Blank Spike Duplicate Summary Job Number: T12659

Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

The QC reported here applies to the following samples:

Sample	File ID	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK749-BS	KK11340.D	02/24/06	JH	n/a	n/a	GKK749
GKK749-BSD	KK11341.D	02/24/06	JH	n/a	n/a	GKK749
	·			· ·		•

Method: SW846 8021B

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8, T12659-9, T12659-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD	
71-43-2	Benzene	20	20.1	101	19.4	97	4	46-150/30	
100-41-4	Ethylbenzene	20	21.4	107	20.4	102	5	69-134/30	
108-88-3	Toluene	20	20.6	103	19.9	100	3	67-132/30	
1330-20-7	Xylenes (total)	60	63.1	105	60.4	101	4	67-134/30	
	m,p-Xylene	40	42.3	106	40.4	101	5	68-135/30	
95-47-6	o-Xylene	20	20.8	104	20.0	100	4	66-133/30	
CAS No.	Surrogate Recoveries	BSP	BS	D	Limits				
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	103% 106%	999 100	67.000	43-154° 46-151°				



Page 1 of 1

Account:

MWHSLCUT Montgomery Watson San Juan River Plant (SJRP)

Project:

T12659-6MS EE023800.D 1 02/21/06 JH n T12659-6MSD EE023801.D 1 02/21/06 JH n	Prep Date Prep Batch Analytical Batch n/a n/a GEE1056 n/a n/a GEE1056 n/a n/a GEE1056
---	---

The QC reported here applies to the following samples:

Method: SW846 8015

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8

CAS No.	Compound	T12659-6 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	26.9	22.7	84	23.0	85	1	66-122/21
CAS No.	Surrogate Recoveries	MS	MSD	T12	2659-6	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	90% 96%	90% 96%	719 839	4000 - JOSE	56-1399 46-1369			

Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

	Sample T12664-2MS T12664-2MSD T12664-2	File ID EE023861.D EE023862.D EE023860.D	1 .	Analyzed 02/23/06 02/23/06 02/23/06	By JH JH JH	Prep Date n/a n/a n/a	Prep Batch n/a n/a n/a	Analytical Batch GEE1058 GEE1058 GEE1058
ı		•			•			



The QC reported here applies to the following samples:

Method: SW846 8015

T12659-8, T12659-9, T12659-10

CAS No.	Compound	T12664-2 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	25.9	21.7	84	21.8	84	0	66-122/21
CAS No.	Surrogate Recoveries	MS	MSD	T12	664-2	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	88% 89%	90% 92%	63% 82%		56-1399 46-1369	_		



Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample         File ID         DF         Analyzed         By           T12659-4MS         KK11347.D         1         02/24/06         JH           T12659-4MSD         KK11348.D         1         02/24/06         JH           T12659-4         KK11346.D         1         02/24/06         JH	Prep Date	Prep Batch	Analytical Batch
	n/a	n/a	GKK749
	n/a	n/a	GKK749
	n/a	n/a	GKK749

The QC reported here applies to the following samples;

Method: SW846 8021B

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8, T12659-9, T12659-10

CAS No.	Compound	T12659 ug/kg	-4 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	0.84	J	22.2	17.6	75	18.0	77	2	46-140/15
100-41-4	Ethylbenzene	1.0	J	22.2	17.7	75	18.4	78	4	69-122/11
108-88-3	Toluene	2.5		22.2	18.1	70	18.5	72	2	64-125/14
1330-20-7	Xylenes (total)	13.6		66.7	54.7	62*	56.3	64*	3	66-124/13
	m,p-Xylene	11.4		44.5	36.8	57*	38.0	59*	3	67-124/12
95-47-6	o-Xylene	2.2		22.2	17.9	71	18.3	72	2	62-124/15
CAS No.	Surrogate Recoveries	MS		MSD	T1:	2659-4	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	75% <b>79</b> %		76% 82%	759 879		43-1549 46-1519	•		





# GC Semi-volatiles

# **QC** Data Summaries

## Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary Job Number: T12659

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample OP5520-MB

File ID CC11323.D 1

DF

Ву RC **Prep Date** 02/17/06

Prep Batch OP5520

Analytical Batch

Page 1 of 1

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8, T12659-9, T12659-10

CAS No.

Compound

Result

Analyzed

02/17/06

RL

**MDL** 

Units Q

TPH (C10-C28)

ND 8.2 3.3

mg/kg

CAS No.

**Surrogate Recoveries** 

Limits

84-15-1

o-Terphenyl

64%

41-153%

Job Number:

T12659

Account:

**MWHSLCUT Montgomery Watson** 

DF

Project:

San Juan River Plant (SJRP)

Sample OP5520-BS File ID CC11324.D 1 Analyzed 02/17/06

By RC **Prep Date** 02/17/06

Prep Batch OP5520

Analytical Batch

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8, T12659-9, T12659-10

CAS No.

**BSP** 

Spike mg/kg mg/kg **BSP** %

Limits

TPH (C10-C28)

Compound

33.2 28.3 85

55-131

CAS No.

Surrogate Recoveries

**BSP** 

Limits

84-15-1

o-Terphenyl

77% 41-153%

MWHSLCUT Montgomery Watson Account:

Project:

San Juan River Plant (SJRP)

T12659-1 CC11325.D 1 02/17/06 RC 02/17/06 OP5520 GCC529	Sample OP5520-MS OP5520-MSD	File ID CC11351.D CC11352.D	1	Analyzed 02/18/06 02/18/06	By RC RC	Prep Date 02/17/06 02/17/06	Prep Batch OP5520 OP5520	Analytical Batch GCC529 GCC529
	T12659-1	CC11325.D	1	02/17/06	RC	02/17/06	OP5520	GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12659-1, T12659-2, T12659-3, T12659-4, T12659-5, T12659-6, T12659-7, T12659-8, T12659-9, T12659-10

CAS No.	Compound	T12659-1 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	ТРН (С10-С28)	ND	35.1	31.2	89	33.5	95	7	49-139/24
CAS No.	Surrogate Recoveries	MS	MSD	T12	659-1	Limits			: 
84-15-1	o-Terphenyl	75%	81%	73%	6	41-1539	%		

Page 1 of 1











### Technical Report for

**Montgomery Watson** 

San Juan River Plant (SJRP)

**D-ALAB-SANJUAN-003** 

Accutest Job Number: T12664

Sampling Date: 02/13/06

### Report to:

MWH Americas, Inc.

jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 50



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino Laboratory Manager



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# **Sample Summary**

**Montgomery Watson** 

Job No:

T12664

San Juan River Plant (SJRP) Project No: D-ALAB-SANJUAN-003

Sample Number	Collected Date	Time By	Received	Matri Code		Client Sample ID
T12664-1	02/13/06	12:56 MN	02/16/06	so	Soil	GPH6-S(11.5-12.5) 1256
T12664-2	02/13/06	14:02 MN	02/16/06	so	Soil	GPH7-S(0-1) 1402
T12664-3	02/13/06	14:10 MN	02/16/06	so .	Soil	GPH7-S(8-9) 1410
T12664-4	02/13/06	14:53 MN	02/16/06	so	Soil	GPH8-S(0-1) 1453
T12664-5	02/13/06	15:00 MN	02/16/06	SO	Soil	GPH8-S(10-11) 1500
T12664-6	02/13/06	15:10 MN	02/16/06	SO	Soil	GPH8-S(11.5-12.5) 1510
T12664-7	02/13/06	16:00 MN	02/16/06	SO	Soil	GPH9-S(0-1) 1600
T12664-8	02/13/06	16:18 MN	02/16/06	so	Soil	GPH9-S(10-11) 1618
T12664-9	02/13/06	16:28 MN	02/16/06	SO	Soil	GPH9-S(11-12) 1628
T12664-10	02/13/06	07:00 MN	02/16/06	AQ	Trip Blank Soil	TRIP BLANK 130206TB01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.



# Sample Results

Report of Analysis

Page 1 of 1

GPH6-S(11.5-12.5) 1256 Client Sample ID:

Lab Sample ID:

T12664-1

Matrix: Method: Project:

SO - Soil SW846 8015

San Juan River Plant (SJRP)

Date Sampled:

02/13/06 Date Received: 02/16/06

Percent Solids: 86.9

DF By **Prep Date** Prep Batch **Analytical Batch** File ID Analyzed Run #1 EE023876.D 200 02/23/06 JH n/a **GEE1058** n/a

Run #2

**Initial Weight** Run #1 5.14 g

Final Volume 5.0 ml

Methanol Aliquot

100 ul

Run #2

CAS No. Compound

Result

RL

1300

**MDL** 

640

Units

Q

mg/kg

5680 Run# 1

Run# 2

Limits

460-00-4 98-08-8

CAS No.

4-Bromofluorobenzene aaa-Trifluorotoluene

Surrogate Recoveries

TPH-GRO (C6-C10)

128% 111%

56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH6-S(11.5-12.5) 1256

Lab Sample ID: Matrix:

T12664-1

SO - Soil

SW846 8021B

Date Received:

Date Sampled: 02/13/06

02/16/06

Method: Project:

San Juan River Plant (SJRP)

Percent Solids: 86.9

Run #1

File ID KK11404.D DF 20

Analyzed 02/26/06

By JH **Prep Date** n/a

Prep Batch n/a

**Analytical Batch GKK751** 

Run #2

Run #1

**Initial Weight** 5.19 g

Final Volume 5.0 ml

Methanol Aliquot

100 ul

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND ***	1300	380	ug/kg	
108-88-3	Toluene	3600	1300	250	ug/kg	
100-41-4	Ethylbenzene	30800	1300	380	ug/kg	
1330-20-7	Xylenes (total)	215000	2500	760	ug/kg	
95-47-6	o-Xylene	4100	1300	380	ug/kg	
	m,p-Xylene	211000	2500	760	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits	
460-00-4	4-Bromofluorobenzene	131%	Ä	43-1	54%	
98-08-8	aaa-Trifluorotoluene	104%		46-1	51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

**Analytical Batch** 

Client Sample ID: GPH6-S(11.5-12.5) 1256

Lab Sample ID:

T12664-1

Date Sampled: 02/13/06

Matrix:

SO - Soil

Date Received:

02/16/06

Method: Project:

CAS No.

SW846 8015 M SW846 3550B San Juan River Plant (SJRP)

Percent Solids: 86.9

<u> </u>						
	File ID	DF	Analyzed	By	Prep Date	Prep Batch
Run #1	CC11372.D	1	02/18/06	RČ	02/17/06	OP5528

Kull #2	——————		02/20/00	<u> </u>		OF 3326	
Run #2	CC11403.D	5	02/20/06	FO	02/17/06	OP5528	GCC530
Run #1	CC11372.D	1	02/18/06	RC	02/17/06	OP5528	GCC529

	Initial Weight	Final Volume		 		
Run #1	30.9 g	1.0 ml				
Run #2	30.9 g	1.0 ml				

Run# 2

Limits

CAS No. Compound Result RL MDL Units Q

> TPH (C10-C28) 19 135 a mg/kg

> > Run# 1

**Surrogate Recoveries** 84-15-1 o-Terphenyl **79%** 41-153%

(a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH7-S(0-1) 1402

Lab Sample ID:

T12664-2

Matrix: Method: SO - Soil

SW846 8015

Date Sampled:

02/13/06

**Prep Batch** 

Date Received: Percent Solids:

02/16/06 86.7

Q

Project:

San Juan River Plant (SJRP)

1

**Analytical Batch** 

File ID DF Analyzed

Run #1

**Prep Date** n/a

GEE1058 n/a

Run #2

**Initial Weight** Run #1 5.05 g

EE023860.D

Final Volume 5.0 ml

Methanol Aliquot

By

JH

100 ul

Run #2 CAS No.

Compound

Result

02/23/06

RL

Units

mg/kg

**MDL** 3.2

TPH-GRO (C6-C10)

ND 6.5 Run# 1

Run# 2

Limits

CAS No. 460-00-4

**Surrogate Recoveries** 

56-139%

98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

63%

46-136%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID:	GPH7-S(0-1)	1402
-------------------	-------------	------

Lab Sample	
Matriv	

Method:

T12664-2

ID:

SO - Soil

SW846 8021B

Date Sampled: Date Received:

02/13/06 02/16/06 Percent Solids: 86.7

Project: San Juan River Plant (SJRP)

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11397.D	1	02/26/06	JĤ	n/a	n/a	GKK751
Run #2	KK11398.D	1.	02/26/06	JH	n/a	n/a	GKK751

Run #1 5.09 g 5.0 ml
n 40 400 FO F
Run #2 1.26 g 5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND ND	1.1 1.1 1.1 2.3 1.1 2.3	0.34 0.23 0.34 0.68 0.34 0.68	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	73% 79%	88% 89%	Reference	54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

 $B \,=\, Indicates \; analyte \; found \; in \; associated \; method \; blank \;$ 



Client Sample ID: GPH7-S(0-1) 1402

Lab Sample ID:

T12664-2

Matrix: Method: Project:

SO - Soil

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

DF

1

Date Sampled:

02/13/06 02/16/06

**Prep Batch** 

OP5528

Percent Solids:

Date Received: 86.7

**Analytical Batch** GCC529

Run #1 Run #2

Run #2

**Initial Weight** 

Run #1

30.6 g

File ID

CC11373.D

Final Volume 1.0 ml

CAS No.

Compound

Result

Analyzed

02/18/06

RL

By

RC

MDL

3.8

**Prep Date** 

02/17/06

Units

mg/kg

Q

TPH (C10-C28)

ND 9.4

Limits

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

84-15-1

o-Terphenyl

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH7-S(8-9) 1410

Lab Sample ID:

T12664-3

Matrix:

Project:

SO - Soil

Method:

SW846 8015

San Juan River Plant (SJRP)

DF

1

Date Sampled: 02/13/06 Date Received:

02/16/06 Percent Solids: 87.3

**Analytical Batch** 

Run #1

File ID EE023863.D Analyzed 02/23/06

By JH **Prep Date** n/a

Prep Batch n/a

**GEE1058** 

Run #2

**Initial Weight** 5.18 g

Final Volume 5.0 ml

Methanol Aliquot

100 ul

Run #1 Run #2

CAS No. Compound Result

RL

**MDL** 

3.1

Units

Q

TPH-GRO (C6-C10)

10.2 6.3

Run# 2

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

81% 84% 56-139% 46-136%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank





By

JH

JH

Page 1 of 1

**GKK751** 

Client Sample ID:

File ID

KK11399.D

Lab Sample ID:

GPH7-S(8-9) 1410 T12664-3

Matrix:

SO - Soil

Analyzed

02/26/06

Date Sampled:

02/13/06

Method:

SW846 8021B

Date Received: Percent Solids:

n/a

02/16/06

Project:

Run #1

San Juan River Plant (SJRP)

DF

1

87.3

n/a

_			
	Prep Date	Prep Batch	Analytical Batch
	n/a	n/a	GKK751

KK11400.D Run #2 02/26/06 **Initial Weight** Final Volume

Run #1 5.00 g 5.0 ml

Run #2 1.26 g 5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND : 1.4   1.1   8.4   1.4   7.1	1.1 1.1 1.1 2.3 1.1 2.3	0.34 0.23 0.34 0.69 0.34 0.69	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	. Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	72% 89%	79% 88%		54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH7-S(8-9) 1410

Lab Sample ID: Matrix:

T12664-3

Method: Project:

SO - Soil SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: 02/13/06

Date Received: 02/16/06 Percent Solids: 87.3

File ID DF By **Prep Date Prep Batch Analytical Batch** Analyzed CC11374.D RC 02/17/06 **GCC529** Run #1 1 02/18/06 OP5528

Run #2

Final Volume **Initial Weight** 30.3 g

Run #1 Run #2 1.0 ml

CAS No. Compound Result

RL

9.4

**MDL** 

Units

Q

TPH (C10-C28)

42.9

3.8

mg/kg

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

80%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit E = Indicates value exceeds calibration range J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH8-S(0-1) 1453

File ID

Lab Sample ID:

T12664-4

Matrix: Method: SO - Soil

SW846 8015

Date Sampled:

02/13/06 02/16/06

Date Received: Percent Solids: 85.4

Project:

San Juan River Plant (SJRP)

DF

1

**Prep Date** 

Prep Batch

**Analytical Batch** 

Run #1 Run #2

By JH

n/a

n/a

**GEE1058** 

Run #1

Run #2

**Initial Weight** 5.14 g

EE023890.D

Final Volume 5.0 ml

Methanol Aliquot

100 ul

CAS No.

Compound

Result

Analyzed

02/23/06

RL

**MDL** 

3.3

Units Q

TPH-GRO (C6-C10)

7.13

6.6

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

97% 86% 56-139% 46-136%

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound

By

JH

Client Sample ID: GPH8-S(0-1) 1453

Lab Sample ID:

T12664-4

Matrix: Method: SO - Soil

SW846 8021B

Date Sampled:

02/13/06 Date Received: 02/16/06

Percent Solids:

n/a

85.4

Project:

San Juan River Plant (SJRP)

DF

1

**Prep Date** Prep Batch Analytical Batch GKK751

n/a

Run #1 Run #2

**Initial Weight** 

KK11401.D

File ID

Final Volume

Analyzed

02/26/06

Run #1 4.98 g

5.0 ml

Run #2

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 0.61 ND 3.2 0.90 2.3	1.2 1.2 1.2 2.4 1.2 2.4	0.35 0.24 0.35 0.71 0.35 0.71	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	73% 78%	-	_	54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH8-S(0-1) 1453

Lab Sample ID:

T12664-4

Matrix:

SO - Soil

SW846 8015 M SW846 3550B

Date Sampled:

02/13/06

Date Received:

02/16/06

Method: Project:

San Juan River Plant (SJRP)

Percent Solids: 85.4

File ID DF **Prep Date** Analyzed By Prep Batch **Analytical Batch** 

CC11385.D Run #1 02/19/06 RC 02/17/06 OP5528 GCC529 1 CC11375.D Run #2 10 02/18/06 RC 02/17/06 OP5528 GCC529

**Initial Weight** Final Volume

Run #1 30.1 g Run #2

1.0 ml

30.1 g 1.0 ml

CAS No. Compound Result RL MDL Units Q

TPH (C10-C28)

391 a 97

39

mg/kg

CAS No. **Surrogate Recoveries**  Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

133%

41-153%

(a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH8-S(10-11) 1500

Lab Sample ID: Matrix:

Method:

T12664-5

DF

20

SO - Soil

SW846 8015

Date Sampled: Date Received:

02/13/06 02/16/06

Percent Solids: 88.6

San Juan River Plant (SJRP) Project:

File ID Run #1

EE023870.D

Analyzed 02/23/06

By JĤ **Prep Date** Prep Batch n/a

**Analytical Batch** GEE1058

Run #2

**Initial Weight** 

Final Volume

Methanol Aliquot

Run #1 Run #2

5.12 g 5.0 ml 100 ul

CAS No. Compound Result

RL

**MDL** 

62

n/a

Units

Q

TPH-GRO (C6-C10)

242

120

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

98% **78**% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



#### **Accutest Laboratories**

## Report of Analysis

Page 1 of 1

Client Sample ID:

GPH8-S(10-11) 1500

Lab Sample ID:

T12664-5

Matrix:

SO - Soil

Method:

SW846 8021B

Date Sampled: Date Received:

02/13/06 02/16/06

Percent Solids: 88.6

Project:

San Juan River Plant (SJRP)

DF

1

Prep Batch **Analytical Batch** 

Run #1

File ID KK11428.D Analyzed 02/27/06

By JH

**Prep Date** n/a

n/a

**GKK751** 

Run #2

**Initial Weight** Run #1 5.12 g

Final Volume  $5.0 \, ml$ 

Methanol Aliquot

100 ul

Run #2

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	25.6 70.0 465 9290 1580 7710	62 62 62 120 62 120	18 12 18 37 18 37	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	117% 90%			.54% .51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH8-S(10-11) 1500

Lab Sample ID: Matrix:

Method:

Project:

T12664-5

SO - Soil SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/13/06 02/16/06

88.6

Percent Solids:

	File ID	. DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	CC11376.D	1	02/18/06	RC	02/17/06	OP5528	GCC529
Run #2	CC11404.D	10	02/20/06	FO	02/17/06	OP5528	GCC530

**Initial Weight** Final Volume Run #1 1.0 ml 30.2 g 1.0 ml Run #2 30.2 g

TPH (C10-C28)

CAS No. Compound Result RL MDL

Units Q

337 a

37 mg/kg

CAS No. **Surrogate Recoveries**  Run# 1 Run# 2 Limits

84-15-1 o-Terphenyl

41-153% **78**%

(a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH8-S(11.5-12.5) 1510

Lab Sample ID:

T12664-6

Matrix:

SO - Soil

SW846 8015

Date Sampled:

02/13/06

Date Received:

02/16/06

Method: Project:

San Juan River Plant (SJRP)

Percent Solids: 86.5

DF File ID Analyzed By **Prep Date** Prep Batch **Analytical Batch** EE023871.D 20

Run #1 02/23/06 JH n/a **GEE1058** n/a Run #2 EE023877.D 100 02/23/06 JH **GEE1058** n/a n/a

Initial Weight Final Volume Methanol Aliquot Run #1 5.0 ml 100 ul 5.04 g 100 ul Run #2 5.0 ml 5.04 g

CAS No. Compound Result RL**MDL** Units Q

> TPH-GRO (C6-C10) 1890 130 65 mg/kg

CAS No. Surrogate Recoveries Run#1 Run# 2 Limits

460-00-4 4-Bromofluorobenzene 160% a 131% 56-139% 98-08-8 aaa-Trifluorotoluene 108% 119% 46-136%

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH8-S(11.5-12.5) 1510

Lab Sample ID: Matrix:

T12664-6

SO - Soil

SW846 8021B

Date Sampled: Date Received:

02/13/06 02/16/06

**Percent Solids:** 86.5

Method: Project:

San Juan River Plant (SJRP)

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11433.D	1	02/27/06	JĤ	n/a	n/a	GKK751
Run #2	KK11434.D	20	02/27/06	JH	n/a	n/a	GKK751

	Initial Weight	Final Volume	Methanol Aliquot	
Run #1	5.04 g	5.0 ml	100 ul	
Run #2	5.04 g	5.0 ml	100 ul	

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	411 50400 a 16600 a 335000 a 65500 a 269000 a	65 1300 1300 2600 1300 2600	20 260 390 780 390 780	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	150% 1332% b	114% 94%	11001000	.54% .51%	

(a) Result is from Run# 2

(b) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

**E** = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client	Sample	ID.	GPH8-S	(11 4	5-12 5)	1510
CHEIR	Sample	w.	GI 110-31	( I I	J-14.J	LOID

Lab Sample ID:

T12664-6 SO - Soil

Date Sampled: 02/13/06

Matrix: Method:

SW846 8015 M SW846 3550B

Date Received: Percent Solids:

02/16/06 86.5

Project:

San Juan River Plant (SJRP)

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC11377.D	1	02/18/06	RC	02/17/06	OP5528	GCC529
Run #2	CC11406.D	50	02/20/06	FO	02/17/06	OP5528	GCC530

	Initial Weight	Final Volume	 	
Run #1	30.2 g	1.0 ml		
Run #2	30.1 g	1.0 ml		

CAS No. Compound Result

RL

MDL

Units

TPH (C10-C28)

1950 a 480

190 mg/kg

CAS No. **Surrogate Recoveries**  Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

118%

93%

41-153%

(a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID:	GPH9-S(0-1)	1600
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Lab Sample ID: Matrix:

T12664-7

Method: Project:

SO - Soil

SW846 8015

Date Sampled:

02/13/06 Date Received: 02/16/06 Percent Solids: 88.6

San Juan River Plant (SJRP)

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
	EE023864.D	1	02/23/06	JH	n/a	n/a	GEE1058
Run #2							

Run #1	Initial Weight 5.13 g	Final Volume 5.0 ml	Methanol Aliquot 100 ul		
Run #2					

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.1	3.1	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	59% 73%			39% 36%	

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH9-S(0-1) 1600

Lab Sample ID:

T12664-7

Matrix:

SO - Soil

SW846 8021B

Date Sampled:

02/13/06 02/16/06

Date Received: Percent Solids: 88.6

Method: Project:

San Juan River Plant (SJRP)

File ID DF Prep Batch **Analytical Batch** Analyzed By **Prep Date** Run #1 KK11415.D 02/26/06 **GKK751** 1 JH n/a n/a 02/26/06 Run #2 KK11414.D 1 JH n/a n/a **GKK751** 

**Initial Weight** Final Volume Run #1 1.05 g 5.0 ml 5.04 g Run #2 5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 3.5 ND 12.2 3.7 8.6	5.4 5.4 5.4 11 5.4	1.6 1.1 1.6 3.2 1.6 3.2	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J J
CAS No.	Surrogate Recoveries	Run# 1	Run#	2 Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	80% 81%	52% 67%	J20000000	.54% .51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH9-S(0-1) 1600

Lab Sample ID:

T12664-7

Matrix: Method: SO - Soil

Project:

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

File ID DF

Analyzed Ву 02/19/06 RC

**Prep Date** 02/17/06

Date Sampled: Date Received:

Percent Solids:

Prep Batch OP5528

02/13/06

02/16/06

88.6

**Analytical Batch** GCC529

Run #1 Run #2

**Initial Weight** 

Final Volume

30.0 g

CC11381.D

1.0 ml

1

Run #1 Run #2

CAS No. Compound Result

RL

**MDL** 

3.8

Units

Q

TPH (C10-C28)

ND 9.4

mg/kg

CAS No.

Surrogate Recoveries

Run#1

Run# 2

Limits

84-15-1

o-Terphenyl

77%

41-153%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH9-S(10-11) 1618

Lab Sample ID:

T12664-8

Matrix:

SO - Soil

Method:

SW846 8015

Date Sampled: 02/13/06 Date Received:

Percent Solids: 85.8

02/16/06

Project: San Juan River Plant (SJRP)

File ID

EE023872.D

DF 20

Analyzed 02/23/06

By JĚ **Prep Date** n/a

Prep Batch n/a

**Analytical Batch** GEE1058

Run #1 Run #2

Run #1

Run #2

CAS No.

**Initial Weight** 4.99 g

Final Volume 5.0 ml

Methanol Aliquot 100 ul

Compound

Result

RL

**MDL** 

Units 0

TPH-GRO (C6-C10)

191

130

mg/kg

CAS No.

**Surrogate Recoveries** 

Run#1

Run# 2

67

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

81% 68%

56-139% 46-136%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH9-S(10-11) 1618

Lab Sample ID: Matrix:

T12664-8 SO - Soil

Date Sampled: 02/13/06

Method:

SW846 8021B

Date Received: 02/16/06 Percent Solids: 85.8

Project:

San Juan River Plant (SJRP)

KK11435.D

DF 1

By

**Prep Date** 

**Prep Batch** 

**Analytical Batch** 

Run #1 Run #2

JH

n/a

n/a

GKK751

**Initial Weight** 

File ID

Final Volume

Methanol Aliquot

Run #1

4.99 g

5.0 ml

100 ul

Analyzed

02/27/06

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 38.2 346 5340 122 5220	67 67 67 130 67 130	20 13 20 40 20 40	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene	107% 88%			.54% .51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH9-S(10-11) 1618

Lab Sample ID: Matrix:

T12664-8

File ID

CC11382.D

SO - Soil

SW846 8015 M SW846 3550B

Date Sampled:

02/13/06

Date Received:

02/16/06

Method:

Percent Solids:

85.8

Project:

San Juan River Plant (SJRP)

DF

10

**Prep Date** 02/17/06

Prep Batch OP5528

**Analytical Batch** GCC529

Run #1 Run #2

**Initial Weight** 

Final Volume

Run #1

30.1 g

1.0 ml

Run #2

CAS No.

Compound

Result

Analyzed

02/19/06

RL

By

RC

MDL

39

Units

mg/kg

Q

TPH (C10-C28)

376

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

83%

41-153%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID: GPH9-S(11-12) 1628

Lab Sample ID: Matrix:

T12664-9

Method: Project:

460-00-4

98-08-8

SO - Soil

SW846 8015

Date Sampled:

02/13/06 02/16/06 Date Received: Percent Solids: 93.2

San Juan River Plant (SJRP)

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	EE023865.D	1	02/23/06	JH	n/a	n/a	GEE1058
Run #2	EE023892.D	4	02/23/06	JH	n/a	n/a	GEE1058

	Initial Weight	Final Volume	Methanol Aliquot	_	
Run #1	5.05 g	5.0 ml	100 ul		
Run #2	5.05 g	5.0 ml	100 ul		

CAS No. Compound Result RLMDL TPH-GRO (C6-C10) 88.8 5.7 2.8

4-Bromofluorobenzene

aaa-Trifluorotoluene

Run# 1

Run# 2

mg/kg

Units

CAS No. Surrogate Recoveries

323% a

92%

232% a 113%

56-139% 46-136%

Limits

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH9-S(11-12) 1628

Lab Sample ID:

T12664-9

Matrix:

SO - Soil

SW846 8021B

Date Sampled: 02/13/06

Date Received:

02/16/06

Percent Solids:

93.2

Method: Project:

San Juan River Plant (SJRP)

Prep Batch

**Analytical Batch** 

Run #1

DF File ID KK11437.D 1

Analyzed 02/27/06

Ву JH **Prep Date** n/a

n/a

**GKK751** 

Run #2

**Initial Weight** 5.05 g

Final Volume 5.0 ml

Methanol Aliquot

100 ul

Run #1 Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 58.3 95.9 1130 321 804	57 57 57 110 57 110	17 11 17 34 17 34	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	120% 99%			.54% .51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



GPH9-S(11-12) 1628 Client Sample ID:

Lab Sample ID:

T12664-9

Matrix:

SO - Soil

Method: Project:

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: 02/13/06 Date Received: 02/16/06

Percent Solids: 93.2

**Analytical Batch** File ID DF Analyzed **Prep Date** Prep Batch By CC11387.D 1 02/19/06 RC 02/17/06 OP5528 GCC529 Run #1 Run #2

**Initial Weight** Final Volume Run #1 1.0 ml 30.1 g

Run #2

CAS No. Compound Result

RL

**MDL** 

3.6

Units

Q

TPH (C10-C28)

10.3

mg/kg

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

74%

41-153%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



By

JH

02/18/06

Page 1 of 1

Client Sample ID: **TRIP BLANK 130206TB01** 

Lab Sample ID:

T12664-10

Matrix: Method: AQ - Trip Blank Soil

1.

SW846 8021B

Date Sampled: 02/13/06 Date Received: 02/16/06

n/a

Percent Solids: n/a

Project:

San Juan River Plant (SJRP)

File ID DF Analyzed

**Prep Date** Prep Batch n/a

**Analytical Batch GKK744** 

Run #1 Run #2

Purge Volume

5.0 ml

KK11191.D

Run #1

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND ND	1.0 1.0 1.0 2.0 1.0 2.0	0.38 0.36 0.35 0.72 0.42 0.72	ug/l ug/l ug/l ug/l ug/l ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	92% 101%			36% 44%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank









Misc. Forms

**Custody Documents and Other Forms** 

Includes the following where applicable:

• Chain of Custody



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T12664: Chain of Custody

Page 1 of 3

4

			W					,
CLI	CLIENT: THE PERSON	PX XO			INITIALS:	¥		
85%	Condition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation): 1 (Y) N Sample received in undamaged condition. 3 Y (M) Sample received with proper pH.	on/variance (Circle "Y" for yes and "N" for no on Sample received in undamaged condition.  ⚠ Sample received with proper pH.	nd "N" for no or NA led condition. pH.	If 'N" is circled	iled, see vari N Samples N Sample	see variance for explanation): Samples received within temp. range. Sample received in proper containers.	nation): in temp. ran oper contain	ige. ers.
<u> </u>	YN Chain of Cu YN Chain of Cu YN MACustody YN NA Custody	Sample volume sufficient for analysis. Chain of Custody matches sample ID: A Custody seal received intact and ta Custody seal received intact and ta	6.7 N Sample volume sufficient for analysis. Chain of Custody matches sample IDs and analysis on containers. AD Custody seal received intact and tamper not evident on cooler. NA Custody seal received intact and tamper not evident on bottles.	6.00 alysis on con evident on co	N Sample tainers. ooler.	Sample received with chain of custody srs.	chain of cus	to dy.
ŝ	SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	£
<u>L</u> .	6-1		2113	Я	<del>2</del> 0h	WEF		U, Q, >12, NA
<u> </u>	2	(-)	-+	£	your	: ; <del>-  </del>	123,4,5,6	U, 4, >12, NA
_	/						1,2,3,4,5,6	U, <2, >12, NA
<u> </u>				,			1,2,3,4,5,6	U, 42, >12, NA
							1,2,3,4,5,6	U, <2, >12, NA
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							1,2,3,4,5,6	U, 4, >12, NA
							1,2,3,4,5,6	U, <2, >12, NA
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	-						1,2,3,4,5,6	U, <2, >12, NA
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<u>· \</u>							1,2,3,4,5,6	U, Q, >12, NA
78 PR	LOCATION: WI: Walk-In VR: Votatile Refrig. SUB: Subcontract EF: En PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: Other PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: OTHER PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: OTHER PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: OTHER PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: OTHER PRESERVATIVES: 1: NONE 2: HCL 3: HNO3 4: H2804 5: NAOH 8: OTHER PRESERVATIVES: 1: NONE 2: HCL 3: HCL	VR: Votatile Refrig.	g. SUB: Subcontract 3 4: H2SO4 5: NAOH C	nd EF: Encore Freezer 3H 6: Other Commente:	e Freezer			
H ;	pH of waters checked excluding votatiles	uding volatiles						
	Delivery method: Courier.	( <del>7</del> 7)			COOLER TEMP:	6.	COOLER TEMP:	i i i
	Hacking							

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T12664: Chain of Custody Page 2 of 3 tone11

Phone 205 2.2.4 2.7.5

854538306190

T12664: Chain of Custody Page 3 of 3

> 36 of 50 ACCUTEST. T12664

1.7.67

3

18 C. S.







### GC Volatiles

#### **QC** Data Summaries

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

4

**Method Blank Summary** 

T12664 Job Number:

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GEE1058-MB	File ID EE023858.D	DF 1	Analyzed 02/23/06	Ву ЈН	Prep Date n/a	Prep Batch n/a	Analytical Batch GEE1058
,					1		
						•	

The QC reported here applies to the following samples:

Method: SW846 8015

Units Q

mg/kg

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No. MDL Compound Result RLTPH-GRO (C6-C10) 5.0

ND 2.5

CAS No. Surrogate Recoveries Limits

460-00-4 4-Bromofluorobenzene 70% 56-139% 98-08-8 aaa-Trifluorotoluene 46-136%



Page 1 of 1

# Method Blank Summary Job Number: T12664

Account:

MWHSLCUT Montgomery Watson San Juan River Plant (SJRP)

Project:

Sample	File ID	DF	Analyzed 02/18/06	By	Prep Date	Prep Batch	Analytical Batch
GKK744-MB	KK11178.D	1		JH	n/a	n/a	GKK744
					•		

The QC reported here applies to the following samples:

Method: SW846 8021B

T12664-10

CAS No.	Compound	Result	RL	MDL	Units Q
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND	1.0 1.0 1.0 2.0 1.0 2.0	0.38 0.35 0.36 0.72 0.42 0.72	ug/l ug/l ug/l ug/l ug/l ug/l
CAS No.	Surrogate Recoveries		Limi	ts	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	93% 95%	56-13 50-14		



Page 1 of 1



Method Blank Summary Job Number: T12664

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GKK751-MB

File ID DF KK11394.D 1

Analyzed 02/26/06

Ву JH **Prep Date** 

n/a

Prep Batch

Q

Analytical Batch

Page 1 of 1

GKK751

The QC reported here applies to the following samples:

Method: SW846 8021B

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

71-43-2         Benzene         ND         1.0         0.30         ug/kg           100-41-4         Ethylbenzene         ND         1.0         0.30         ug/kg           108-88-3         Toluene         ND         1.0         0.20         ug/kg           1330-20-7         Xylenes (total)         ND         2.0         0.60         ug/kg           m,p-Xylene         ND         2.0         0.60         ug/kg           95-47-6         o-Xylene         ND         1.0         0.30         ug/kg	CAS No.	Compound	Result	RL.	MDL	Units
108-88-3       Toluene       ND       1.0       0.20       ug/kg         1330-20-7       Xylenes (total)       ND       2.0       0.60       ug/kg         m,p-Xylene       ND       2.0       0.60       ug/kg	71-43-2	Benzene	ND	1.0	0.30	ug/kg
1330-20-7 Xylenes (total) ND 2.0 0.60 ug/kg m,p-Xylene ND 2.0 0.60 ug/kg	100-41-4	Ethylbenzene	ND	1.0	0.30	ug/kg
m,p-Xylene ND 2.0 0.60 ug/kg	108-88-3	Toluene	ND	1.0	0.20	ug/kg
	1330-20-7	Xylenes (total)	ND	2.0	0.60	ug/kg
		nı,p-Xylene	ND	2.0	0.60	ug/kg
	95-47-6		ND	1.0	0.30	ug/kg

CAS No.

**Surrogate Recoveries** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene

aaa-Trifluorotoluene

105% 105%

43-154% 46-151%

Blank Spike Summary

Job Number: T12664

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample File ID **GEE1058-BS** EE023859.D 1

DF

Analyzed 02/23/06

Ву JĚ **Prep Date** n/a

**Prep Batch** n/a

**Analytical Batch** 

Page 1 of 1

**GEE1058** 

The QC reported here applies to the following samples:

Method: SW846 8015

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No. Compound Spike **BSP** 

**BSP** %

mg/kg mg/kg Limits

TPH-GRO (C6-C10)

20

16.0

**80** 70-119

CAS No. Surrogate Recoveries **BSP** 

Limits

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

87% 100% 56-139% 46-136%



Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GKK744-BS File ID DF KK11179.D 1

Analyzed 02/18/06

Ву JĤ **Prep Date** n/a

**Prep Batch** 

Analytical Batch

n/a

GKK744

The QC reported here applies to the following samples:

Method: SW846 8021B

T12664-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.5	98	72-125
100-41-4	Ethylbenzene	20	18.3	92	76-125
108-88-3	Toluene	20	17.7	89	74-125
1330-20-7	Xylenes (total)	60	55.8	93	78-124
95-47-6	o-Xylene	20	18.7	94	78-124
	m,p-Xylene	40	37.1	93	78-125
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	91% 90%	Magazina	-136% -144%	·



# Blank Spike/Blank Spike Duplicate Summary Job Number: T12664

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample GKK751-BS GKK751-BSD	File ID KK11395.D KK11396.D	Analyzed 02/26/06 02/26/06	By JH JH	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch GKK751 GKK751	

Method: SW846 8021B

The QC reported here applies to the following samples:

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	18.5	93	18.1	91	2	46-150/30
100-41-4	Ethylbenzene	20	19.3	97	19.0	95	2	69-134/30
108-88-3	Toluene	20	19.0	95	18.6	93	2	67-132/30
1330-20-7	Xylenes (total)	60	57.2	95	56.6	94	1	67-134/30
	m,p-Xylene	40	38.1	95	37.7	94	1	68-135/30
95-47-6	o-Xylene	20	19.1	96	18.9	95	1	66-133/30
CAS No.	Surrogate Recoveries	BSP	BSI	D .	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	96% 94%	969 899		43-1549 46-1519	-		



Page 1 of 1

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12664

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T12664-2MS	EE023861.D	1	02/23/06	JĚ	n/a	n/a	GEE1058
T12664-2MSD	EE023862.D	1	02/23/06	JH	n/a	n/a	GEE1058
T12664-2	EE023860.D	1	02/23/06	JH	n/a	n/a	GEE1058
i							the state of the s

The QC reported here applies to the following samples:

Method: SW846 8015

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No.	Compound	T12664-2 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
*	TPH-GRO (C6-C10)	ND	25.9	21.7	84	21.8	84	0	66-122/21
CAS No.	Surrogate Recoveries	MS	MSD	T12	2664-2	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	88% 89%	90% 92%	63% 82%	78.800 F	56-139% 46-136%			

# Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12664

MWHSLCUT Montgomery Watson San Juan River Plant (SJRP) Account:

Project:

Sample	File ID	DF	Analyzed	Ву	Prep Date	<b>A</b>	Analytical Batch
T12625-11MS T12625-11MSD			02/18/06 02/18/06	JH JH	n/a n/a	n/a n/a	GKK744 GKK744
T12625-11	KK11197.D	=	02/18/06	JH	n/a	n/a	GKK744 GKK744
T12625-11	KK11198.D	10	02/18/06	JH	n/a	n/a	GRR/44

Method: SW846 8021B The QC reported here applies to the following samples:

T12664-10

CAS No.	Compound	T12625- ug/l	11 Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		200	195	98	192	96	2	45-137/21
100-41-4	Ethylbenzene	7.5		200	179	86	178	85	1	68-126/15
108-88-3	Toluene	ND-		200	171	86	169	85	1	63-130/22
1330-20-7	Xylenes (total)	5.9		600	528	87	523	86	1	72-125/19
95-47-6	o-Xylene	4.4		200	184	90	183	89	1	70-128/20
	m,p-Xylene	1.5	J	400	344	86	341	85	1	63-136/19
CAS No.	Surrogate Recoveries	MS		MSD	<b>T</b>	12625-11	T12625	-11 L	Limits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	90% 99%		89% 99%		<b>2</b> %	96% 88%		6-136% 0-144%	



Page 1 of 1

#### Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number:

T12664

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch	
T12664-7MS	KK11416.D	1	02/27/06	JĚ	n/a Î	n/a Î	GKK751	
T12664-7MSD	KK11417.D	1	02/27/06	JH	n/a	n/a	GKK751	
T12664-7	KK11415.D	1	02/26/06	JH	n/a	n/a	GKK751	
T12664-7	KK11414.D	1	02/26/06	JH	n/a	n/a	GKK751	

The QC reported here applies to the following samples:

Method: SW846 8021B

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No.	Compound	T12664- ug/kg	7 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		116	98.1	84	98.7	86	1	46-140/15
100-41-4	Ethylbenzene	ND		116	99.1	85	100	87	1	69-122/11
108-88-3	Toluene	3.5	J	116	103	86	103	86	0	64-125/14
1330-20-7	Xylenes (total)	12.2		349	320	88	317	88	1	66-124/13
	m,p-Xylene	8.6	J	233	215	89	213	89	1	67-124/12
95-47-6	o-Xylene	3.7	J	116	104	86	104	87	0	62-124/15
CAS No.	Surrogate Recoveries	MS		MSD	T12	2664-7	T12664	-7 Li	mits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	82% 78%		83% 83%	809 819	688085300	52% 67%	91717	-154% -151%	





GC Semi-volatiles

**QC Data Summaries** 

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary Job Number: T12664

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample File ID DF Analyzed By **Prep Date** Prep Batch **Analytical Batch** GCC529 RC OP5528 OP5528-MB CC11356.D 1 02/18/06 02/17/06

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No. Compound Result

RL

**MDL** Units Q

TPH (C10-C28)

ND 8.2 3.3

mg/kg

CAS No. **Surrogate Recoveries**  Limits

84-15-1

o-Terphenyl

84% 41-153%



Page 1 of 1

Blank Spike Summary

Job Number:

T12664

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample OP5528-BS

File ID DF CC11357.D 1

Analyzed 02/18/06

By RC Prep Date 02/17/06

Prep Batch OP5528 Analytical Batch

Page 1 of 1

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No.

Spike mg/kg BSP

BSP

mg/kg %

Limits

TPH (C10-C28)

Compound

33.3 32.2

97

55-131

CAS No.

Surrogate Recoveries

BSP

Limits

84-15-1

o-Terphenyl

89%

41-153%

5.2

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12664

Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12664-1, T12664-2, T12664-3, T12664-4, T12664-5, T12664-6, T12664-7, T12664-8, T12664-9

CAS No.	Compound	T12664-9 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	ТРН (С10-С28)	10.3	35.7	151	394*	149	389*	1	49-139/24
CAS No.	Surrogate Recoveries	MS	MSD	T12	2664-9	Limits	•		
84-15-1	o-Terphenyl	135%	135%	749	6	41-153%	6		



02/27/06



#### **Technical Report for**

**Montgomery Watson** 

San Juan River Plant (SJRP)

D-ALAB-SANJUAN-003

Accutest Job Number: T12663

Sampling Date: 02/14/06

Report to:

MWH Americas, Inc.

jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 53



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino Laboratory Manager

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### Sample Summary

**Montgomery Watson** 

Job No:

T12663

San Juan River Plant (SJRP) Project No: D-ALAB-SANJUAN-003

Sample Number	Collected Date	Time	Ву	Received	Matri Code		Client Sample ID
T12663-1	02/14/06	07:00	MN	02/16/06	AQ	Trip Blank Soil	140206TB01(TRIP)
T12663-2	02/14/06	09:00	MN	02/16/06	so	Soil	GPH10-S(0-1) 0900
T12663-3	02/14/06	09:10	MN	02/16/06	SO .	Soil	GPH10-S(10-11) 0910
T12663-4	02/14/06	09:16	MN	02/16/06	so	Soil	GPH10-S(13.5-14.5) 0916
T12663-5	02/14/06	10:16	MN	02/16/06	so	Soil	GPH11-S(0-1) 1016
T12663-6	02/14/06	10:20	MN	02/16/06	so	Soil	GPH11-S(10-11) 1020
T12663-7	02/14/06	10:25	MN	02/16/06	so	Soil	GPH11-S(13-14) 1025
T12663-8	02/14/06	11:06	MN	02/16/06	so	Soil	GPH12-S(0-1) 1106
T12663-9	02/14/06	11:15	MN	02/16/06	so	Soil	GPH12-S(10-11) 1115
T12663-10	02/14/06	11:23	MN	02/16/06	SO	Soil	GPH12-S(14-15) 1123



Sample Results

Report of Analysis



By

JH

n/a

**GKK744** 

Client Sample ID: 140206TB01(TRIP)

Lab Sample ID:

T12663-1

AQ - Trip Blank Soil

DF

1

Date Sampled: 02/14/06 Date Received: 02/16/06

Matrix: Method:

SW846 8021B

Percent Solids: n/a

Project:

San Juan River Plant (SJRP)

**Prep Date** Prep Batch **Analytical Batch** 

n/a

Run #1

Run #2

Purge Volume

Run #1

5.0 ml

File ID

KK11192.D

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.38	ug/l	
108-88-3	Toluene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	0.72	ug/l	
95-47-6	o-Xylene	ND	1.0	0.42	ug/l	
	m,p-Xylene	ND	2.0	0.72	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4 4-Bromofluorobenzene		94%		56-1		
98-08-8	aaa-Trifluorotoluene	105%		50-1	44%	
460-00-4	4-Bromofluorobenzene	94%	Run# 2	56-1	36%	

Analyzed

02/18/06

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH10-S(0-1) 0900

Lab Sample ID:

T12663-2

Date Sampled: 02/14/06

Matrix: Method: SO - Soil SW846 8015 Date Received: 02/16/06

Project:

San Juan River Plant (SJRP)

Percent Solids: 86.4

Run #1	File ID EE023836.D	DF 1	Analyzed 02/22/06	By JH	Prep Date	Prep Batch	Analytical Batch GEE1057
Run #2	EE023851.D	1 ,	02/22/06	JH	n/a	n/a	GEE1057

Run #1 Run #2	Initial Weight 5.02 g 5.02 g	Final Volume 5.0 ml 5.0 ml	Methan 100 ul 100 ul	ol Aliqu	iot				
CAS No.	Compound		Result	RL	MDL	Units	Q		

TPH-GRO (C6-C10)

ND 6.6 3.3

Limits

mg/kg

CAS No. Surrogate Recoveries Run# 1 Run# 2

56-139%

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

52% a 61% 72% 83% 46-136%

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



 Client Sample ID:
 GPH10-S(0-1) 0900

 Lab Sample ID:
 T12663-2
 Date Sampled:
 02/14/06

 Matrix:
 SO - Soil
 Date Received:
 02/16/06

 Method:
 SW846 8021B
 Percent Solids:
 86.4

Project: San Juan River Plant (SJRP)

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11442.D	1	02/27/06	JH	n/a	n/a	GKK751
Run #2	KK11443.D	1	02/27/06	JH	n/a	n/a	GKK751

Initial Weight Final Volume
Run #1 5.00 g 5.0 ml
Run #2 1.25 g 5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.2	0.35	ug/kg	
108-88-3	Toluene	0.24	1.2	0.23	ug/kg	J
100-41-4	Ethylbenzene	ND	1.2	0.35	ug/kg	
1330-20-7	Xylenes (total)	1.3	2.3	0.69	ug/kg	J
95-47-6	o-Xylene	ND	1.2	0.35	ug/kg	
	m,p-Xylene	1.0	2.3	0.69	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 4-Bromofluorobenzene		42% a	85%	43-1	54%	
98-08-8	aaa-Trifluorotoluene	51%	85%		51%	

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

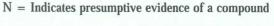
MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank





Page 1 of 1

Client Sample ID: GPH10-S(0-1) 0900

Lab Sample ID:

T12663-2

Matrix:

SO - Soil

Method: Project:

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids: 86.4

Run #1

File ID CC11361.D DF 1

Analyzed 02/18/06

By RC **Prep Date** 02/17/06

Prep Batch **OP5528** 

**Analytical Batch** GCC529

Run #2

**Initial Weight** 

30.2 g

Final Volume 1.0 ml

Run #1 Run #2

CAS No. Compound Result

RL

MDL

Units Q

TPH (C10-C28)

4.70

9.6

3.8

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

97%

41-153%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH10-S(10-11) 0910

Lab Sample ID: Matrix:

T12663-3 SO - Soil

Method: Project:

SW846 8015

San Juan River Plant (SJRP)

Date Sampled: 02/14/06 Date Received: 02/16/06

Percent Solids: 78.9

File ID DF Analyzed By **Prep Date** Prep Batch **Analytical Batch** EE023879.D 02/23/06 JH Run #1 100 n/a n/a **GEE1058** 

Run #2

**Initial Weight** Final Volume Methanol Aliquot Run #1 5.11 g 5.0 ml 100 ul

Run #2

CAS No. Compound

RL Result

**MDL** Units Q

TPH-GRO (C6-C10)

2750 750 380 mg/kg

CAS No. Surrogate Recoveries Run# 1 Run# 2 Limits

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

123% 98%

56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH10-S(10-11) 0910

Lab Sample ID:

T12663-3

Matrix: Method:

SO - Soil SW846 8021B Date Sampled: 02/14/06 Date Received: 02/16/06

Percent Solids: 78.9

Project:

San Juan River Plant (SJRP)

Etle ID	 A malumad	-

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	<b>Analytical Batch</b>
Run #1	KK11439.D	2	02/27/06	JH	n/a	n/a	GKK751
Run #2	KK11440.D	20	02/27/06	JH	n/a	n/a	GKK751

R 9	Initial Weight	Final Volume	Methanol Aliquot	
Run #1	5.12 g	5.0 ml	100 ul	
Run #2	5.12 g	5.0 ml	100 ul	

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3	Benzene Toluene	474 1520	150 150	45 30	ug/kg ug/kg	
100-41-4	Ethylbenzene	19500	150	45	ug/kg	
1330-20-7 95-47-6	Xylenes (total) o-Xylene	257000 <sup>a</sup> 19800 <sup>a</sup>	3000 1500	900 450	ug/kg ug/kg	
	m,p-Xylene	237000 a	3000	900	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits	
460-00-4	4-Bromofluorobenzene	124%	116%		54%	
98-08-8	aaa-Trifluorotoluene	113%	90%	46-1	51%	

(a) Result is from Run# 2

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



	Client	Comple ID.	GPH10-S(10-11)	0010
١	Chent	Sample 1D.	Grn10-3(10-11)	0310

Lab Sample ID: T12663-3 Matrix:

SO - Soil Method: SW846 8015 M SW846 3550B Project:

Date Sampled: 02/14/06 Date Received: 02/16/06 Percent Solids: 78.9

San Juan River Plant (SJRP)

a a	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC11383.D	1	02/19/06	RC	02/17/06	OP5528	GCC529
Run #2	CC11401.D	20	02/20/06	FO	02/17/06	OP5528	GCC530

	Initial Weight	Final Volume				4
Run #1	30.2 g	1.0 ml				
Run #2	30.2 g	1.0 ml				

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	913 a	210	84	mg/kg	
CAS No	Surrogate Recoveries	Run# 1	Run#	2 I im	ite	

84-15-1 o-Terphenyl 108% 80% 41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

<sup>(</sup>a) Result is from Run# 2

98-08-8

02/14/06

02/16/06

Client	Sample	ID:	GPH10-S	(13.5-14.5)	0916
--------	--------	-----	---------	-------------	------

Cheffe Sample 1D.	011110-0(10.0-14.0) 0010		
Lab Sample ID:	T12663-4	Date Sampled:	02/14
Matrix:	SO - Soil	Date Received:	02/16
Method:	SW846 8015	Percent Solids:	82.2

aaa-Trifluorotoluene

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	EE023880.D	10	02/23/06	JH	n/a	n/a	GEE1058
Run #2	EE023854.D	20	02/22/06	JH	n/a	n/a	GEE1057

	<b>Initial Weight</b>	Final Volume	Methanol Aliquot	
Run #1	5.02 g	5.0 ml	100 ul	
Run #2	5.02 g	5.0 ml	100 ul	

84%

46-136%

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	382	71	36	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	154% a	105%	56-1	39%	

97%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



<sup>(</sup>a) Outside control limits due to matrix interference. Confirmed by reanalysis.

Page 1 of 1

Client Sample ID: GPH10-S(13.5-14.5) 0916

Lab Sample ID:

T12663-4

Matrix: Method: SO - Soil SW846 8021B Date Sampled: 02/14/06 Date Received: 02/16/06

Percent Solids: 82.2

Project: San Juan River Plant (SJRP)

Run #1

File ID DF KK11426.D 1

Analyzed 02/27/06

**Prep Date** n/a

**Prep Batch** n/a

**Analytical Batch GKK751** 

Run #2

**Initial Weight** 5.02 g

Final Volume 5.0 ml

Methanol Aliquot 100 ul

By

JH

Run #1 Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	50.5	71	21	ug/kg	J
108-88-3	Toluene	337	71	14	ug/kg	٥
100-41-4	Ethylbenzene	1710	71	21	ug/kg	
1330-20-7	Xylenes (total)	10200	140	43	ug/kg	
95-47-6	o-Xylene	1230	71	21	ug/kg	
	m,p-Xylene	8970	140	43	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	121%		43-1	54%	
98-08-8	aaa-Trifluorotoluene	82%		46-1	51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH10-S(13.5-14.5) 0916

Lab Sample ID:

T12663-4

SO - Soil

SW846 8015 M SW846 3550B

Date Sampled: 02/14/06 Date Received: 02/16/06

Percent Solids: 82.2

Method: Project:

Matrix:

San Juan River Plant (SJRP)

File ID DF Analyzed By **Prep Date** 

**Analytical Batch Prep Batch** Run #1 CC11363.D 1 02/18/06 RC 02/17/06 **OP5528 GCC529** Run #2 CC11402.D 5 02/20/06 FO 02/17/06 **OP5528 GCC530** 

**Initial Weight** Final Volume 1.0 ml Run #1 30.8 g

Run #2 30.8 g 1.0 ml

CAS No. Compound Result

RL

**MDL** Units

Q

TPH (C10-C28)

121 a

49

mg/kg

CAS No. **Surrogate Recoveries**  Run# 1

Run# 2

20

Limits

84-15-1 o-Terphenyl 93%

78%

41-153%

(a) Result is from Run# 2

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID: GPH11-S(0-1) 1016

Lab Sample ID:

T12663-5

Matrix: Method: SO - Soil

SW846 8015

Date Sampled: 02/14/06 Date Received:

02/16/06 Percent Solids: 92.2

Project: San Juan River Plant (SJRP)

File ID DF Analyzed By **Prep Date Prep Batch Analytical Batch** Run #1 EE023852.D 1 02/22/06 JH n/a n/a **GEE1057** Run #2 EE023839.D 1 02/22/06 JH **GEE1057** n/a n/a

**Initial Weight** Final Volume Methanol Aliquot Run #1 5.25 g 5.0 ml 100 ul Run #2 100 ul 5.25 g 5.0 ml

CAS No. Compound Result

RL

5.6

Q Units

TPH-GRO (C6-C10)

ND

mg/kg

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

**MDL** 

2.8

460-00-4 4-Bromofluorobenzene 98-08-8 aaa-Trifluorotoluene

80% 80% 79% 81% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH11-S(0-1) 1016

Lab Sample ID:

T12663-5

Matrix:

SO - Soil

SW846 8021B

Date Sampled: 02/14/06

Date Received: 02/16/06 Percent Solids: 92.2

Method: San Juan River Plant (SJRP) Project:

	File ID	DF	Analyzed	By	<b>Prep Date</b>	<b>Prep Batch</b>	<b>Analytical Batch</b>
Run #1	KK11408.D	1	02/26/06	JH	n/a	n/a	GKK751
Run #2	KK11409.D	1	02/26/06	JH	n/a	n/a	GKK751

	Initial Weight	Final Volume	
Run #1	5.22 g	5.0 ml	
Run #2	1.04 g	5.0 ml	

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.31	ug/kg	
108-88-3	Toluene	ND	1.0	0.21	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.31	ug/kg	
1330-20-7	Xylenes (total)	0.94	2.1	0.62	ug/kg	J
95-47-6	o-Xylene	ND	1.0	0.31	ug/kg	
	m,p-Xylene	0.80	2.1	0.62	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4	4-Bromofluorobenzene	66%	82%	43-1	54%	
98-08-8	aaa-Trifluorotoluene	73%	83%	46-1	51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Chem Sample 1D. Griffi-5(0-1) 1010	Client	Sample ID	: GPH11-S(0-1)	1016
------------------------------------	--------	-----------	----------------	------

Lab Sample ID: Matrix: T12663-5

SO - Soil

Date Sampled: 02/14/06 Date Received: 02/16/06

Method: Project: SW846 8015 M SW846 3550B San Juan River Plant (SJRP) Percent Solids: 92.2

Run #1

File ID DF CC11364.D 1 Analyzed By 02/18/06 RC

Prep Date 02/17/06

Prep Batch OP5528

Analytical Batch GCC529

Run #2

Initial Weight Final Volume Run #1 30.1 g 1.0 ml

Run #2

CAS No.

84-15-1

Compound

Result

RL

MDL Units

Q

TPH (C10-C28)

14.7

9.0 3.6

mg/kg

CAS No. Surrogate Recoveries

o-Terphenyl

Run# 1

Run# 2

41-153%

Limits

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH11-S(10-11) 1020

Lab Sample ID:

T12663-6

Matrix: Method: SO - Soil

SW846 8015

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids:

86.5

Project:

San Juan River Plant (SJRP)

DF

1

**Prep Date** 

Prep Batch

**Analytical Batch** 

Run #1 Run #2

**Initial Weight** 

EE023885.D

File ID

Analyzed

02/23/06

n/a

3.2

n/a

**GEE1058** 

5.19 g

Final Volume 5.0 ml

Methanol Aliquot

By

JH

100 ul

Run #2 CAS No.

Run #1

Compound

Result

RL

**MDL** Units Q

TPH-GRO (C6-C10)

ND

6.3

mg/kg

CAS No.

Surrogate Recoveries

Run#1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

65% 81% 56-139% 46-136%

ND = Not detected

RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH11-S(10-11) 1020

Lab Sample ID:

T12663-6

Matrix: Method:

SW846 8021B

SO - Soil

Date Sampled: 02/14/06

Date Received: 02/16/06 Percent Solids: 86.5

Project: San Juan River Plant (SJRP)

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11410.D	1	02/26/06	JĤ	n/a	n/a ¯	GKK751
Run #2	KK11411.D	1	02/26/06	JH	n/a	n/a	GKK751

	Initial Weight	Final Volume		
Run #1	5.15 g	5.0 ml		
Run #2	1.27 g	5.0 ml		

### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7	Benzene Toluene Ethylbenzene Xylenes (total)	0.53 0.27 2.8 2.4	1.1 1.1 1.1 2.2	0.34 0.22 0.34 0.67	ug/kg ug/kg ug/kg ug/kg	J J
95-47-6	o-Xylene m,p-Xylene	0.95 1.5	1.1 2.2	0.34 0.67	ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	67% 83%	84% 86%	iöüliii	54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH11-S(10-11) 1020

Lab Sample ID:

T12663-6

Matrix:

SO - Soil

SW846 8015 M SW846 3550B

Date Sampled:

02/14/06

Date Received: (

02/16/06

Method: Project:

San Juan River Plant (SJRP)

Percent Solids:

86.5

Run #1

File ID CC11365.D DF 1 Analyzed 02/18/06

By RC Prep Date 02/17/06

Prep Batch

Analytical Batch

OP5528 GCC529

Run #2

**Initial Weight** 

Final Volume

Run #1 Run #2

CAS No.

30.7 g

1.0 ml

Compound

Result

RL

9.4

MDL U

Units

Q

TPH (C10-C28)

ND

3.8

mg/kg

CAS No.

**Surrogate Recoveries** 

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

80%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH11-S(13-14) 1025

Lab Sample ID:

T12663-7

SO - Soil

SW846 8015

Date Sampled: 02/14/06

02/16/06

Date Received: Percent Solids: 84.0

Method: Project:

Matrix:

San Juan River Plant (SJRP)

DF

**Prep Batch Analytical Batch** 

Page 1 of 1

Run #1 Run #2 EE023886.D

File ID

1

Analyzed 02/23/06

**Prep Date** n/a

n/a

Q

**GEE1058** 

Run #1

Run #2

CAS No.

**Initial Weight** 

Final Volume

**Methanol Aliquot** 

By

JH

5.11 g

5.0 ml

100 ul

Compound

Result

RL

**MDL** 

Units

TPH-GRO (C6-C10)

ND

3.4

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

61% 81% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH11-S(13-14) 1025

Lab Sample ID:

T12663-7

Matrix: Method: SO - Soil

SW846 8021B

Date Sampled:

02/14/06

Date Received:

02/16/06

Percent Solids:

Project:

San Juan River Plant (SJRP)

**Prep Date** Prep Batch **Analytical Batch** 

File ID DF Analyzed By Run #1 KK11412.D 1 02/26/06 JĤ GKK751 n/a n/a Run #2 KK11413.D 1 02/26/06 JH **GKK751** n/a n/a

**Initial Weight** Final Volume 5.0 ml Run #1 5.06 g Run #2 5.0 ml 1.09 g

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	1.3 1.7 5.1 58.9 7.7 51.2	1.2 1.2 1.2 2.4 1.2 2.4	0.35 0.24 0.35 0.71 0.35 0.71	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	39% a 65%	69% 80%		.54% .51%	

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

**E** = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH11-S(13-14) 1025

Lab Sample ID:

T12663-7

Matrix: Method: Project:

SO - Soil

SW846 8015 M SW846 3550B San Juan River Plant (SJRP)

1.0 ml

**Date Sampled: 02/14/06** 

Date Received: 02/16/06

Percent Solids: 84.0

**Analytical Batch** File ID DF Analyzed Ву **Prep Date** Prep Batch CC11368.D RC 02/17/06 OP5528 GCC529 Run #1 1 02/18/06

Run #2

**Initial Weight** Final Volume 30.4 g

Run #1 Run #2

CAS No.

RL

MDL

3.9

Units

Q

TPH (C10-C28)

Compound

ND 📰

Result

9.8

mg/kg

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

56%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH12-S(0-1) 1106

Lab Sample ID:

T12663-8

Matrix:

SO - Soil

SW846 8015

Date Sampled:

02/14/06

Date Received: **Percent Solids:** 

02/16/06

Method: Project:

San Juan River Plant (SJRP)

DF

1

93.4

**Prep Batch** 

**Analytical Batch** 

Run #1 Run #2

**Initial Weight** 

Analyzed

02/23/06

**Prep Date** n/a

n/a

GEE1058

Run #1

Run #2

EE023887.D

Methanol Aliquot

By

JH

File ID

4.98 g

5.0 ml

Final Volume

100 ul

CAS No.

Compound

Result

RL

Units

Q

TPH-GRO (C6-C10)

ND 5.7 2.9

**MDL** 

mg/kg

CAS No.

**Surrogate Recoveries** 

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

61% 83% 56-139% 46-136%

ND = Not detected RL = Reporting Limit MDL - Method Detection Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client	Sample ID	: GPH12-S(0-1)	1106
	Jumpie LD	. 01 1112 0(0 1)	

Lab Sample ID:

T12663-8

Matrix: Method: SO - Soil

SW846 8021B

Date Sampled: Date Received:

02/14/06 02/16/06

Project:

San Juan River Plant (SJRP)

Percent Solids: 93.4

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11420.D	1 .	02/27/06	JĤ	n/a	n/a	GKK751
Run #2							·

**Initial Weight** Final Volume Run #1 5.21 g 5.0 ml

Run #2

### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND	1.0 1.0 1.0 2.1 1.0 2.1	0.31 0.21 0.31 0.62 0.31 0.62	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	' 67% 76%			54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH12-S(0-1) 1106

Lab Sample ID:

T12663-8

Matrix:

SO - Soil

Method:

SW846 8015 M SW846 3550B

Date Sampled: 02/14/06 Date Received: 02/16/06

Percent Solids: 93.4

Project: San Juan River Plant (SJRP)

File ID DF CC11384.D

Analyzed By 02/19/06 RC.

Prep Date 02/17/06

Prep Batch OP5528

**Analytical Batch** GCC529

Run #1 Run #2

> Initial Weight Final Volume 30.2 g

Run #1

1.0 ml

Run #2

CAS No. Compound Result

RL

MDL

Units Q

9.78 8.9

3.5

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

TPH (C10-C28)

97%

41-153%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH12-S(10-11) 1115

Lab Sample ID:

T12663-9

Matrix: Method: SO - Soil

SW846 8015

Date Sampled:

02/14/06 Date Received: 02/16/06 Percent Solids: 80.0

Project: San Juan River Plant (SJRP)

File ID

EE023888.D

Analyzed 02/23/06

By JΗ **Prep Date** 

Prep Batch

**Analytical Batch** 

Run #1 Run #2

**Initial Weight** 

Final Volume

n/a

n/a

**GEE1058** 

5.13 g

5.0 ml

DF

1

Methanol Aliquot 100 ul

Run #2 CAS No.

Run #1

Compound

Result

RL

**MDL** 

Units

mg/kg

Q

TPH-GRO (C6-C10)

ND

7.3

Limits

CAS No.

**Surrogate Recoveries** 

Run# 1

Run# 2

3.7

56-139%

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

**79**% 83%

46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Client Sample ID: GPH12-S(10-11) 1115

Lab Sample ID:

T12663-9

Matrix:

SO - Soil

Date Sampled:

02/14/06

Method:

SW846 8021B

Date Received: 02/16/06

Project:

San Juan River Plant (SJRP)

Percent Solids: 80.0

Run #1

File ID KK11422.D DF 1

By JH

Analyzed

02/27/06

**Prep Date** n/a

Prep Batch n/a

**Analytical Batch GKK751** 

Run #2

Initial Weight

5.00 g

Final Volume 5.0 ml

Run #1 Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.3	0.38	ug/kg	
108-88-3	Toluene	0.53	1.3	0.25	ug/kg	J
100-41-4	Ethylbenzene	1.1	1.3	0.38	ug/kg	J
1330-20-7	Xylenes (total)	2.7	2.5	0.75	ug/kg	
95-47-6	o-Xylene	0.62	1.3	0.38	ug/kg	J
	m,p-Xylene	2.0	2.5	0.75	ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	nits	•
460-00-4	4-Bromofluorobenzene	63%		43-1	154%	
98-08-8	aaa-Trifluorotoluene	77%		46-1	151%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH12-S(10-11) 1115

Lab Sample ID: Matrix:

T12663-9 SO - Soil

Date Sampled: Date Received:

02/14/06

Method:

SW846 8015 M SW846 3550B

02/16/06 Percent Solids:

80.0

Project:

San Juan River Plant (SJRP)

DF

1

Run #1

File ID CC11370.D Analyzed 02/18/06

By **Prep Date**  Prep Batch

**Analytical Batch** 

Run #2

RC

02/17/06

OP5528

GCC529

**Initial Weight** 30.2 g

Final Volume

Run #1

1.0 ml

Run #2

CAS No.

Compound

Result

RL

**MDL** 

Units Q.

TPH (C10-C28)

ND 10 4.1

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

84%

41-153%

ND = Not detected

MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

E = Indicates value exceeds calibration range

B = Indicates analyte found in associated method blank



Client Sample ID: GPH12-S(14-15) 1123

DF

Lab Sample ID:

T12663-10

Matrix: Method: SO - Soil

SW846 8015

Date Sampled:

02/14/06

Date Received:

02/16/06

Percent Solids:

83.0

Project:

San Juan River Plant (SJRP)

**Prep Date** 

n/a

3.4

Prep Batch

n/a

**Analytical Batch** GEE1058

Run #1 Run #2

Initial Weight

EE023889.D

File ID

5.26 g

**Final Volume** 5.0 ml

Methanol Aliquot

By

JH

100 ul

Run #1 Run #2

CAS No.

Compound

Result

Analyzed

02/23/06

RL

6.8

MDL

Units Q

TPH-GRO (C6-C10)

5.17

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

84% 76%

56-139% 46-136%

ND = Not detectedRL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH12-S(14-15) 1123

Lab Sample ID:

T12663-10

Matrix: Method: SO - Soil

SW846 8021B

Date Sampled: 02/14/06

Date Received: 02/16/06

Percent Solids: 83.0

Project:

File ID

Analyzed

02/27/06

By JH **Prep Date** n/a

Prep Batch

**Analytical Batch** 

GKK751 n/a

Run #1 Run #2

**Initial Weight** 

KK11424.D

Final Volume

San Juan River Plant (SJRP)

DF

1

Run #1 5.07 g 5.0 ml

Run #2

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND 0.40 ND 2.1 ND 1.7	1.2 1.2 1.2 2.4 1.2 2.4	0.36 0.24 0.36 0.71 0.36 0.71	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	65% 76%			54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH12-S(14-15) 1123

Lab Sample ID:

T12663-10

Matrix: Method:

Project:

SO - Soil

San Juan River Plant (SJRP)

SW846 8015 M SW846 3550B

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids: 83.0

Run #1

File ID CC11371.D DF 1

Analyzed 02/18/06

**Prep Date** 02/17/06

**Prep Batch** OP5528

**Analytical Batch** GCC529

Run #2

Initial Weight 30.5 g

Final Volume

Run #1 Run #2

CAS No.

1.0 ml

Compound

Result

RL

Ву

RC

**MDL** 

3.9

Units

Q

mg/kg

TPH (C10-C28)

**Surrogate Recoveries** 

Run# 1

ND 9.9

Run# 2

Limits

84-15-1

CAS No.

o-Terphenyl

81%

41-153%

ND = Not detected

MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

E = Indicates value exceeds calibration range

B = Indicates analyte found in associated method blank





Misc. Forms

**Custody Documents and Other Forms** 

Includes the following where applicable:

• Chain of Custody



	CHAIN OF CUSTOD	$\mathbf{Y}$ 140206 $m$ 10	10
ACCUTEST.	10165 Harwin Drive, Ste. 150, Houston, TX 77036 TEL. 713-271-4700 FAX: 713-271-4770	FED.EX Tracking # 8546 3830 696	Bottle Order Control #
Laboratories	www.accutest.com	Accutest Quote #	Accutest Job# 170463
Client / Reporting Information	Project Information	Rec	quested Analysis Matrix Codes
Company Name	San Jusa River Plant (STRP)	3	DW - Drinking Weter GW - Ground Water
Address 2 North Nevada	Street	4508	WW - Water
City / State Zip	City Stute		SW - Surface Water
Colorado Springs (6 86903 Project Contact Email	Project #	5000	SO - Soil SL Sturige
3cott Pape	<u> </u>		01-01
Phone # 219 520 44-33	Fox# 719 520 4716	1/02/s	LIQ - Other Liquid
Sempler's Name  Mules  Marie	Client Purchase Order #	STEX GREIN	AIR - Air SOL - Other Solid
Accutest Fleid ID / Point of Cutection SUMMA #	Collection Number of preserved Bottles	1977	WP - Wipe
MEOHVMI		<del>                                     </del>	LAB USE ONLY
1 1402067801 (Trip)	2406 0700 m WS Z Z	X   X	
3 GPHIO-5(0-1)0900	2406 0900 M S 1 1		<del></del>
4 GPH10-5(135-145)016	2400 0910 M S 1	× × × ×	
5 GPH 11 -5/0-1) 1016	21406 1016 M S 1 1	XX	
4 GPH11 -5(10-11)1020	2401020 M S 1 1	XX	
1 69411-5(13-14)1025	21406 1025 m s 11	XX	
8 GPH12-5(0-1) 1106	21406 1106 M S 1 1	××	
9 6,0412-5(10-11) 1115	21406 1115 M S ; 1	XX	
10 GPH 12-5 (345) 1123	2406 1123 m 5 1 1	X X	
Turnaround Time (Business Days)  10 Day STANDARD pproved By: / Date:	Data Deliverable Information  Commercial "A"  EDD Format		Comments / Ramarks
5 Day RUSH (14-15)	Commercial "B"		
□ 3 Day EMERGENCY □ 2 Day EMERGENCY	C] Reduced Tier 1	· · · · · · · · · · · · · · · · · · ·	
□ 1 Day EMERGENCY.	TRRP13		. ·
Other	Commercial "A" = Results Only		
Emergency & Rush T/A data available VI/A LabLink			The comment of the second state of the second secon
	Sample Custody must be documented below each time semples change possession, included by:  Relinquished by:	ding courier delivery. One Time:	Received by:
21/5/06   /63.0	ecaived by: Reinquisted by	Date Time:	Received by:
3		<u> </u>	4
Reimovatived by:  GIGING ID	OD Custody Saw #	Preserved where applicable	<b>9.</b> 100

T12663: Chain of Custody

Page 1 of 3



Sample received with temp. Tan angle of explanation):  anged condition.  2. No Sample received with themp. Tan anged condition.  2. No Sample received with themp. Tan anged condition.  3. No Sample received with chain of custs in sample IDs and analysis on containers.  Index and lamper not evident on cooler.  Index and lamper not evident on bodies.  DATE SAMPLED ATRIX VOLUME LOCATION PRESERV.  2   4	JOB		: ]		SAMPLE RECEIPT LUG	500			
The Circle "Y for yes and "N" for no or N. II "N" is gizcled, see variance for explanation; on the received with proper containing the received with proper of the containing of course sufficients and parties and analysis on containings.  List of Ususdow yearliers sample IDs and analysis on containings.  List of Ususdow yearliers are mitted and tamper not evident on cooler.  List of Sample received with proper of the proper containings.  List of Ususdow yearliers and manper not evident on cooler.  List of Sample received with chain of custom in the original of the proper containings.  List of Ususdow yearliers and tamper not evident on cooler.  List of Ususdow yearliers and tamper not evident on cooler.  List of Ususdow yearliers and tamper not evident on bottom.  List of Ususdow yearliers and tamper not evident on bottom.  List of Ususdow yearliers and tamper not evident on bottom.  List of Ususdow yearliers and tamper not evident on bottom.  List of Ususdow yearliers and tamper not evident on cooler.  List of Ususdow yearliers and tamper not evident yearliers.  List of Ususdow yearliers and tamper not evident yearliers.  List of Ususdow yearliers.  List of Us	į	130	5	DATE/TIME RECE	IVED: AK	01 00	3		
The Courter Tenes.		NI.	3			INITIALS:	!		
Course   C	<u> </u>	dition/Variance (C)	ircle "Y" for yes an eived in undamag	nd "N" for no or NA ed condition.	1. If "N" is circ	led, see vari	ance for expla	nation): in temp. ran	ige.
The contract of the contract	ei 10 1	NA Sample reco	eived with proper   ume sufficient for	pH. analysis.	4. œ.	N Sample N Sample	received in pro received with	oper contain chain of cus	ers. tody.
1-3     +   +   +   +   +   +   +   +   +	<u>&gt;</u> )≻ ≻ <u>&gt; ∞ o</u>	ZK.	stody matches sa seal received inta seal received inta	impre IDs and and ict and tamper not ict and tamper not	arysis on con evident on co evident on bo	tainers. xoler. ottles.			
10 1 2 2 14 40 402 1 1234.56 12,34.56	SA	MPLE or FIELD ID	BOTTLE#	DATE SAMPLED	MATRIX	VOLUME	LOCATION		PH
10		_	C-1	2/14	ACA	youl	VREF		
12.34.56 12.34.56		2-10	1	†	os,	<del>2</del> 0h	7	1,2,3,4,5,6	
1,23,4,5,6 1,23,4,5,6	/		,				\	1,2,3,4,5,6	U, <2, >12, NA
1,2,3,4,5,6 1,2,3,	L							1,2,3,4,5,6	
1,2,3,4,5,6 1,2,3,							-	1,2,3,4,5,6	
1,2,3,4,5,6 1,2,3,								1,2,3,4,5,6	
12,3,4,5,6 12,3,4,5,6						·	·	1,2,3,4,5,6	
1,2,3,4,5,6 1,2,3,								1,2,3,4,5,6	
1,2,3,4,5,6 1,2,3,								1,2,3,4,5,6	U, 42, >12, NA
12.34.5.6 (12.34.5.5 (12.34.5.6 (12.34.5.6 (12.34.5.6 (12.34.5.5 (12.34.5.6 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (12.34.5.5 (								1,2,3,4,5,6	
(1,2,3,4,5,6) (1			»a°					1,2,3,4,5,8	U, <2, >12, NA
1,2,3,4,5,6 1,2,3,		10						1,2,3,4,5,6	U, <2, >12, NA
Swalk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer St. 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other Comments: Comments: Comments: Cooler TEMP: Cooler TEMP: Cooler TEMP: COOLER TEMP:		52						1,2,3,4,5,6	U, <2, >12, NA
Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer S: 1:None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other Ched excluding volatiles d: Courier: Tracking#: COOLER TEMP: COOLER TEMP: COOLER TEMP: COOLER TEMP:								1,2,3,4,5,6	
Walk-In VR: Volatile Refrig. SUB: Subcontract EF: Encore Freezer  S: 1: None 2: NCL 3: HN03 4: H2504 5: NAOH 6: Other  Ched excluding volatiles  d: Couler TEMP: COOLER TEMP:								1,2,3,4,5,6	-
Walk-In VR: Volatile Refrig. SUB: Sub-contract EF: Encore Freezer S: 1: None 2: HGL 3: HN03 4: H2504 5: NAOH 6: Other Comments: cked excluding volatiles d: Courier: Tracking#: COOLER TEMP: COOLER TEMP:								1,2,3,4,5,8	
cked excluding volatiles  cooler TEMP: 4.0  Tracking#: COOLER TEMP: 4.0	LOCA	NTION: WI: WAIK-IN	VR: Volatile Refrig ne 2: HGL 3: HNO:	SUB: Subcontra 4: H2SO4 5: NAC	ict EF: Encor JH 6: Other Comments:	8 Freezer			
d: Courier: RE COOLER TEMP: 4.0	¥ /	waters checked excl	luding volatiles						
COOLER TEMP		soils NA				COO ED TEM		E 83 1003	à
		Tracking	#£		•	COOLER TEM		COOLER TE	

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T12663: Chain of Custody Page 2 of 3 [131063

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T12663: Chain of Custody Page 3 of 3

> 36 of 53 ACCUTEST.

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GC Volatiles

**QC** Data Summaries

### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary

Job Number: T12663

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample File ID DF Analyzed By Prep Date Prep Batch Analytical Batch GEE1057-MB EE023823.D 1 02/22/06 JH n/a n/a GEE1057

The QC reported here applies to the following samples:

Method: SW846 8015

Page 1 of 1

T12663-2, T12663-4, T12663-5

CAS No. Compound Result RL MDL Units Q

TPH-GRO (C6-C10) ND 5.0 2.5 mg/kg

CAS No. Surrogate Recoveries Limits

 460-00-4
 4-Bromofluorobenzene
 80%
 56-139%

 98-08-8
 aaa-Trifluorotoluene
 99%
 46-136%

**Method Blank Summary** 

Page 1 of 1

Job Number:

T12663

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GEE1058-MB EE023858.D 1

DF File ID

Analyzed 02/23/06

n/a

Ву

JĤ

**Prep Date** 

Prep Batch

n/a

Analytical Batch

GEE1058

The QC reported here applies to the following samples:

Method: SW846 8015

T12663-3, T12663-4, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No. Compound Result

RL

**MDL** 

Units Q

TPH-GRO (C6-C10)

ND 5.0

2.5

mg/kg

CAS No.

Surrogate Recoveries

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

70% 95%

56-139% 46-136%



Method Blank Summary
Job Number: T12663
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Sample GKK744-MB	File ID KK11178.D	DF 1	Analyzed 02/18/06	By JH	Prep Date n/a	Prep Batch n/a	Analytical Batch GKK744	
			-					
•		•			. '			
	•						•	
					•			

The QC reported here applies to the following samples:

Method: SW846 8021B

Page 1 of 1

T12663-1

CAS No.	Compound	Result	RL.	MDL	Units Q
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND ND	1.0 1.0 1.0 2.0 1.0 2.0	0.38 0.35 0.36 0.72 0.42 0.72	ug/l ug/l ug/l ug/l ug/l ug/l
CAS No.	Surrogate Recoveries		Limi	ts	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	93% 95%	56-13 50-14		



Method Blank Summary Job Number: T12663

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

The QC reported here applies to the following samples:

Sample GKK751-MB	File ID KK11394.D	DF 1	Analyzed 02/26/06	By JH	Prep Date n/a	Prep Batch n/a	Analytical Batch GKK751

Method: SW846 8021B

T12663-2, T12663-3, T12663-4, T12663-5, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.	Compound	Result	RL	MDL.	Units Q
71-43-2	Benzene	ND	1.0	0.30	ug/kg
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/kg
108-88-3	Toluene	ND	1.0	0.20	ug/kg
1330-20-7	Xylenes (total)	ND	2.0	0.60	ug/kg
	m,p-Xylene	ND	2.0	0.60	ug/kg
95-47-6	o-Xylene	ND	1.0	0.30	ug/kg
CAS No.	Surrogate Recoveries		Limi	ts	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	105% 105%	43-15 46-15		



Blank Spike Summary

Job Number: T12663

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample File ID DF Analyzed By Prep Date Prep Batch Analytical Batch GEE1057-BS EE023824.D 1 02/22/06 JH n/a n/a GEE1057

The QC reported here applies to the following samples:

Method: SW846 8015

T12663-2, T12663-4, T12663-5

CAS No. Compound

Spike BSP BSP mg/kg mg/kg % Limits

TPH-GRO (C6-C10) 20 17.2 86 70-119

CAS No. Surrogate Recoveries BSP Limits

 460-00-4
 4-Bromofluorobenzene
 93%
 56-139%

 98-08-8
 aaa-Trifluorotoluene
 99%
 46-136%

4.2

Page 1 of 1

Blank Spike Summary

Job Number:

T12663

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample	
OPPIACO DO	

File ID

Analyzed

Ву JH **Prep Date** n/a

Prep Batch n/a

Analytical Batch GEE1058

DF EE023859.D 1 02/23/06 GEE1058-BS

The QC reported here applies to the following samples:

Method: SW846 8015

T12663-3, T12663-4, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.

Compound

Spike mg/kg

**BSP** mg/kg

**BSP** %

Limits

TPH-GRO (C6-C10)

20

16.0

80 70-119

CAS No. Surrogate Recoveries **BSP** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

87% 100%

56-139% 46-136% Blank Spike Summary Job Number: T12663

Account:

Project:

MWHSLCUT Montgomery Watson San Juan River Plant (SJRP)

File ID Analyzed 02/18/06 Sample DF Ву **Prep Date** Analytical Batch Prep Batch KK11179.D 1 GKK744-BS JĤ n/a n/a GKK744

The QC reported here applies to the following samples:

Method: SW846 8021B

T12663-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.5	98	72-125
100-41-4	Ethylbenzene	20	18.3	92	76-125
108-88-3	Toluene	20	17.7	89	74-125
1330-20-7	Xylenes (total)	60	55.8	93	78-124
95-47-6	o-Xylene	20	18.7	94	78-124
	m,p-Xylene	40	37.1	93	<b>78-125</b>
CAS No.	Surrogate Recoveries	BSP	Li	mits	
460-00-4	4-Bromofluorobenzene	91%	56	-136%	
98-08-8	aaa-Trifluorotoluene	90%	50	-144%	

Page 1 of 1

# Blank Spike/Blank Spike Duplicate Summary Job Number: T12663

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample	File ID	_	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK751-BS	KK11395.D		02/26/06	JH	n/a	n/a	GKK751
GKK751-BSD	KK11396.D		02/26/06	JH	n/a	n/a	GKK751

The QC reported here applies to the following samples:

Method: SW846 8021B

T12663-2, T12663-3, T12663-4, T12663-5, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	18.5	93	18.1	91	2	46-150/30
100-41-4	Ethylbenzene	20	19.3	97	19.0	95	2	69-134/30
108-88-3	Toluene	20	19.0	95	18.6	93	2	67-132/30
1330-20-7	Xylenes (total)	60	57.2	95	56.6	94	1	67-134/30
	m,p-Xylene	40	38.1	95	37.7	94	1	68-135/30
95-47-6	o-Xylene	20	19.1	96	18.9	95	1	66-133/30
CAS No.	Surrogate Recoveries	BSP	BSD		Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	96% 94%	96% 89%		43-154% 46-151%	-		



Page 1 of 1

Matrix Spike/Matrix Spike Duplicate Summary
Job Number: T12663
Account: MWHSLCUT Montgomery Watson

Page 1 of 1

Project:

San Juan River Plant (SJRP)

Sample T12661-6MS T12661-6MSD T12661-6	File ID EE023831.D EE023832.D EE023830.D	1	Analyzed 02/22/06 02/22/06 02/22/06	By JH JH JH	Prep Date n/a n/a n/a	Prep Batch n/a n/a n/a	Analytical Batch GEE1057 GEE1057 GEE1057	
						•		

The QC reported here applies to the following samples:

Method: SW846 8015

T12663-2, T12663-4, T12663-5

CAS No.	Compound	T12661-6 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	27.5	22.8	83	23.8	86	4	66-122/21
CAS No.	Surrogate Recoveries	MS	MSD	T12	2661-6	Limits	٠		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	87% 92%	92% 97%	729 819	Hoderald	56-1399 46-1369	_	•	•

# Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12663 Account: MWHSLCUT Montgomery Watson

Page 1 of 1

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	Bv	Prep Date	Prep Batch	Analytical Batch	_
T12664-2MS	EE023861.E		02/23/06	JH	n/a	n/a	GEE1058	٠
T12664-2MSD	EE023862.D	1	02/23/06	ĴΗ	n/a	n/a	GEE1058	
T12664-2	EE023860.E	1	02/23/06	JH	n/a	n/a	GEE1058	
				3				



The QC reported here applies to the following samples:

Method: SW846 8015

T12663-3, T12663-4, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.	Compound	T12664- mg/kg	2 Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ŅD	•	25.9	21.7	84	21.8	84	0	66-122/21
CAS No.	Surrogate Recoveries	MS		MSD	T12	664-2	Limits	•		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	88% 89%		90% 92%	63% 82%	790000	56-139% 46-136%			



Matrix Spike/Matrix Spike Duplicate Summary
Job Number: T12663
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Page 1 of 1

Sample	File ID	DF	Analyzed	Bv	Prep Date	Prep Batch	Analytical Batch
T12625-11MS	,		02/18/06	JH	n/a	n/a	GKK744
T12625-11MSD	KK11200.D	10	02/18/06	JН	n/a	n/a	GKK744
T12625-11	KK11197.D	1	02/18/06	JH	n/a	n/a	GKK744
T12625-11	KK11198.D	10	02/18/06	JH	n/a	n/a	GKK744

The QC reported here applies to the following samples:

Method: SW846 8021B

T12663-1

CAS No.	Compound	T12625-11 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	200	195	98	192	96	2	45-137/21
100-41-4	Ethylbenzene	7.5	200	179	86	178	85	1	68-126/15
108-88-3	Toluene	ND	200	171	86	169	85	1	63-130/22
1330-20-7	Xylenes (total)	5.9	600	528	87	523	86	î	72-125/19
95-47-6	o-Xylene	4.4	200	184	90	183	89	1	70-128/20
00 17 0	m,p-Xylene	1.5 J	400	344	86	341	85	Î	63-136/19
CAS No.	Surrogate Recoveries	MS	MSD	· <b>T</b> 1	12625-11	T1262:	5-11 L	imits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	90% 99%	89% 99%		!% )%	96% 88%	9558800	6-136% 0-144%	

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12663

Page 1 of 1

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

The QC reported here applies to the following samples:

Sample T12664-7MS T12664-7MSD T12664-7	KK11415.D	1	Analyzed 02/27/06 02/27/06 02/26/06	By JH JH JH	Prep Date n/a n/a n/a	Prep Batch n/a n/a n/a	Analytical Batch GKK751 GKK751 GKK751
T12664-7	KK11414.D	1	02/26/06	JH	n/a	n/a	GKK751

Method: SW846 8021B

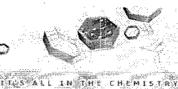
T12663-2, T12663-3, T12663-4, T12663-5, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.	Compound	T12664- ug/kg	-7 Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		116	98.1	84	98.7	86	1	46-140/15
100-41-4	Ethylbenzene	ND		116	99.1	85	100	87	1	69-122/11
108-88-3	Toluene	3.5	J	116	103	86	103	86	0	64-125/14
1330-20-7	Xylenes (total)	12.2		349	320	88	317	88	1	66-124/13
	m,p-Xylene	8.6	J	233	215	89	213	89	1	67-124/12
95-47-6	o-Xylene	3.7	J	116	104	86	104	87	0	62-124/15
CAS No.	Surrogate Recoveries	MS		MSD	T12	664-7	T12664-	7 L	imits	
460-00-4	4-Bromofluorobenzene	82%		83%	80%	6	52%	4:	3-154%	
98-08-8	aaa-Trifluorotoluene	78%		83%	81%		67%	-	6-151%	











# GC Semi-volatiles

# QC Data Summaries

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



**Method Blank Summary** 

Page 1 of 1

Job Number:

T12663

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample OP5528-MB File ID CC11356.D 1

DF

Analyzed 02/18/06

By RC **Prep Date** 02/17/06

**Prep Batch** OP5528

Analytical Batch

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12663-2, T12663-3, T12663-4, T12663-5, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.

Compound

Result

RL

MDL

Units Q

TPH (C10-C28)

ND 8.2

3.3

mg/kg

CAS No.

Surrogate Recoveries

Limits

84-15-1

o-Terphenyl

84% 41-153%

Blank Spike Summary

Job Number:

T12663

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample OP5528-BS File ID CC11357.D 1

DF Analyzed 02/18/06

By RC

**Prep Date** 02/17/06

Prep Batch OP5528

**Analytical Batch** 

Page 1 of 1

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12663-2, T12663-3, T12663-4, T12663-5, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.

Compound

Spike

**BSP** 

**BSP** %

97

mg/kg

Limits

TPH (C10-C28)

33.3

mg/kg

32.2

55-131

CAS No.

Surrogate Recoveries

**BSP** 

Limits

84-15-1

o-Terphenyl

89%

41-153%

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample OP5528-MS OP5528-MSD T12664-9	File ID CC11399.D CC11400.D CC11387.D	10	Analyzed 02/20/06 02/20/06 02/19/06	By FO FO RC	Prep Date 02/17/06 02/17/06 02/17/06	Prep Batch OP5528 OP5528 OP5528	Analytical Batch GCC530 GCC530 GCC529
---	--	----	--	----------------------	--------------------------------------	--	--

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12663-2, T12663-3, T12663-4, T12663-5, T12663-6, T12663-7, T12663-8, T12663-9, T12663-10

CAS No.	Compound	T12664-9 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	10.3	35.7	151	394*	149	389*	1	49-139/24
CAS No.	Surrogate Recoveries	MS	MSD	T12	2664-9	Limits			•
84-15-1	o-Terphenyl	135%	135%	749	6	41-153%	6		













02/28/06



## Technical Report for

**Montgomery Watson** 

San Juan River Plant (SJRP)

D-ALAB-SANJUAN-003

Accutest Job Number: T12661

Sampling Date: 02/14/06

#### Report to:

MWH Americas, Inc.

jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 49



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino

**Laboratory Manager** 



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## Sample Summary

**Montgomery Watson** 

Job No:

T12661

San Juan River Plant (SJRP) Project No: D-ALAB-SANJUAN-003

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
T12661-1	02/14/06	11:53 MN	02/16/06	SO	Soil	GPH13-S(0-1) 1153
T12661-2	02/14/06	12:00 MN	02/16/06	SO	Soil	GPH13-S(8-9) 1200
T12661-3	02/14/06	13:00 MN	02/16/06	SO	Soil	GPH14-S(0-1) 1300
T12661-4	02/14/06	13:15 MN	02/16/06	ŠO	Soil	GPH14-S(7.25-8.25) 1315
T12661-5	02/14/06	13:48 MN	02/16/06	so	Soil	GPH15-S(0-1) 1348
T12661-6	02/14/06	13:59 MN	02/16/06	SO	Soil	GPH15-S(10-11) 1359
T12661-7	02/14/06	14:02 MN	02/16/06	SO.	Soil	GPH15-S(13.5-14.5) 1402





OEDO

# Sample Results

# Report of Analysis

Client Sample ID: GPH13-S(0-1) 1153

Lab Sample ID:

T12661-1

Matrix: Method:

Project:

SO - Soil

SW846 8015

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/16/06 **Percent Solids:** 88.3

02/14/06

File ID DF **Analytical Batch** Analyzed By **Prep Date** Prep Batch Run #1 EE023825.D 1 02/22/06 JH n/a GEE1057 n/a

Run #2

**Initial Weight** 

Final Volume

Methanol Aliquot

Run #1 5.03 g 5.0 ml

100 ul

Run #2

CAS No. Compound Result

RL

**MDL** 

Units

Q

TPH-GRO (C6-C10)

ND

6.3

Run# 2

mg/kg

CAS No. **Surrogate Recoveries** 

Run# 1

Limits

3.1

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

70% 84% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID:

GPH13-S(0-1) 1153

Lab Sample ID:

T12661-1

Matrix: Method: SO - Soil

SW846 8021B

Date Sampled: 02/14/06

Percent Solids: 88.3

Date Received: 02/16/06

DF

1

1

Project:

San Juan River Plant (SJRP)

Analyzed By

JĤ

**Prep Date** n/a

Prep Batch n/a

**Analytical Batch GKK752** 

Run #1 Run #2 KK11449.D KK11374.D

02/27/06 02/25/06

JΗ

n/a

n/a

**GKK750** 

Initial Weight

5.16 g

File ID

Final Volume 5.0 ml

Run #1 4.98 g Run #2

5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.1	0.33	ug/kg	
108-88-3	Toluene	ND	1.1	0.22	ug/kg	
100-41-4	Ethylbenzene	ND	1.1	0.33	ug/kg	
1330-20-7	Xylenes (total)	ND	2.2	0.66	ug/kg	
95-47-6	o-Xylene	ND	1.1	0.33	ug/kg	
	m,p-Xylene	ND	2.2	0.66	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run#	2 Lim	iits	
460-00-4	4-Bromofluorobenzene	69%	66%	43-1	154%	
98-08-8	aaa-Trifluorotoluene	78%	79%	46-1	151%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH13-S(0-1) 1153

Lab Sample ID: Matrix:

T12661-1

Method:

SO - Soil

Project:

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: 02/14/06 Date Received:

02/16/06 Percent Solids: 88.3

File ID DF **Analytical Batch** Analyzed By Prep Date Prep Batch CC11342.D 02/18/06 ŔĊ 02/17/06 OP5520 GCC529 Run #1 1

Run #2

**Initial Weight** 30.6 g

Run #1

Final Volume 1.0 ml

Run #2

CAS No. Compound Result

RL

**MDL** 

Units

mg/kg

Q.

ND 9.3 3.7

Run# 1

Run# 2

Limits

84-15-1

CAS No.

o-Terphenyl

TPH (C10-C28)

Surrogate Recoveries

76%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID:

GPH13-S(8-9) 1200

Lab Sample ID:

T12661-2

Matrix:

SO - Soil

Method:

SW846 8015

Date Sampled: Date Received:

02/14/06

**Percent Solids:** 

02/16/06

81.8

Project:

San Juan River Plant (SJRP)

DF

1

Prep Batch

n/a

Q

**Analytical Batch** GEE1057

Run #1 Run #2

5.12 g

File ID

EE023826.D

**Initial Weight** Final Volume 5.0 ml

Methanol Aliquot

By

JH

100 ul

Run #1 Run #2

CAS No.

Compound

Result

Analyzed

02/22/06

RL

**MDL** 

3.5

**Prep Date** 

n/a

Units

TPH-GRO (C6-C10)

ND 7.1

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

66% 80%

56-139% 46-136%

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



ND = Not detected

MDL - Method Detection Limit

Page 1 of 1

Client Sample ID: GPH13-S(8-9) 1200

Lab Sample ID: Matrix:

T12661-2 SO - Soil

Method: Project:

SW846 8021B

San Juan River Plant (SJRP)

02/14/06 Date Sampled: Date Received: 02/16/06

Percent Solids: 81.8

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11450.D	1	02/27/06	JH	n/a	n/a	GKK752
Run #2	KK11375.D	1 ·	02/25/06	JH	n/a	n/a	GKK750

	Initial Weight	Final Volume			 	٦
Run #1	5.05 g	5.0 ml				١
Run #2	5.11 g	5.0 ml			•	

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND ND	1.2 1.2 1.2 2.4 1.2 2.4	0.36 0.24 0.36 0.73 0.36 0.73	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	59% 68%	67% 78%	21200000000000000000000000000000000000	54% 51%	

MDL - Method Detection Limit ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range J = Indicates an estimated value

B = Indicates analyte found in associated method blank N = Indicates presumptive evidence of a compound



Client Sample ID: GPH13-S(8-9) 1200

File ID

CC11343.D

Lab Sample ID:

T12661-2

DF

1

Matrix:

Method: Project:

SO - Soil

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: 02/14/06

Date Received: 02/16/06

OP5520

Percent Solids: 81.8

**Prep Date** Prep Batch **Analytical Batch** 

GCC529

Run #1 Run #2

> **Initial Weight** Final Volume

Run #1 30.2 g 1.0 ml

Run #2

CAS No. Compound Result

Analyzed

02/18/06

RL

By

RC

**MDL** 

02/17/06

Units

Q

TPH (C10-C28)

ND 10

4.0 mg/kg

CAS No.

**Surrogate Recoveries** 

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

77%

41-153%

ND = Not detected

MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range



Client Sample ID: GPH14-S(0-1) 1300

Lab Sample ID:

T12661-3

Matrix: Method: Project:

SO - Soil

SW846 8015

DF

1

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids: 89.8

**Prep Date** Prep Batch **Analytical Batch** 

Run #1 Run #2

Initial Weight

EE023827.D

File ID

Final Volume

Methanol Aliquot

By

JH

n/a

**GEE1057** 

Run #1

5.11 g

5.0 ml

San Juan River Plant (SJRP)

100 ul

Run #2 CAS No.

Compound

Result

RL

**MDL** 

3.0

n/a

Units

Q

TPH-GRO (C6-C10)

Analyzed

02/22/06

6.0

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

66% 85%

56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH14-S(0-1) 1300

Lab Sample ID:

T12661-3

Matrix:

SO - Soil

Method:

SW846 8021B

**Date Sampled: 02/14/06** 

Date Received: 02/16/06 Percent Solids: 89.8

Project:

San Juan River Plant (SJRP)

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11451.D	· 1	02/27/06	JH	n/a	n/a	GKK752
Run #2	KK11376.D	1	02/25/06	ΙH	n/a	n/a	GKK750

	Initial Weight	Final Volume				
Run #1 .	5.06 g	5.0 ml				
Run #2	5.05 g	5.0 ml		,		

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND ND	1.1 1.1 1.1 2.2 1.1 2.2	0.33 0.22 0.33 0.66 0.33 0.66	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	69% 78%	64% 78%		.54% .51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH14-S(0-1) 1300

Lab Sample ID:

T12661-3

Matrix:

SO - Soil

Method: Project:

San Juan River Plant (SJRP)

SW846 8015 M SW846 3550B

Final Volume

Date Sampled: 02/14/06 Date Received: 02/16/06

Percent Solids: 89.8

File ID DF

Run #1 CC11344.D 1

Analyzed 02/18/06

By RC

**Prep Date** 02/17/06

**Prep Batch** OP5520

**Analytical Batch** GCC529

Run #2

**Initial Weight** 

Compound

o-Terphenyl

TPH (C10-C28)

30.0 g

1.0 ml

Run #1 Run #2

CAS No.

Result

RL

Run# 2

**MDL** 

Units

Q

ND

3.7

mg/kg

CAS No.

84-15-1

**Surrogate Recoveries** 

Run# 1

Limits

74%

41-153%

ND = Not detected

RL = Reporting Limit E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID:

GPH14-S(7.25-8.25) 1315

Lab Sample ID:

T12661-4

Matrix:

SO - Soil

Method: Project:

SW846 8015

San Juan River Plant (SJRP)

Date Sampled:

02/14/06 02/16/06

Date Received:

**Percent Solids:** 88.8

**Analytical Batch** 

Run #1 Run #2

File ID DF EE023828.D 1

Analyzed 02/22/06

By JH **Prep Date** n/a

Prep Batch n/a

Q

GEE1057

Initial Weight 5.27 g

Compound

Final Volume 5.0 ml

Methanol Aliquot

100 ul

Run #1 Run #2

CAS No.

Result

RL

6.0

**MDL** 

3.0

Units

TPH-GRO (C6-C10)

ND

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

68% 82%

56-139% 46-136%

ND = Not detected RL = Reporting Limit

E = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH14-S(7.25-8.25) 1315

Lab Sample ID:

T12661-4

Matrix: Method: SO - Soil SW846 8021B

Project:

San Juan River Plant (SJRP)

Date Sampled: 02/14/06 Date Received:

02/16/06

Percent Solids: 88.88

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11452.D	1	02/27/06	JH	n/a	n/a	GKK752
Run #2	KK11377.D	1 ·	02/25/06	JH	n/a	n/a	GKK750

	Initial Weight	Final Volume
Run #1	5.20 g	5.0 ml
Run #1 Run #2	5.30 g	5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND	1.1 2.1.1 1.1 2.2 1.1 2.2	0.32 0.22 0.32 0.65 0.32 0.65	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	53% 65%	62% 85%		54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH14-S(7.25-8.25) 1315

Lab Sample ID:

T12661-4

Matrix:

SO - Soil

Method: Project:

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled:

02/14/06 02/16/06

Date Received:

Percent Solids:

88.8

File ID DF **Analytical Batch** Analyzed By **Prep Date** Prep Batch Run #1 CC11345.D 1 02/18/06 RC 02/17/06 OP5520 **GCC529** 

Run #2

**Initial Weight** 30.0 g

Final Volume 1.0 ml

Run #1

Run #2

CAS No.

Compound

Result

RL

MDL

Units

Q

TPH (C10-C28)

9.4

3.7

mg/kg

CAS No.

**Surrogate Recoveries** 

Run#1

ND

Run# 2

Limits

84-15-1

o-Terphenyl

78%

41-153%

ND = Not detected

MDL - Method Detection Limit

J = Indicates an estimated value

RL = Reporting Limit E = Indicates value exceeds calibration range B = Indicates analyte found in associated method blank



Page 1 of 1

GPH15-S(0-1) 1348 Client Sample ID:

Lab Sample ID:

T12661-5

Matrix:

SO - Soil

Method: Project:

SW846 8015

San Juan River Plant (SJRP)

DF

1 -

Date Sampled: Date Received:

02/14/06 02/16/06

89.9 **Percent Solids:** 

**Analytical Batch Prep Date** Prep Batch

Run #1 Run #2

EE023829.D

Final Volume

JH

By

n/a

n/a

GEE1057

**Initial Weight** 

File ID

Methanol Aliquot

Run #1 Run #2 5.22 g

5.0 ml

100 ul

CAS No.

Compound

Result

Analyzed

02/22/06

RL

5.9

MDL

2.9

Units mg/kg Q

CAS No.

Surrogate Recoveries

TPH-GRO (C6-C10)

Run# 1

5.57

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

79% 85% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH15-S(0-1) 1348

Lab Sample ID:

T12661-5

Matrix:

SO - Soil

Date Sampled:

02/14/06

SW846 8021B

Date Received:

02/16/06

Method:

Percent Solids:

89.9

Project:

San Juan River Plant (SJRP)

DF

**Prep Date** Prep Batch **Analytical Batch** 

Ву Analyzed Run #1 KK11455.D 02/27/06 JH 1 n/a n/a **GKK752** Run #2 KK11456.D 02/27/06 1 JH **GKK752** n/a n/a

**Initial Weight** Final Volume

Run #1 5.06 gRun #2 1.06 g

File ID

5.0 ml

5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Kylenes (total) o-Xylene m,p-Xylene	ND 0.23 ND ND ND ND	1.1 1.1 1.1 2.2 1.1 2.2	0.33 0.22 0.33 0.66 0.33 0.66	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	62% 69%	76% 82%	360	54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH15-S(0-1) 1348

Lab Sample ID: Matrix:

T12661-5

SO - Soil

Method: Project:

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/14/06 02/16/06

OP5520

Q

By

RC

Percent Solids: 89.9

**Prep Date** Prep Batch **Analytical Batch** 

GCC529

Run #1 Run #2

Initial Weight

30.0 g

CC11348.D

File ID

Run #1

Final Volume 1.0 ml

DF

1

Run #2

CAS No. Compound Result

Analyzed

02/18/06

RL

MDL

02/17/06

Units

12.6 9.3 3.7 mg/kg

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

TPH (C10-C28)

86%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH15-S(10-11) 1359

Lab Sample ID:

T12661-6

Matrix: Method: SO - Soil

SW846 8015

Date Sampled:

02/14/06

**Percent Solids:** 

Date Received: 02/16/06 83.3

Project:

San Juan River Plant (SJRP)

DF

1

Analytical Batch

Run #1 Run #2

EE023830.D

File ID

02/22/06

Analyzed

By JH **Prep Date** n/a

Prep Batch n/a

**GEE1057** 

Run #1

Run #2

**Initial Weight** 5.10 g

**Final Volume** 5.0 ml

Methanol Aliquot

100 ul

CAS No.

Compound

Result

RL

**MDL** 

Units

Q

TPH-GRO (C6-C10)

ND 6.9

3.4

mg/kg

CAS No.

Surrogate Recoveries

Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

72% 81%

56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH15-S(10-11) 1359

Lab Sample ID:

T12661-6

Matrix: Method: SO - Soil

SW846 8021B

Date Sampled: Date Received: Percent Solids:

02/14/06 02/16/06

83.3

Project: San Juan River Plant (SJRP)

	File ID	DF	Analyzed	Ву	Prep Date	Prep Batch	Analytical Batch
Run #1	KK11453.D	1	02/27/06	JĤ	n/a	n/a	GKK752
Run #2	KK11378.D	1	02/25/06	JH	n/a	n/a	GKK750

	Initial Weight	Final Volume			* .
Run #1	5.06 g	5.0 ml		•	•
Run #2	5.17 g	5.0 ml			

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND 1.7 ND 1.4	1.2 1.2 1.2 2.4 1.2 2.4	0.36 0.24 0.36 0.71 0.36 0.71	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	58% 70%	64% 78%	H.H	54% 51%	

ND = Not detected

RL = Reporting Limit **E** = Indicates value exceeds calibration range

MDL - Method Detection Limit

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH15-S(10-11) 1359

Lab Sample 1D:

T12661-6

Matrix: Method: SO - Soil

SW846 8015 M SW846 3550B

DF

1

Date Sampled:

02/14/06 Date Received: 02/16/06

Percent Solids: 83.3

Project:

San Juan River Plant (SJRP)

By

RC

**Prep Date** 02/17/06

Prep Batch OP5520

**Analytical Batch GCC529** 

Run #1 Run #2

**Initial Weight** 

CC11350.D

Final Volume

Run #1 Run #2 30.2 g

File ID

1.0 ml

CAS No.

Compound

TPH (C10-C28)

Result

Analyzed

02/18/06

RL

**MDL** 

Units

Q

ND 10

4.0

mg/kg

CAS No.

**Surrogate Recoveries** 

Run# 1

Run# 2

Limits

84-15-1

o-Terphenyl

78%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

Page 1 of 1

Client Sample ID: GPH15-S(13.5-14.5) 1402

Lab Sample ID:

T12661-7

San Juan River Plant (SJRP)

Matrix:

SO - Soil

Method: Project:

SW846 8015

Date Sampled: 02/14/06 Date Received:

02/16/06

Percent Solids: 82.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE023884.D	1	02/23/06	JĤ	n/a	n/a	GEE1058

Run #2

Final Volume Methanol Aliquot **Initial Weight** 5.0 ml 100 ul Run #1 5.02 gRun #2

CAS No. Compound Result

RL

MDL Units

TPH-GRO (C6-C10)

3.6

mg/kg

Q.

CAS No. Surrogate Recoveries Run# 1

Run# 2

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

75% 85% 56-139% 46-136%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Client Sample ID: GPH15-S(13.5-14.5) 1402

Lab Sample ID:

T12661-7

SO - Soil

Date Sampled:

02/14/06

Matrix: Method:

SW846 8021B

Date Received:

02/16/06

Project:

San Juan River Plant (SJRP)

Percent Solids: 82.4

File ID DF By **Prep Date** Prep Batch **Analytical Batch** Analyzed

Run #1 KK11454.D JH **GKK752** 1 02/27/06 n/a n/a Run #2 KK11383.D 1 02/25/06 JH n/a n/a **GKK750** 

**Initial Weight** Final Volume Run #1 5.00 g5.0 ml

Run #2 5.11 g 5.0 ml

#### **Purgeable Aromatics**

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND 3.1 ND 2.8	1.2 1.2 1.2 2.4 1.2 2.4	0.36 0.24 0.36 0.73 0.36 0.73	ug/kg ug/kg ug/kg ug/kg ug/kg ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	54% 68%	63% 88%		54% 51%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank



Page 1 of 1

Client Sample ID: GPH15-S(13.5-14.5) 1402

Lab Sample ID:

T12661-7

Matrix: Method: Project:

SO - Soil

SW846 8015 M SW846 3550B

San Juan River Plant (SJRP)

Date Sampled: Date Received:

02/14/06 02/16/06

Percent Solids:

82.4

Run #1

File ID CC11360.D DF 1 . Analyzed 02/18/06

By RC

**Prep Date** 02/17/06

Prep Batch OP5528

**Analytical Batch** GCC529

Run #2

**Initial Weight** 

Final Volume

30.0 g

1.0 ml

Run #1 Run #2

CAS No.

Compound

Result

ND

RL

MDL

4.0

Units

mg/kg

Q

TPH (C10-C28)

Surrogate Recoveries

Run#1

Run# 2

Limits

84-15-1

CAS No.

o-Terphenyl

79%

41-153%

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank









Misc. Forms

# **Custody Documents and Other Forms**

## Includes the following where applicable:

• Chain of Custody



## CHAIN OF CUSTODY 140206mv 02

	J Accultect						vin Dri						11030	CCD E	X Tracki	g#	619	0	Battle	Order C	iontrol #			
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T12661: Chain of Custody

Page 1 of 3



8. Y N (A) Custody s	Variance (Circle "Y" for yes and "N" for no a Sample received in undamaged condition. Sample received with proper pH. Sample volume sufficient for analysis. Chain of Custody matches sample IDs an A. Custody seal received intect and tampe A. Custody seal received intect and tampe A. Custody seal received intect and tampe	Nariance (Circle "\" for yes and "N" for no or NA. If "N" is pircled, se Sample received in undamaged condition.  Sample received with proper pH.  Sample received with proper pH.  Sample volume sufficient for analysis.  Chain of Custody matches sample IDs and analysis on containers.  Chain seal received intact and tamper not evident on cooler.	L If I'm is pircled 200 N 4 N 4 N 4 N 4 N N S S N S N S N S N S	iled, see vari N Samples N Sample N Sampie Nainers.	is pircled, see variance for explanation): 2. N Samples received within temp. range. 4. N Sample received in proper containers. 6. N Sample received with chain of custody in containers. on containers.	anation): hin temp. rai roper contair chain of cus	nge. ners. stody.
SAMPLE or FIELD ID	BOTTLE #	DATE SAMPLED	MATRIX	VOLUME	LOCATION	PRESERV.	Ħ
4-1		Tile	S	yor	VREF		U, C, >12,
	VM AV.					1,2,3,4,5,6	U, 42, >12, NA
						1,2,3,4,5,6	U, 4, >12, NA
			,			1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, C2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
:						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
	7					1,2,3,4,5,6	U, 42, >12, NA
	20)					1,2,3,4,5,6	U, <2, >12, NA
(C)						1,2,3,4,5,6	U, <2, >12, NA
						1,2,3,4,5,6	U, <2, >12, NA
8						1,2,3,4,5,6	U, 42, >12, NA
						1,2,3,4,5,6	U, 42, >12, NA
						1,2,3,4,5,6	U, Q, >12, NA
LOCATION: WI: Walk-in VR: Volatile Refrig. SUB: Subcontract EF: En PRESERVATIVES: 1: None 2: HCL 3: HN03 4: H2SO4 5: NAOH 6: Other Comments:	VR: Volatile Refrig.	SUB: Subcontract 4: H2SO4 5: NAOH C	:1 EF: Encore Freezer H 6: Other Comments:	Freezer			
pH of waters checked excluding volatiles	ding volatiles						
Delivery method: Courter.	77	.		COOLER TEMP.	6.9	COOLER TEMP.	ا غ

T12661: Chain of Custody

Page 2 of 3

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T12661: Chain of Custody
Page 3 of 3









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QC Data Summaries

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

**Method Blank Summary** 

Page 1 of 1

Job Number:

T12661

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

DF

Sample GEE1057-MB

File ID EE023823.D 1 Analyzed 02/22/06

By JH Prep Date n/a

Analytical Batch Prep Batch

n/a

GEE1057

The QC reported here applies to the following samples:

Method: SW846 8015

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6

CAS No.

Compound

Result

RL

MDL

Units Q

TPH-GRO (C6-C10)

ND

2.5

mg/kg

CAS No.

**Surrogate Recoveries** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

80% 99% 56-139% 46-136%



**Method Blank Summary** 

Job Number: T12661

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample DF File ID

Analyzed GEE1058-MB EE023858.D 1 02/23/06

Prep Date n/a

**Prep Batch** n/a

**Analytical Batch** 

Page 1 of 1

GEE1058

The QC reported here applies to the following samples:

Method: SW846 8015

T12661-7

CAS No. Compound Result

RL

5.0

By

JĚ

MDL

2.5

Units Q

TPH-GRO (C6-C10)

ND

mg/kg

CAS No. Surrogate Recoveries Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

70% 95%

56-139% 46-136% Method Blank Summary Job Number: T12661

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample GKK750-MB File ID KK11371.D 1

DF Analyzed 02/25/06

By JĚ **Prep Date** n/a

Prep Batch n/a

**Analytical Batch** 

Page 1 of 1

**GKK750** 

The QC reported here applies to the following samples:

Method: SW846 8021B

T12661-1, T12661-2, T12661-3, T12661-4, T12661-6, T12661-7

CAS No. Compound

Result

RL

**MDL** 

Units Q

CAS No.

**Surrogate Recoveries** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

95% 43-154%

94% 46-151%



# Method Blank Summary Job Number: T12661 Account: MWHSLCUT Montgomery Watson Project: San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK752-MB	KK11446.D	1	02/27/06	JH	n/a	n/a	GKK752

The QC reported here applies to the following samples:

Method: SW846 8021B

Page 1 of 1

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6, T12661-7

CAS No.	Compound	Result	RL	MDL	Units Q	
71-43-2	Benzene	ND	1.0	0.30	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/kg	
108-88-3	Toluene	ND	1.0	0.20	ug/kg	
1330-20-7	Xylenes (total)	ND	2.0	0.60	ug/kg	
	m,p-Xylene	ND	2.0	0.60	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.30	ug/kg	
CAS No.	Surrogate Recoveries		Limi	ts		
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	100% 92%	43-15 46-15			

Job Number:

**MWHSLCUT Montgomery Watson** Account:

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE1057-BS	EE023824.D	1	02/22/06	JH	n/a	n/a	GEE1057

The QC reported here applies to the following samples:

Method: SW846 8015

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6

Spike **BSP BSP** Compound mg/kg mg/kg % CAS No. Limits

> TPH-GRO (C6-C10) 20 86 17.2 70-119

CAS No. **Surrogate Recoveries BSP** Limits

93% 460-00-4 4-Bromofluorobenzene 56-139% 98-08-8 aaa-Trifluorotoluene 99% 46-136%



Blank Spike Summary Job Number: T12661

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

DF

Sample GEE1058-BS File ID EE023859.D 1 Analyzed 02/23/06

By JH **Prep Date** n/a

Prep Batch

**Analytical Batch** 

Page 1 of 1

n/a

GEE1058

The QC reported here applies to the following samples:

Method: SW846 8015

T12661-7

CAS No. Compound

Spike **BSP** mg/kg mg/kg

16.0

**BSP** 

%

Limits

TPH-GRO (C6-C10)

20

80 70-119

CAS No.

**Surrogate Recoveries** 

**BSP** 

Limits

460-00-4 98-08-8

4-Bromofluorobenzene aaa-Trifluorotoluene

87% 100% 56-139%

46-136%

### Blank Spike/Blank Spike Duplicate Summary

Page 1 of 1

Job Number: T12661

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

File ID KK11372.D KK11373.D	Analyzed 02/25/06 02/25/06	By JH JH	Prep Date n/a n/a	Prep Batch n/a n/a	Analytical Batch GKK750 GKK750
•					

Method: SW846 8021B

T12661-1, T12661-2, T12661-3, T12661-4, T12661-6, T12661-7

The QC reported here applies to the following samples:

CAS No. Compound

Spike BSP ug/kg ug/kg BSP % BSD BSD ug/kg %

RPD Rec

Limits Rec/RPD

CAS No.

Surrogate Recoveries

BSP

BSD

Limits

460-00-4 98-08-8 4-Bromofluorobenzene aaa-Trifluorotoluene

87% 83% · 87% - 79% 43-154% 46-151%



## Blank Spike/Blank Spike Duplicate Summary Job Number: T12661

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample	File ID	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK752-BS	KK11447.D	02/27/06	JH	n/a	n/a	GKK752
GKK752-BSD	KK11448.D	02/27/06	JH	n/a	n/a	GKK752
			•			

The QC reported here applies to the following samples:

Method: SW846 8021B

Page 1 of 1

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6, T12661-7

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	18.5	93	17.9	90	3	46-150/30
100-41-4	Ethylbenzene	20	19.8	99	19.1	96	4	69-134/30
108-88-3	Toluene	20	19.2	96	18.6	93	3	67-132/30
1330-20-7	Xylenes (total)	60	58.6	98	56.8	95	3	67-134/30
	m,p-Xylene	40	39.0	98	37.7	94	3	68-135/30
95-47-6	o Xylene	20	19.6	98	19.1	96	3	66-133/30
CAS No.	Surrogate Recoveries	BSP	BS	D .	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	97% 91%	959 889	200	43-154° 46-151°			

Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12661

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample T12661-6MS T12661-6MSD T12661-6	File ID EE023831.D EE023832.D EE023830.D	1	Analyzed 02/22/06 02/22/06 02/22/06	By JH JH JH	Prep Date n/a n/a n/a	Prep Batch n/a n/a n/a	Analytical Batch GEE1057 GEE1057 GEE1057

Method: SW846 8015

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6

The QC reported here applies to the following samples:

CAS No.	Compound	T12661-6 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		27.5	22.8	83	23.8	86	4	66-122/21
CAS No.	Surrogate Recoveries	MS		MSD	T12	661-6	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	87% 92%		92% 97%	72% 81%	0.0000000000000000000000000000000000000	56-139% 46-136%			



Matrix Spike/Matrix Spike Duplicate Summary
Job Number: T12661

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample T12664-2MS T12664-2MSD T12664-2	File ID EE023861.D EE023862.D EE023860.D	1	Analyzed 02/23/06 02/23/06 02/23/06	By JH JH JH	Prep Date n/a n/a n/a	Prep Batch n/a n/a n/a	Analytical Batch GEE1058 GEE1058 GEE1058	
	•							

The QC reported here applies to the following samples:

Method: SW846 8015

T12661-7

CAS No.	Compound	T12664-2 mg/kg Q	Spike mg/kg	MS MS mg/kg %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	25.9	21.7	21.8	84	0	66-122/21
CAS No.	Surrogate Recoveries	MS	MSD	T12664-2	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	88% 89%	90% 92%	63% 82%	56-139 46-136	-	•	

Matrix Spike/Matrix Spike Duplicate Summary
Job Number: T12661
Account: MWHSLCUT Montgomery Watson

Page 1 of 1

Project:

San Juan River Plant (SJRP)

Sample	File ID	1	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T12661-6MS	KK11379.D		02/25/06	JH	n/a	n/a	GKK750
T12661-6MSD	KK11380.D		02/25/06	JH	n/a	n/a	GKK750
T12661-6	KK11378.D		02/25/06	JH	n/a	n/a	GKK750
	•						

The QC reported here applies to the following samples:

Method: SW846 8021B

T12661-1, T12661-2, T12661-3, T12661-4, T12661-6, T12661-7

		T12661	-6	Spike	MS	MS	MSD	MSD		Limits
CAS No.	Compound	ug/kg	Q	ug/kg	ug/kg	%	ug/kg	%	RPD	Rec/RPD

CAS No.	Surrogate Recoveries	MS	MSD	T12661-6	Limits
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene		64% 70%	64% 78%	



## Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12661

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample         File ID         DF         Analyzed         By           T12685-9MS         KK11463.D         1         02/27/06         JH           T12685-9MSD         KK11464.D         1         02/27/06         JH           T12685-9         KK11462.D         1         02/27/06         JH	n/a n/a n/a	Prep Batch Analytical Batch n/a GKK752 n/a GKK752 n/a GKK752
---	-------------	--

The QC reported here applies to the following samples:

Method: SW846 8021B

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6, T12661-7

		T12685-9	Spike	MS	MS -	MSD	MSD		Limits
CAS No.	Compound	ug/kg Ç	ug/kg	ug/kg	%	ug/kg	%	RPD	Rec/RPD
71-43-2	Benzene	1.2	23.8	21.8	87	23.3	92	7	46-140/15
100-41-4	Ethylbenzene	4.3	23.8	25.6	90	31.5	114	21*	69-122/11
108-88-3	Toluene	6.3	23.8	27.3	88	29.8	98	9	64-125/14
1330-20-7	Xylenes (total)	44.9	71.3	83.5	54*	112	93	29*	66-124/13
	m,p-Xylene	25.1	47.5	57.2	68	78.7	112	32*	67-124/12
95-47-6	o-Xylene	19.8	23.8	26.3	27*	33.0	55*	23*	62-124/15
CAS No.	Surrogate Recoveries	MS	MSD	T1:	2685-9	Limits			
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	90% 83%	97% 89%	889 939		43-1549 46-1519			





GC Semi-volatiles

QC Data Summaries

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



Method Blank Summary Job Number: T12661

Page 1 of 1

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample	File ID	DF	Analyzed	By	Prep Date 02/17/06	Prep Batch	Analytical Batch
OP5520-MB	CC11323.D	1	02/17/06	RC		OP5520	GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6

Compound CAS No.

Result

RL

MDL

Units Q

TPH (C10-C28)

ND 8.2 3.3

mg/kg

CAS No.

**Surrogate Recoveries** 

Limits

84-15-1

o-Terphenyl

64%

41-153%

Account:

MWHSLCUT Montgomery Watson

Project:

San Juan River Plant (SJRP)

Sample OP5528-MB	File ID CC11356.D	DF 1	Analyzed 02/18/06	By RC	Prep Date 02/17/06	Prep Batch OP5528	Analytical Batch GCC529
ŀ				•			

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12661-7

CAS No. Compound Result

RL

8.2

MDL.

Units Q

TPH (C10-C28)

ND

3.3

mg/kg

CAS No.

Surrogate Recoveries

Limits

84-15-1

o-Terphenyl

84% 41-153%



Blank Spike Summary Job Number: T12661

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample OP5520-BS File ID DF CC11324.D 1

Analyzed 02/17/06

By RC Prep Date 02/17/06

Prep Batch OP5520

**Analytical Batch** 

Page 1 of 1

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6

CAS No. Compound Spike

**BSP** 

**BSP** 

85

mg/kg

mg/kg %

Limits

TPH (C10-C28)

33.2

28.3

55-131

CAS No.

**Surrogate Recoveries** 

**BSP** 

Limits

84-15-1

o-Terphenyl

77%

41-153%

Account:

**MWHSLCUT Montgomery Watson** 

Project:

San Juan River Plant (SJRP)

Sample OP5528.	•
OP5528.	PS.

File ID CC11357.D 1

DF

Analyzed Ву 02/18/06 RC

02/17/06

**Prep Date** 

Prep Batch OP5528

Analytical Batch

GCC529

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12661-7

CAS No.

Spike

**BSP** 

**BSP** 

mg/kg mg/kg %

Limits

TPH (C10-C28)

Compound

33.3

32.2

97 55-131

CAS No.

Surrogate Recoveries

**BSP** 

Limits

84-15-1

o-Terphenyl

89%

41-153%

# Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12661

Account:

Project:

MWHSLCUT Montgomery Watson San Juan River Plant (SJRP)

Sample OP5520-MS OP5520-MSD T12659-1	File ID CC11351.D CC11352.D CC11325.D	1	Analyzed 02/18/06 02/18/06 02/17/06	By RC RC RC	Prep Date 02/17/06 02/17/06 02/17/06	Prep Batch OP5520 OP5520 OP5520	Analytical Batch GCC529 GCC529 GCC529
		•	04/27/00			010020	

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12661-1, T12661-2, T12661-3, T12661-4, T12661-5, T12661-6

CAS No.	Compound	T12659-1 mg/kg Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND	35.1	31.2	89	33.5	95	7	49-139/24
CAS No.	Surrogate Recoveries	MS	MSD	T12	659-1	Limits			
84-15-1	o-Terphenyl	75%	81%	73%	ó. · . o	41-153%	6		·

Page 1 of 1

Account:

Project:

MWHSLCUT Montgomery Watson
San Juan River Plant (SJRP)

OP5528-MS         CC11399.D         10         02/20/06         FO         02/17/06         OP5528         GCC530           OP5528-MSD         CC11400.D         10         02/20/06         FO         02/17/06         OP5528         GCC530           T12664-9         CC11387.D         1         02/19/06         RC         02/17/06         OP5528         GCC529
--

The QC reported here applies to the following samples:

Method: SW846 8015 M

T12661-7

CAS No.	Compound	T12664- mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	10.3	35.7	151	394*	149	389*	1	49-139/24
CAS No.	Surrogate Recoveries	MS	MSD	T12	664-9	Limits			
84-15-1	o-Terphenyl	135%	135%	74%	o D	41-153%	<b>.</b>		









02/21/06



#### **Technical Report for**

**Montgomery Watson** 

San Juan River Plant (SJRP)

D-ALAB-SANJUAN-003

Accutest Job Number: T12681

Sampling Date: 02/16/06

Report to:

MWH Americas, Inc.

jennifer.a.hurley@mwhglobal.com

ATTN: Ms. Jennifer Hurley

Total number of pages in report: 14



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Ron Martino Laboratory Manager



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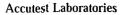
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Section 4: GC Volatiles - QC Data Summaries	
4.1: Method Blank Summary	
4.2: Blank Spike Summary	
4.3: Matrix Spike/Matrix Spike Duplicate Summary	





### Sample Summary

**Montgomery Watson** 

Job No:

T12681

San Juan River Plant (SJRP) Project No: D-ALAB-SANJUAN-003

Sample Number	Collected Date	Time By	Received	Matr Code		Client Sample ID
T12681-1	02/16/06	13:00 MN	02/17/06	AQ	Trip Blank Water	160206TB01
T12681-2	02/16/06	14:43 MN	02/17/06	AQ	Ground Water	GPH7-GW(8.5-9)







## Sample Results

## Report of Analysis



By

JH

Client Sample ID: 160206TB01 Lab Sample ID:

T12681-1

AQ - Trip Blank Water

Date Sampled: 02/16/06 Date Received:

02/17/06

Matrix: Method:

SW846 8021B

Percent Solids:

n/a

Project:

San Juan River Plant (SJRP)

DF

1

Analyzed

02/21/06

**Prep Date** n/a

Prep Batch n/a

**Analytical Batch GKK745** 

Run #1 Run #2

Purge Volume

File ID

KK11240.D

Run #1 5.0 ml

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.38	ug/l	
108-88-3	Toluene	ND	1.0	0.36	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.35	ug/l	
1330-20-7	Xylenes (total)	ND:	2.0	0.72	ug/l	
95-47-6	o-Xylene	ND	1.0	0.42	ug/l	
	m,p-Xylene	ND	2.0	0.72	ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	iits	
460-00-4	4-Bromofluorobenzene	94%	x:	56-1	36%	
98-08-8	aaa-Trifluorotoluene	106%	#.	50-1	44%	

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound



By

JH

Client Sample ID: GPH7-GW(8.5-9)

Lab Sample ID:

T12681-2

Matrix:

AQ - Ground Water

DF

1

Method:

SW846 8021B

Date Sampled: Date Received: 02/17/06

02/16/06

n/a

Percent Solids: n/a

Project:

San Juan River Plant (SJRP)

**Prep Date** Prep Batch

n/a

**Analytical Batch GKK745** 

Run #1 Run #2

Purge Volume

Run #1

5.0 ml

File ID

KK11241.D

Run #2

**Purgeable Aromatics** 

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2 108-88-3 100-41-4 1330-20-7 95-47-6	Benzene Toluene Ethylbenzene Xylenes (total) o-Xylene m,p-Xylene		1.0 1.0 1.0 2.0 1.0 2.0	0.38 0.36 0.35 0.72 0.42 0.72	ug/l ug/l ug/l ug/l ug/l ug/l	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Lim	its	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	89% 102%			.36% !44%	

Analyzed

02/21/06

ND = Not detected

MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound







Misc. Forms

**Custody Documents and Other Forms** 

Includes the following where applicable:

• Chain of Custody



	CH	AIN O	F CUSTOD	Y 160200	mnol	
ACCUTEST.		65 Harwin Drive, :	Ste. 150, Houston, TX 77036 00 FAX: 713-271-4770	Table and a second	Bottle Order Control #	
Laboratories			Acculest.com	Accutest Quote #	Accutest Job 1/768	
Client / Reporting Information		Project Informati	ion		Requested Analysis	Matrix Codes
ompany Name	Project Name	n Rive	Alant BJEN			DW - Drinking Water
ddress	Siree:	Min	Providen	<b>1</b>	1 1 1 1 1	GW - Ground Water
2 North Nevada By State Zip	City	State		1 1 1 1		SW - Surface Water
plorado Springs CO 80903	Cay	5816		1 1 1 1		SO - Soli
roject Contact E-mail	Project #			1		SL - Studge
hone #	Fax#					OI - Oil LIO - Other Liquid
719 520 4433	719 5	120, 4	710	101 1		AIR - Air
empler's Name  Muere	Client Purchase Order #		•			SOL - Other Solid
Accutest Field ID / Point of Collection SUMMA Sample #			Number of preserved Bottles			WP - Wipe
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Turnaround Time (Business Days)  10 Day STANDARD Approved By: / Date:	Commercial *A*		able Information		Comments / Remarks	
5 Day RUSH	Commercial *B*		CDD FORMAL			
3 Day EMERGENCY	Reduced Tier 1					
☐ 2 Day EMERGENCY ☐ 1 Day EMERGENCY	☐ TRRP13		*			
Other	<b>-</b>					
	Commercial	A" = Results Only		.		
Emergency & Rush TIA data evallable VIA LabLink	Sample Custody must be do	cumented below each ti	me samples change possession, incl	ding courier delivery.		04722000
Relinquished 100 Date Time 1630	Received by:		Reinquished by	Date Time	Received by:	
Reindusted by Date Time	Received by:		12	Date Time	: Received by:	
			Relinquished by:			
Relinquished by	A 0		Custody Seal #	Preserved where applicable		75.45

T12681: Chain of Custody

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1



108# #BOF	_	DATE/TIME RECE	WED: 0//	2/08/1	2		٠
	Paso	INITIALS:		INITIALS:	¥		
Condition/Variance (C 1 N Sample rec 3. You Sample rec 5. N Sample vol 7. ON Chain of C.	ition/Variance (Circle "Y" for yes and "N" for no or NA. If "N" is circled, see variance for explanation):  N. Sample received in undamaged condition.  Sample received with proper pH.  Sample received with proper pH.  Sample received in proper or to analysis.  Chain of Custody matches sample IDs and analysis on containers.  N. NA. Custody seal received intact and tamper not evident on cooler.	nd "N" for no or NA eed condition. pH. analysis. Imple IDs and an.	LITIN' is circled 2.0 N 4.0 N 4.0 N 6.0 N alysis on contain evident on coole	cled, see vari N Samples N Sample N Sample An Sample	see variance for explanation): Samples received within temp. range. Sample received in proper containers. Sample received with chain of custody.	ination): nin temp. rar oper contain chain of cus	ige.
9. Y N (NA) Custody SAMPLE OF FIELD ID	y seal received inta	act and tamper not DATE SAMPLED	evident on b	ottles.	LOCATION	PRESERV.	£
<b>か</b>	57	11/e	\$	your	WEEF	1(2)3,4,5,6	U, Q
						1,2,3,4,5,6	U, Q, >12, N
			·			1,2,3,4,5,6	U, 42, >12, NJ
						1,2,3,4,5,6	U, <2, >12, NJ
						1,2,3,4,5,6	U, <2, >12, NJ
						1,2,3,4,5,6	U, C, >12, N/
						1,2,3,4,5,6	U, 42, >12, N/
						1,2,3,4,5,6	U, C, >12, N
		$\times$				1,2,3,4,5,6	U, <2, >12, N/
	00 x					1,2,3,4,5,6	U, <2, >12, NJ
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\						1,2,3,4,5,6	U, C2, >12, NJ
0						1,2,3,4,5,6	U, <2, >12, NJ
3						1,2,3,4,5,6	U, <2, >12, N
						1,2,3,4,5,6	U, <2, >12, N
						1,2,3,4,5,6	U, <2, >12, N/
		-				1,2,3,4,5,6	U, C2, >12, N/
LOCATION: WI: Walk-In VR: Volatile Refrig. SUB: Subcontract EF: En PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: Other Comments:	VR: voladie Refrig.	3. SUB: Subcontract 3. 4: H2SO4. 5: NAOH CO.	ct EF: Encore Freezer IH 6: Other Comments:	e Freezer			
pH of waters checked excluding volatiles pH of soils N/A	cluding volatiles						
	rie:			COOKER TEMP:	200	COOLER TEMP:	ية چ
Tracking#:				SOUTH OF SOUTH	á	COOL ED TEMP.	ė

T12681: Chain of Custody
Page 2 of 3



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The SIGO STATE STA

T12681: Chain of Custody

Page 3 of 3

ACCUTEST LABORATORIES CUSTODY SEAL

**ACCUTEST LABORATORIES** CUSTODY SEAL

DATE / TIME SEALED: SIGOS SOLUTION INITIALS:

3.1









GC Volatiles

QC Data Summaries

#### Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries



3

Method Blank Summary
Job Number: T12681
Account: MWHSLCUT Montgomery Watson
Project: San Juan River Plant (SJRP)

Page 1 of 1

Analytical Batch GKK745

Sample GKK745-MB	File ID KK11214.D	DF 1	Analyzed 02/20/06	By JH	Prep Date n/a	Prep Batch n/a

The QC reported here applies to the following samples:

Method: SW846 8021B

T12681-1, T12681-2

CAS No.	Compound	Result	RL.	MDL	Units Q
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND	1.0 1.0 1.0 2.0 1.0 2.0	0.38 0.35 0.36 0.72 0.42 0.72	ug/l ug/l ug/l ug/l ug/l ug/l
CAS No.	Surrogate Recoveries		Limi	ts	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	111% 119%	56-13 50-14		



Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GKK745-BS	KK11215.D	1	02/20/06	JH	n/a	n/a	GKK745
							•

The QC reported here applies to the following samples:

Method: SW846 8021B

T12681-1, T12681-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.8	99	72-125
100-41-4	Ethylbenzene	20	19.7	99	76-125
108-88-3	Toluene	20	19.7	99	74-125
1330-20-7	Xylenes (total)	60	59.8	100	78-124
95-47-6	o-Xylene	20	19.9	100	78-124
	m,p-Xylene	40	39.9	100	78-125
CAS No.	Surrogate Recoveries	BSP	Lin	nits	
460-00-4 98-08-8	4-Bromofluorobenzene aaa-Trifluorotoluene	95% 101%		136% 144%	



# Matrix Spike/Matrix Spike Duplicate Summary Job Number: T12681 Account: MWHSLCUT Montgomery Watson Project: San Juan River Plant (SJRP)

Page 1 of 1

Sample T12615-4MS T12615-4MSD T12615-4	KK11232.D	20 1	Analyzed 02/20/06 02/21/06 02/20/06	By JH JH JH	Prep Date n/a n/a n/a	Prep Batch n/a n/a n/a	Analytical Batch GKK745 GKK745 GKK745
T12615-4	KK11233.D	20	02/20/06	JH	n/a	n/a	GKK745

The QC reported here applies to the following samples:

Method: SW846 8021B

T12681-1, T12681-2

CAS No.	Compound	T12615-4 ug/l Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MS %	D RPD	Limits Rec/RPD
71-43-2 100-41-4 108-88-3 1330-20-7 95-47-6	Benzene Ethylbenzene Toluene Xylenes (total) o-Xylene m,p-Xylene	ND ND ND ND ND ND	400 400 400 1200 400 800	367 363 364 1100 370 733	92 91 91 92 93 92	354 352 354 1070 360 713	89 88 89 90 89	4 3 3 3 3 3	45-137/21 68-126/15 63-130/22 72-125/19 70-128/20 63-136/19
CAS No. 460-00-4 98-08-8	Surrogate Recoveries 4-Bromofluorobenzene aaa-Trifluorotoluene	MS 89% 88%	MSD 87% 85%	T12	company	T12615-	-4	Limits 56-136% 50-144%	



# The EDR GeoCheck® Report

San Juan River Plant 99 County Road 6500 Kirtland, NM 87417

**Inquiry Number: 1634487.1s** 

March 15, 2006

### The Standard in Environmental Risk Management Information

440 Wheelers Farms Road Milford, Connecticut 06461

#### **Nationwide Customer Service**

Telephone: 1-800-352-0050 Fax: 1-800-231-6802 Internet: www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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#### GEOCHECK® - PHYSICAL SETTING SOURCE REPORT

#### **TARGET PROPERTY ADDRESS**

SAN JUAN RIVER PLANT 99 COUNTY ROAD 6500 KIRTLAND, NM 87417

#### TARGET PROPERTY COORDINATES

Latitude (North): 36.76000 - 36° 45' 36.0" Longitude (West): 108.3679 - 108° 22' 4.4"

Universal Tranverse Mercator: Zone 12 UTM X (Meters): 734957.2 UTM Y (Meters): 4071277.5

Elevation: 5289 ft. above sea level

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

- 1. Groundwater flow direction, and
- 2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

#### **GROUNDWATER FLOW DIRECTION INFORMATION**

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

#### TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

#### TARGET PROPERTY TOPOGRAPHY

USGS Topographic Map:

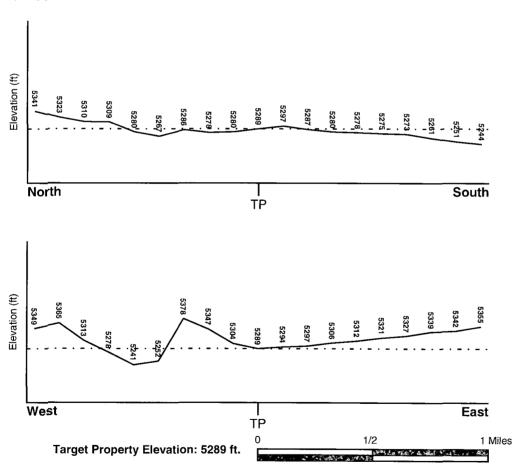
TP | 1979 | 36108-G3 YOUNGS LAKE, NM

General Topographic Gradient: General East

Source:

USGS 7.5 min guad index

#### **SURROUNDING TOPOGRAPHY: ELEVATION PROFILES**



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

#### HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

**FEMA FLOOD ZONE** 

FEMA Flood

Target Property County

Electronic Data

SAN JUAN, NM

Not Available

Flood Plain Panel at Target Property:

Not Reported

Additional Panels in search area:

Not Reported

NATIONAL WETLAND INVENTORY

**NWI** Electronic

**NWI Quad at Target Property** 

Data Coverage

NOT AVAILABLE

Not Available

#### HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

#### Site-Specific Hydrogeological Data\*:

Search Radius:

1.25 miles

Status:

Not found

#### **AQUIFLOW®**

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID

LOCATION

**GENERAL DIRECTION** 

Not Reported

FROM TP GROUNDWATER FLOW

<sup>\* ©1996</sup> Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

#### **GROUNDWATER FLOW VELOCITY INFORMATION**

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

#### GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

#### **ROCK STRATIGRAPHIC UNIT**

#### GEOLOGIC AGE IDENTIFICATION

Era: Mesozoic Category: Stratified Sequence

System: Cretaceous
Series: Navarro Group

Code: uK4 (decoded above as Era, System & Series)

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: FRUITLAND

Soil Surface Texture: sandy loam

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep,

moderately well and well drained soils with moderately coarse

textures.

Soil Drainage Class: Well drained. Soils have intermediate water holding capacity. Depth to

water table is more than 6 feet.

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: HIGH

Depth to Bedrock Min: > 60 inches

Depth to Bedrock Max: > 60 inches

			Soil Layer	Information			<b>T</b>
	Воц	undary		Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	7 inches	sandy loam	Granular materials (35 pct. or less passing No. 200), Silty, or Clayey Gravel and Sand.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40
2	7 inches	60 inches	fine sandy loam	Silt-Clay Materials (more than 35 pct. passing No. 200), Silty Soils.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand.	Max: 6.00 Min: 2.00	Max: 8.40 Min: 7.40

#### OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures: clay loam

loam

fine sandy loam

Surficial Soil Types:

clay loam loam

fine sandy loam

Shallow Soil Types:

No Other Soil Types

Deeper Soil Types:

clay loam

very gravelly - loamy sand

stratified silt loam

#### **LOCAL / REGIONAL WATER AGENCY RECORDS**

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

#### WELL SEARCH DISTANCE INFORMATION

DATABASE

SEARCH DISTANCE (miles)

Federal USGS Federal FRDS PWS 1.000

State Database

1.000

#### FEDERAL USGS WELL INFORMATION

MAP ID

WELL ID

LOCATION FROM TP

No Wells Found

#### FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID

WELL ID

LOCATION FROM TP

No PWS System Found

Note: PWS System location is not always the same as well location.

#### STATE DATABASE WELL INFORMATION

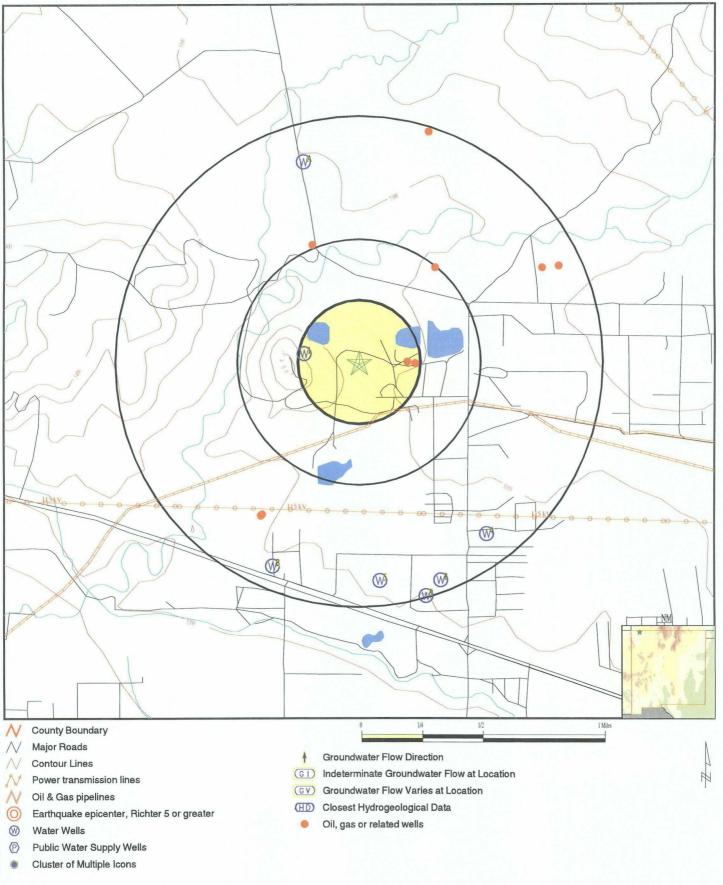
MAP ID	WELL ID	LOCATION FROM TP
1	NM1000000099530	1/8 - 1/4 Mile West
A2	NM100000100647	1/2 - 1 Mile NNW
A3	NM100000100732	1/2 - 1 Mile NNW
4	NM100000101365	1/2 - 1 Mile SE
5	NM100000099813	1/2 - 1 Mile South
B6	NM100000102042	1/2 - 1 Mile SSW
B7	NM100000102033	1/2 - 1 Mile SSW
8	NM100000100907	1/2 - 1 Mile SSE
9	NM100000099769	1/2 - 1 Mile SSE

#### OTHER STATE DATABASE INFORMATION

#### STATE OIL/GAS WELL INFORMATION

DISTANCE	DISTANCE
FROM TP (Miles)	FROM TP (Miles)
1/2 - 1 Mile NNE	1/2 - 1 Mile NNW
1/2 - 1 Mile ENE	1/4 - 1/2 Mile NE
1/2 - 1 Mile ENE	1/8 - 1/4 Mile East
1/8 - 1/4 Mile East	1/8 - 1/4 Mile East
1/2 - 1 Mile SSW	1/2 - 1 Mile SSW

#### PHYSICAL SETTING SOURCE MAP - 1634487.1s



SITE NAME: San Juan River Plant ADDRESS: 99 County Road 6500 Kirtland NM 87417 LAT/LONG: 36.7600 / 108.3679 CLIENT: MWH
CONTACT: Jen Hurley
INQUIRY#: 1634487.1s
DATE: March 15, 2006

Mara ID				
Map ID Direction				
Distance Elevation			Database	EDR ID Number
1 West 1/8 - 1/4 Mile Higher			NM WELLS	NM1000000099530
Objectid:	14694	ld:	136112	
X coord:	198986	Y coord:	4073611	
Db file nb:	SJ 00027	-		
Use: Diversion:	NO USE OF RIGHT OR PO	D Pod rec nb:	120110	
Well numbe:	0 SJ 00027	Tws:	136112 29N	
Rng:	15W	Sec:	1	
Q:	1	Q2:	2	
Q3:	3	Zone:	Not Reported	
X:	Not Reported	Y:	Not Reported	
Easting:	199035	Northing:	4073406	
Start date:	19500914	Finish dat:	19501017	
Depth well:	1005	Depth wate:	0	
A2 NNW 1/2 - 1 Mile Higher			NM WELLS	NM1000000100647
Objectid:	15791	ld:	135253	
X coord:	199028	Y coord:	4074868	
Db file nb:	SJ 00971	1 00014.	407 4000	
Use:	EXPLORATION			
Diversion:	0	Pod rec nb:	135253	
Well numbe:	SJ 00917 EXPLORE-1	Tws:	30N	
Rng:	15W	Sec:	36	
Q:	1	Q2:	4	
Q3:	3	Zone:	Not Reported	
X: Easting:	Not Reported 199077	Y: Northing:	Not Reported 4074663	
Start date:	19780404	Finish dat:	19780412	
Depth well:	532	Depth wate:	101	
A3			NIA WELL O	
NNW 1/2 - 1 Mile Higher			NM WELLS	NM1000000100732
Objectid:	15871	ld:	135321	
X coord:	199028	Y coord:	4074868	
Db file nb:	SJ 00971			
Use:	EXPLORATION	Pod rec nb:	105001	
Diversion: Well numbe:	0 SJ 00971 EXPLORÉ-2	Pod rec nb: Tws:	135321 30N	
Rng:	15W	Sec:	30N 36	
Q:	1	Q2:	4	
Q3:	3	Zone:	Not Reported	
X:	Not Reported	Y:	Not Reported	
Easting:	199077	Northing:	4074663	
Start date:	19780407	Finish dat:	19780411	
Depth well:	524	Depth wate:	131	

Map ID Direction Distance		ı		
Elevation			Database	EDR ID Number
4 SE 1/2 - 1 Mile Higher			NM WELLS	NM1000000101365
Objectid: X coord: Db file nb: Use:	16499 200151 SJ 01407 72-12-1 DOMESTIC OI	ld: Y coord: NE HOUSEHOLD	135510 4072384	
Diversion: Well numbe: Rng:	3 SJ 01407 14W	Pod rec nb: Tws: Sec:	135510 29N 6	
Q: Q3: X: Easting: Start date:	3 3 Not Reported 200200 19810701	Q2: Zone: Y: Northing: Finish dat:	3 Not Reported Not Reported 4072179 19810705	
Depth well:	70	Depth wate:	52	
5 South 1/2 - 1 Mile Lower			NM WELLS	NM100000099813
Objectid:	14967	ld:	134042	
X coord:	199433	Y coord:	4072103	
Db file nb: Use:	SJ 00291 72-12-1 DOMESTIC OI	NE HOUSEHOLD		
Diversion:	3	Pod rec nb:	134042	
Well numbe:	SJ 00291	Tws:	29N	
Rng:	15W	Sec:	12	
Q:	2	Q2:	1	
Q3:	Not Reported	Zone:	Not Reported	
X:	Not Reported	<b>Y</b> :	Not Reported	
Easting:	199482	Northing:	4071898	
Start date:	19770804	Finish dat:	19770811	
Depth well:	0	Depth wate:	110	
B6 SSW 1/2 - 1 Mile Lower			NM WELLS	NM1000000102042
Objectid:	17173	ld:	134916	
X coord:	198726	Y coord:	4072224	
Db file nb:	SJ 02081		737 === 1	
Use:	72-12-1 DOMESTIC OI	NE HOUSEHOLD		
Diversion:	3	Pod rec nb:	134916	
Well numbe:	SJ 02081	Tws:	29N	
Rng:	15W	Sec:	12	
Q:	1	Q2:	1	
Q3:	2	Zone:	Not Reported	
X:	Not Reported	Y:	Not Reported	
Easting:	198775	Northing:	4072019	
Start date:	19861110	Finish dat:	19861111	
Depth well:	42	Depth wate:	30	

Map ID				
Direction				
Distance Elevation			Database	EDR ID Number
B7 SSW 1/2 - 1 Mile Lower			NM WELLS	NM1000000102033
Objectid: X coord: Db file nb:	17164 198726 SJ 02071	ld: Y coord:	135570 4072224	
Use:	72-12-1 DOMESTIC OF	NE HOUSEHOLD		
Diversion:	3	Pod rec nb:	135570	
Well numbe:	SJ 02071 15W	Tws: Sec:	29N 12	
Rng: Q:	1	Q2:	12	
Q3:	2	Zone:	Not Reported	
X:	Not Reported	Y:	Not Reported	
Easting:	198775	Northing:	4072019	
Start date:	19861029	Finish dat:	19861030	
Depth well:	51	Depth wate:	32	<u></u>
8 SSE 1/2 - 1 Mile Lower			NM WELLS	NM100000100907
Objectid:	16046	ld:	134174	
X coord:	199836	Y coord:	4072092	
Db file nb:	SJ 01136			
Use:	72-12-1 DOMESTIC ON			
Diversion:	3	Pod rec nb:	134174	
Well numbe:	SJ 01136 15W	Tws: Sec:	29N 12	
Rng: Q:	2	Q2:	2	
Q3:	Not Reported	Zone:	Not Reported	
X:	Not Reported	Y:	Not Reported	
Easting:	199885	Northing:	4071887	
Start date:	19800318	Finish dat:	19800326	
Depth well:	150	Depth wate:	40	
9 SSE 1/2 - 1 Mile Lower			NM WELLS	NM1000000099769
	4 4000			
Objectid: X coord:	14923 199735	ld: Y coord:	133868	
Db file nb:	SJ 00225	r coold.	4071991	
Use:	72-12-1 DOMESTIC Of	NE HOUSEHOLD		
Diversion:	0	Pod rec nb:	133868	
Well numbe:	SJ 00225	Tws:	29N	
Rng:	15W	Sec:	12	
Q:	2	Q2:	2	
Q3:	3	Zone:	Not Reported	
X:	Not Reported	Y:	Not Reported	
Easting:	199784	Northing:	4071786	
Start date:	0	Finish dat:	0	
Depth well:	0	Depth wate:	0	

Direction				
Distance			Database	EDR ID Numb
INE				
/2 - 1 Mile			OIL_GAS	NMOG104219
Api ID:	3004530069	Pool ID:	71629	
Pool Name: BASIN FRUIT		Well ID:	002	
Well Name:	WF STATE 36	County ID:	45	
County Name:	San Juan	Operator ID:	19219	
Op. Name:	RICHARDSON OPERATING CO	)		
Latitude:	36.77358	<b>-</b>		
Longitude:	-108.36209	Section:	36	
Township:	30.0N	Range:	15W	
Unit ID:	H	Ft. N/S Dist:	1600	
Ft. N/S dir:	N	Ft. E/W Dist:	960	
Ft. E/W Dir:	E	Elevation:	5320 GL	
Depth:	800	Compdate:	2000-03-24	
Plugdate:	Not Reported	Datasource:	Ongard	
NW				<u></u>
2 - 1 Mile			OIL_GAS	NMOG104433
Api ID:	3004530358	Pool ID:	Not Reported	
Pool Name: Not Reported		Well ID:	003	
Well Name:	WF STATE 36	County ID:	45	
County Name:	San Juan	Operator ID:	19219	
Op. Name:	RICHARDSON OPERATING CO	)		
Latitude:	36.76693			
Longitude:	-108.37072	Section:	36	
Township:	30.0N	Range:	15W	
Unit ID:	3	Ft. N/S Dist:	1385	
Ft. N/S dir:	S	Ft. E/W Dist:	1805	
Ft. E/W Dir:	W	Elevation:	5275 GL	
Depth:	0	Compdate:	Not Reported	
Plugdate:	Not Reported	Datasource:	Ongard	
				<u> </u>
2 - 1 Mile			OIL_GAS	NMOG094524
Api ID:	3004520398	Pool ID:	96928	
Pool Name: WC D3;PICTU		Well ID:	002	
	MAYRE	County ID:	45	
Well Name:		Operator ID:	6515	
	San Juan	Operator ib.		
Well Name:	San Juan DUGAN PRODUCTION CORP	opolator ib.		
Well Name: County Name:		Operator ID.		
Well Name: County Name: Op. Name:	DUGAN PRODUCTION CORP	Section:	31	
Well Name: County Name: Op. Name: Latitude:	DUGAN PRODUCTION CORP 36.76566	·	31 14W	
Well Name: County Name: Op. Name: Latitude: Longitude:	DUGAN PRODUCTION CORP 36.76566 -108.35251	Section:		
Well Name: County Name: Op. Name: Latitude: Longitude: Township:	DUGAN PRODUCTION CORP 36.76566 -108.35251 30.0N	Section:	14W	
Well Name: County Name: Op. Name: Latitude: Longitude: Township: Unit ID:	DUGAN PRODUCTION CORP 36.76566 -108.35251 30.0N N	Section: Range: Ft. N/S Dist:	14W 840	
Well Name: County Name: Op. Name: Latitude: Longitude: Township: Unit ID: Ft. N/S dir:	DUGAN PRODUCTION CORP 36.76566 -108.35251 30.0N N S	Section: Range: Ft. N/S Dist: Ft. E/W Dist:	14W 840 1850	

Direction Distance			Database	EDR ID Num
NE	•			
I/4 - 1/2 Mile			OIL_GAS	NMOG104060
Api ID:	3004529947	Pool ID:	Not Reported	
Pool Name: Not Reported		Well ID:	001	
Well Name:	WF STATE 36	County ID:	45	
County Name:	San Juan	Operator ID:	19219	
Op. Name:	RICHARDSON OPERATING CO	1		
Latitude:	36.76557			
Longitude:	-108.36163	Section:	36	
Township:	30.0N	Range:	15W	
Unit ID:	1	Ft. N/S Dist:	805	
Ft. N/S dir:	S	Ft. E/W Dist:	820	
Ft. E/W Dir:	E	Elevation:	5296 GL	
Depth:	802	Compdate:	1999-12-20	
Plugdate:	Not Reported	Datasource:	Ongard	
riagaato.	Notheponed	Dataoodroo.	Ongara	
ENE				
1/2 - 1 Mile			OIL_GAS	NMOG102342
Api ID:	3004528291	Pool ID:	71629	
Pool Name: BASIN FRUITL	.AND COAL (GAS)	Well ID:	090	
Well Name:	MAYRE	County ID:	45	
County Name:	San Juan	Operator ID:	6515	
Op. Name:	DUGAN PRODUCTION CORP			
Latitude:	36.76556			
Longitude:	-108.35374	Section:	31	
Township:	30.0N	Range:	14W	
Unit ID:	3	Ft. N/S Dist:	805	
Ft. N/S dir:	S	Ft. E/W Dist:	1490	
Ft. E/W Dir:	W	Elevation:	5325 GL	
Depth:	760	Compdate:	1993-07-07	
Plugdate:	Not Reported	Datasource:		
i luguate.	Not reported	Datasource.	Ongard	
East 1/8 - 1/4 Mile			OIL_GAS	NMOG104035
				1414100104033
Api ID:	3004529946	Pool ID:	Not Reported	
Pool Name: Not Reported		Well ID:	001	
Well Name:	SALTY DOG SWD	County ID:	45	
County Name:	San Juan	Operator ID:	19219	
Op. Name:	RICHARDSON OPERATING CO			
Latitude:	36.76002			
Longitude:	-108.36369	Section:	1	
Township:	29.0N	Range:	15W	
	2	Ft. N/S Dist:	1200	
Unit ID:			1000	
Unit ID: Ft. N/S dir:	N	Ft. E/W Dist:	1380	
	N E	Ft. E/W Dist: Elevation:	1380 5291 GL	
Ft. N/S dir:				

Direction Distance			Database	EDR ID Num
ast				
8 - 1/4 Mile			OIL_GAS	NMOG097840
Api ID:	3004523906	Pool ID:	71629	
Pool Name: BASIN FRUITI		Well ID:	001	
Well Name:	PITTAM POND	County ID:	45	
County Name:	San Juan	Operator ID:	19219	
Op. Name:	RICHARDSON OPERATING CO	<b>)</b>		
Latitude:	36.75993	Castian	•	
Longitude:	-108.36312	Section:	1	
Township:	29.0N	Range:	15W	
Unit ID:	1	Ft. N/S Dist:	1235	
Ft. N/S dir:	N	Ft. E/W Dist:	1215	
Ft. E/W Dir:	E	Elevation:	5301 GL	
Depth:	660 Not Reported	Compdate:	2000-03-25	
Plugdate:	Not Reported	Datasource:	Ongard	
_	· · · · · · · · · · · · · · · · · · ·			<del> </del>
ast 8 - 1/4 Mile			OIL_GAS	NMOG097792
Api ID:	3004523906	Pool ID:	86620	
Pool Name: TWIN MOUND	S FRUITLAND SAND PC (GAS)	Well ID:	001	
Well Name:	PITTAM POND	County ID:	45	
County Name:	San Juan	Operator ID:	19219	
Op. Name:	RICHARDSON OPERATING CO	)		
Latitude:	36.75993			
Longitude:	-108.36312	Section:	1	
Township:	29.0N	Range:	15W	
Unit ID:	1	Ft. N/S Dist:	1235	
Ft. N/S dir:	N	Ft. E/W Dist:	1215	
Ft. E/W Dir:	E	Elevation:	5301 GL	
Depth:	660	Compdate:	2000-03-25	
Plugdate:	Not Reported	Datasource:	Ongard	
sw				
/2 - 1 Mile			OIL_GAS	NMOG099483
Api ID:	3004525176	Pool ID:	11880	
Pool Name: CHA CHA GAL	LUP	Well ID:	004	
Well Name:	PITTAM POND	County ID:	45	
County Name:	San Juan	Operator ID:	6515	
Op. Name:	DUGAN PRODUCTION CORP			
Latitude:	36.75101			
Longitude:	-108.37447	Section:	1	
	29.0N	Range:	15W	
Township:	1.4	Ft. N/S Dist:	690	
Township: Unit ID:	М			
	S	Ft. E/W Dist:	690	
Unit ID:			690 5320 GL	
Unit ID: Ft. N/S dir:	S	Ft. E/W Dist:		

Direction Distance			Database	EDR ID Number
SSW 1/2 - 1 Mile			OIL_GAS	NMOG023356
Api ID: Pool Name: CHA CHA GA Well Name: County Name: Op. Name: Latitude:	3054502421 NLLUP PITTAM POND San Juan Not Reported 36.75093	Pool ID: Well ID: County ID: Operator ID:	11880 004 45 0	
Longitude: Township: Unit ID: Ft. N/S dir: Ft. E/W Dir: Depth: Plugdate:	-108.37458 29.0N M S W 0 Not Reported	Section: Range: Ft. N/S Dist: Ft. E/W Dist: Elevation: Compdate: Datasource:	1 15W 660 660 Not Reported Not Reported Preongard	

#### **AREA RADON INFORMATION**

State Database: NM Radon

Radon Test Results

Zip	Total Sites	Pct. < 4 Pci/L	4 < 10 Pci/L	10 < 20 Pci/L	> 20 Pci/L
					·····
87417	9	88.9	11.1	0.0	0.0

Federal EPA Radon Zone for SAN JUAN County: 2

Note: Zone 1 indoor average level > 4 pCi/L.

: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.

: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 87417

Number of sites tested: 13

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor Living Area - 2nd Floor	1.577 pCi/L Not Reported	92% Not Reported	8% Not Reported	0% Not Reported
Basement	10.400 pCi/L	0%	100%	0%

#### PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### TOPOGRAPHIC INFORMATION

#### USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5 Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

#### HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

**NWI:** National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 from the U.S. Fish and Wildlife Service.

#### HYDROGEOLOGIC INFORMATION

#### AQUIFLOWR Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

#### **GEOLOGIC INFORMATION**

#### Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

#### STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

#### SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

#### **LOCAL / REGIONAL WATER AGENCY RECORDS**

#### **FEDERAL WATER WELLS**

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

#### PHYSICAL SETTING SOURCE RECORDS SEARCHED

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after

August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

#### STATE RECORDS

#### Water Well Database

Source: Office of the State Engineer

Telephone: 505-827-6175

#### OTHER STATE DATABASE INFORMATION

#### Oil and Gas Well Locations

Source: New Mexico Institute of Mining and Technology

Telephone: 505-835-5142

#### **RADON**

#### State Database: NM Radon

Source: Environment Department Telephone: 505-827-1093 Radon Test Results

#### **Area Radon Information**

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

#### **EPA Radon Zones**

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor

radon levels.

#### OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

#### PHYSICAL SETTING SOURCE RECORDS SEARCHED

#### STREET AND ADDRESS INFORMATION

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# PROPOSED WORKPLAN FOR ADDITIONAL PHASE I INVESTIGATION OF POTENTIAL HYDROCARBON IMPACTS AS PART OF A STAGE I ABATEMENT PLAN AT THE SAN JUAN RIVER PLANT SAN JUAN RIVER BASIN, NEW MEXICO

March 2006

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3	Geoprobe Soil Boring Locations
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#### **LIST OF ACRONYMS**

bgs Below ground surface

btoc Below top of casing

BTEX Benzene, toluene, ethylbenzene, and total xylenes

EPNG El Paso Natural Gas Company

HSP Health and Safety Plan

mg/kg Milligrams per kilogram

mg/L Milligrams per liter  $\mu g/L$  Micrograms per liter

NMOCD New Mexico Oil Conservation Division

NMWQCC New Mexico Water Quality Control Commission

SJRP San Juan River Plant

TPH Total petroleum hydrocarbons

WGR Western Gas Resources, Inc

#### 1.0 INTRODUCTION

#### 1.1 PURPOSE AND SCOPE

This document presents El Paso Natural Gas Company's (EPNG) proposed workplan for additional investigation as part of the first phase of a Stage I Abatement Plan to be conducted in the vicinity of the Praxair Nitrogen Plant evaporation pond and at other areas on the San Juan River Plant (SJRP). Dissolved and free-phase hydrocarbons have been detected on the east side of the evaporation pond and the source of this hydrocarbon impact remains unknown. This workplan presents the scope of work and field and laboratory methods to be implemented to further investigate the source of, and the lateral extent of, potential hydrocarbon impacts. After the source(s) of hydrocarbons have been identified the extent of hydrocarbon impacts will be assessed in a second phase of investigations. The second phase of the Stage I Abatement Plan will consist of permanent monitoring well installations to assess and monitor groundwater quality, as well as completion of the remaining Stage I Abatement Plan requirements. Because the sources and extent of hydrocarbon impacts are unknown, a monitoring well network cannot be proposed at this time. Following completion of the second phase of work, a final site investigation report will be submitted to the Director for approval.

SJRP is located in the San Juan River Basin of New Mexico in San Juan County, Township 29N, Range 15W, Section 1, near Kirtland, New Mexico. The SJRP was previously owned by EPNG, but has been owned and operated by Western Gas Resources, Inc (WGR) since June 1992. The plant is used to process natural gas collected from production wells located in the San Juan Basin of New Mexico and southern Utah. Recently, the Praxair Nitrogen Plant was built in the area north of the SJRP and a lined evaporation pond was constructed in the location of the former EPNG raw water pond. During installation of four groundwater monitoring wells around Praxair's pond, hydrocarbon impacts were encountered in a limited area on the east side of the pond.

A Geoprobe investigation was conducted in the area east and north of the Praxair pond to assess the extent of hydrocarbon impacts in the area of the pond, as well as to investigate potential sources. The Geoprobe investigation consisted of soil sampling and groundwater sampling through temporary Geoprobe boreholes. Results of the Geoprobe investigation were inconclusive with respect to both the source and extent of the contamination; therefore, this additional

investigation has been proposed. Once the source and extent of contamination have been identified, a monitoring well network will be proposed and installed to assess and monitor the areas of hydrocarbon impacts

A Site-Specific Health and Safety Plan (HSP) (MWH, 2005) was written for groundwater monitoring, operations and maintenance (O&M), drilling and hand augering activities for the San Juan River Basin Projects. A copy of this plan must be on Site at all times while work is being conducted. This HSP applies to MWH Americas, Inc. (MWH) employees, MWH's subcontractor employees, and visitors at the sites.

#### 1.2 DOCUMENT ORGANIZATION

Following this section, the document is organized as follows:

- Section 1.0 Introduction
- Section 2.0 Site Background
- Section 3.0 Scope of Work
- Section 4.0 Field Methods
- Section 5.0 Laboratory Testing
- Section 6.0 Data Evaluation and Reporting
- Section 7.0 Schedule
- Section 8.0 References

#### 2.0 SITE BACKGROUND

The sections below present a description of the site and the site remediation history.

#### 2.1 SITE DESCRIPTION

SJRP is located in San Juan County, Township 29N, Range 15W, Section 1, near Kirtland, New Mexico. A site map is shown in Figure 1. The SJRP was previously owned by EPNG, but has been owned and operated by WGR since June 1992. The plant is used to process natural gas collected from production wells located in the San Juan Basin of New Mexico and southern Utah. The SJRP is a 630-acre facility that has contained gas processing facilities, two raw water ponds

(now closed), three wastewater evaporation ponds (now closed), a sulfur recovery plant, water and hydrocarbon tanks, a pigging station, flare pits, and several 16 to 24-inch diameter natural gas pipelines that cross the facility. Closure of the evaporation ponds, flare pits, and other potential hydrocarbon source areas was completed during at time period beginning 1992 and ending in early 1996. Recently, the Praxair Nitrogen Plant was built in the area north of the SJRP, to the south of monitoring wells MW-8 and MW-9. Praxair constructed a lined evaporation pond in the location of the former EPNG raw water pond and installed five monitoring wells surrounding the pond. Monitoring wells MW-1, MW-2, MW-3 and MW-4 were installed in groundwater at total depths of 80 to 90 feet below ground surface (bgs). According to Praxair's field report, a perched zone was encountered during drilling MW-3 and therefore a second well, MW-5, was installed in the same boring as MW-3. Monitoring wells MW-3 and MW-5 were subsequently abandoned. Figure 1 presents a detailed site map of SJRP.

#### 2.2 SITE GEOLOGY AND HYDROGEOLOGY

The following description of site geology and hydrogeology is based on reports prepared by Philip Environmental for EPNG in 1998 (Philip Environmental, June 1998), and K.W. Brown and Associates in 1987 (KWBA, 1987), and the Geoprobe investigation performed by EPNG in February 2006.

#### 2.2.1 Site Geology

Based on drilling logs from 1995 and prior activities, the soils consist of fine sand to fine sandy clay, with some gravel and cobbles. The soil samples from borings located in the valley or alluvial fans (such as P-10, P-7, P-9, MW-5, MW-8 and MW-9) consist of fine sand to clay. The soil samples from the borings located on the mesas, plateaus and terraces (such as E-10, E-11, E-9, MW-6 and MW-7) consist of fine sand with some gravel and cobble layers and some unconsolidated sandstone and shales. The uppermost and most prevalent lithology at the site is alluvial sediments, consisting of fluvial deposits and, to a lesser extent, terrace deposits of gravel and cobbles. Beneath the alluvium are the consolidated sedimentary units of the Kirtland Shale Formation, which includes both shales and sandstone members. The portion of the site to the north of the SJRP plant, itself, is underlain by a shale member of the Kirtland Formation. During plant and the flare hill are underlain by a sandstone member of the Kirtland Formation. During

remediation of the south flare pit in September 1992, a distinct clay layer was encountered at a depth of approximately 15 feet below the original bottom of the pit.

During the Geoprobe investigation performed by EPNG February 13-14, 2006, refusal was met in hard shale, siltstone, a silty sand mix, and sandstone at interval depths of 8 to 15 ft bgs. Lithology generally changed from a clay soil near the surface to alternating weathered shale and sandstone. This is consistent with previous assessments of the geology, and it is likely the majority of the soil borings met refusal in the Kirtland Formation.

#### 2.2.2 Site Hydrogeology

Regional groundwater flow in the San Juan Basin is from the topographically high outcrop areas around the edges of the basin, towards the lower outcrop areas. The San Juan River Valley is indicated as the main discharge area of the San Juan Basin (Stone, 1983). The San Juan River is located approximately two miles to the south of the SJRP site.

A potentiometric surface map is presented on Figure 2 based on water-level measurements collected in November 2005. These measurements indicate a groundwater flow divide just north of the plant that directs flow to the southwest through the southern portion of the site, and to the northwest through the northern portion of the site, including the Praxair pond area.

Based on Praxair's well construction logs for monitoring wells near the Praxair pond, groundwater was encountered during drilling at approximately 60 to 70 feet bgs. These wells were screened between the interval of 58 to 83 feet bgs, and static groundwater levels in these wells have been measured at approximately 28 to 43 feet bgs. Based on the Praxair well log for MW-3 (recently abandoned), there may be a perched water zone at approximately 30 feet bgs. Praxair installed MW-5 within the same boring as MW-3, and screened the well from 30 to 45 feet bgs. In 2004, the water-level elevation in well MW-5 was measured at 5258.15 feet above mean sea level (msl); the corresponding water-level elevation in the deeper-screened well MW-3 was 5258.59 feet msl. Given these water-level elevations, it appears that the water table is at a higher potential than the so-called perched zone. This situation does not appear to be technically valid, and thus, the theory of a perched water table needs to be tested. This testing will be undertaken in this proposed workplan.

During the February 2006 Geoprobe investigation, groundwater was not encountered in any of the boreholes during drilling. Temporary piezometers were installed in the four borings that reached the estimated depth to water based on nearby wells MW-8 and MW-9 (GPH-6 through GPH-9, shown in Figure 3), of which only one (GPH-7) yielded enough water to collect a sample. Moist soils were encountered in the other three locations, however an appreciable amount of water was never recovered in these wells.

#### 2.3 PREVIOUS SITE PROJECT HISTORY

Dissolved-phase hydrocarbons have been observed in the northern portion of the site at MW-8 and MW-9. EPNG has been aggressively implementing active groundwater remediation in this area to reduce dissolved-phase hydrocarbons. The remediation consists of chemical oxygen enhancement and air sparging. Due to the investigation in the area, the air sparging system is not operating.

In general, the most elevated hydrocarbon concentrations have been detected in shallow groundwater at Praxair well MW-5 and EPNG wells MW-8 and MW-9, with only slightly elevated concentrations in groundwater in Praxair wells MW-2 and MW-3. Therefore, hydrocarbon impacts to the east of the pond, in the vicinity of Praxair MW-5 were the focus of the previous phase I Geoprobe investigation. Because free product is confined to one well and the well is screened in shallow groundwater, the source of the hydrocarbons is likely to be local.

As part of the first phase of investigation for a Stage I Abatement Plan, a Geoprobe soil boring investigation was conducted February 13-14, 2006. This investigation consisted of 15 soil borings at various locations to the north and east of the Praxair pond (shown on Figure 3). The majority of soil contamination was encountered in the area to the northeast of the Praxair pond, in the vicinity of MW-8 and MW-9. One groundwater sample was collected at GPH-7, where the benzene concentration was just above New Mexico Water Quality Control Commission (NMWQCC) standards at  $10.5~\mu g/L$ . The areas to the southeast of the pond showed little or no hydrocarbon impacts. However, this investigation failed to reach adequate depth for all but four of the attempted locations, and it was determined that additional investigation was necessary.

#### 3.0 SCOPE OF WORK

A hollow-stem auger investigation will be conducted in the area north and east of the Praxair pond in order to further investigate the extent of hydrocarbon impacts, as well as to investigate potential sources in the vicinity. Based on the results of the phase I geoprobe investigation, EPNG has identified 8 areas for further investigation with a hollow-stem auger rig, shown on Figure 4. This investigation will focus on the area to the north and northeast of the Praxair pond, in the area showing the most impact during the Phase I geoprobe investigation. Additional soil borings are proposed to the northwest of Former Pond #1 and to the northwest of the Praxair pond to address possible upgradient sources in these areas as well as identifying the extent of contamination. The additional locations may be modified in the field based on observations of the level of impact in these areas.

Hollow-stem soil cores will be sampled and logged as described in Section 4.1, below. Logging will include soil descriptions and measurements of headspace vapor photoionization detector (PID) readings. The borings will be advanced to the depth of first encountered groundwater. Soil samples will be collected at least every 10 ft, or at every significant change in lithology of each boring for laboratory analysis for BTEX by EPA SW-846 Method 8021B and TPH by EPA SW-846 Method8015M. Soil samples will be collected at the depth of the highest PID measurement (depths may be modified based on field conditions). However, if there are no elevated PID measurements, the soil sample will be collected from immediately above the saturated zone, or in the case of a dry hole, at the terminus of the boring.

Shallow groundwater samples will be collected from each boring using a peristaltic pump and dedicated tubing. All groundwater samples will be submitted to an analytical laboratory for analysis of BTEX compounds by EPA SW-846 Method 8021B. Following sample collection, borings will be abandoned by backfilling to the surface with bentonite chips and hydrating. If the soil boring logs indicate significant moisture, but water does not readily accumulate for sampling, temporary well points may be installed in borings using 1-inch polyvinyl chloride (PVC) pipe with screened intervals at depths where the moist soils were encountered. If water is collected, water levels will be taken and these temporary well points will be surveyed.

Temporary well points will be installed in soil borings with obvious signs of contamination for further investigation and monitoring. All temporary wells will be surveyed and groundwater elevation data will be gathered to generate a more accurate groundwater elevation map in this area. Following surveying and sampling, the temporary points will be abandoned by removing the casing (if possible) and backfilling the boring with bentonite chips and hydrating.

#### 4.0 FIELD METHODS

The sections below present details for the soil and perched groundwater field investigations.

#### 4.1 HOLLOW STEM AUGER SOIL INVESTIGATION

A truck-mounted, hollow stem rig will be utilized to advance soil borings and collect soil samples. Soil samples will be collected in a split-spoon sampler. The soil cores will be collected for visual inspection/logging and for soil headspace testing at all locations. Soils will be logged and sampled from the ground surface to the depth of groundwater, estimated to be between 10 and 35 feet bgs. The field geologist will log soils in general accordance with Unified Soil Classification System (USCS) protocol. Soil headspace gas will be monitored with a PID in all proposed borings from ground surface to total boring depth. Soil cores will be split in half after collection. Soil composites will be collected from ½ of the sliced core for headspace gas analysis. Soil composites will be collected from 1-foot or 2-foot intervals from each core and placed into zip-lock bags. After waiting at least 10 minutes the headspace gas reading will be noted. Soil samples will be placed in 4 or 8 ounce jars and analyzed for BTEX by EPA SW-846 Method 8021B and TPH by EPA SW-846 Method 8015M. Soil samples for laboratory analysis will be labeled, handled and shipped according to the procedures outlined below.

#### 4.2 SHALLOW GROUNDWATER INVESTIGATION

#### 4.2.1 Shallow Groundwater Sampling

Each of the soil borings will be advanced to the depth of first encountered groundwater. Water will be recovered with a peristaltic pump and clean, dedicated polyethylene tubing. Groundwater samples will be collected in VOA vials for delivery to the analytical laboratory and analyzed for BTEX by EPA SW-846 Method 8021B. Groundwater samples will be labeled, handled and shipped according to the procedures outlined below. Following completion of groundwater sampling, the borings will be abandoned by backfilling with bentonite and hydrating.

#### 4.2.2 Temporary Groundwater Monitoring Points

Temporary groundwater monitoring points may be installed in some of the borings. Temporary points will be constructed of 1-inch Schedule 40 PVC screen (typically 5 to 10 feet in length) and blank casing. The well screen will be installed at the depth where shallow groundwater is likely to occur, based on the soil boring log and/or adjacent well locations. The PVC blank casing will extend from the top of the well screen to about two feet above the ground surface. The annular space adjacent to the PVC well screen will be filled with silica sand from the bottom of the borehole to two feet above the top of the well screen. Hydrated bentonite will be placed above the silica sand to prevent downward migration of surface water. Groundwater samples will be collected from temporary monitoring points using clean, dedicated polyethylene bailers and/or clean, dedicated polyethylene tubing. After the temporary monitoring points have been sampled, surveyed and a stabilized water elevation collected, the borings will be abandoned by removing the PVC casing, backfilling the boring with bentonite, and hydrating.

#### 4.3 GENERAL INVESTIGATION PROTOCOLS

This section presents a discussion of documentation procedures, location identification, sampling methods, and other procedures to be performed as part of the investigation.

#### 4.3.1 Documentation Procedures

Data generated during the field investigation will be recorded on sampling logs that are specific to the type of sampling being performed or the type of samples collected. Each soil sample will be generally classified according to the USCS procedures. The soil samples will be classified based on visual evaluation of grain size, degree of sorting, and consistency. The visual soil description also will include color, soil particle angularity, plasticity, and moisture content.

In addition, the field hydrogeologist/environmental scientist will maintain daily field reports. At the end of each field day, the daily reports will be dated and signed by the field person performing the work. Daily field reports will include:

- Date
- Name and location of the work activities
- Weather conditions

- Personnel and visitors on Site
- Sample locations and methods (including sampling equipment), time of sample collection, and sample depths
- Samples submitted to the laboratory for analyses
- Sample type (soil, groundwater, duplicate, blank)
- Name of carrier transporting the sample (e.g., name of laboratory and shipping agent)
- Photograph numbers and descriptions (if applicable)
- Description of decontamination activities (if applicable)
- Schematic drawings of sample locations
- Any deviations from the Work Plan
- Other relevant observations as the field work progresses
- Problems and corrective actions

#### 4.3.2 Boring Locations and Utility Identification

Proposed boring locations will be marked in the field prior to initiation of fieldwork. The "One-Call" Service will be contacted a minimum of 48 hours prior to drilling for clearance, and the necessary Right-of-Way clearances will be obtained.

#### 4.3.3 Sample Labeling

A sample label will be placed on each sample container submitted for analysis and will include the project name and location, sample designation (including depth interval, if appropriate), date and time of collection, preservative (if applicable), sampler's initials, and required analyses. Sample designations are presented below in Section 4.3.5. Labels will be sufficiently durable to remain legible and attached to the sample container when wet. Sample labels will be completed with indelible ink.

#### 4.3.4 Chain-of-Custody

A project-specific chain-of-custody form will be completed and will accompany each sample cooler. The chain-of-custody form includes project identification, project location, sample designation, analysis type, and shipping account information. In addition, there are spaces for entry of the sample collection date and time, sample depth, signature of the persons relinquishing

and receiving samples, and the status of the samples upon receipt by the laboratory. The chainof-custody form will be in duplicate. The original of the form will be shipped to the laboratory with the samples, one duplicate copy will be reviewed and filed with the EPNG project. Each form will be completed properly in the field at the time of collection to ensure that sample custody is documented, appropriate amount of sample has been collected, and that scheduled analyses are properly assigned. All entries will be made using indelible ink on the chain-ofcustody form. Any errors will be corrected by drawing a single line through the incorrect entry, entering the correct information, and then initialing and dating the change. Unused portions of the chain-of-custody form will be crossed out and initialed. All samples will be transported by field personnel or via a commercial carrier (e.g., Federal Express Priority Service). The signed shipping tracking number and receipt will serve as evidence of custody transfer between the field sampler and carrier, and the carrier and laboratory. The sampler will retain and file copies of the chain-of-custody record and the shipping tracking number and carrier name after the samples are shipped. The carrier will relinquish samples to the laboratory upon arrival, and the laboratory personnel will then complete the chain-of-custody form. The original completed chain-ofcustody form will be returned to EPNG and filed in the project files.

Sample Handling and Shipping. All laboratory samples will be shipped or transported in coolers containing ice and maintained at 4°± 2 °C. Each cooler will contain a temperature blank consisting of a 40 ml vial. Upon receipt, the laboratory will record the temperature of the temperature blank on the chain-of-custody form. All samples will be either hand delivered, or will be shipped via a commercial carrier. Sampling personnel will prepare air-courier waybill identification labels in strict accordance with the U.S. Department of Transportation procedures.

Sample Packing. Sample containers will be placed in clean protective foam or bubble pack sleeves. The caps of all sample bottles shall be checked for tightness to prevent sample leakage during transport. Care will be taken to prevent over-tightening and breakage of bottle caps. Sample containers will be immediately placed on ice in a waterproof hard plastic ice chest. Samples will be stored and shipped on ice to maintain the samples at 4°± 2°C. The ice will be double wrapped in re-sealable plastic bags. Sufficient packing material will be placed in each ice chest to minimize the potential for sample bottles to shift and become damaged or broken during shipment. Packing material may include bubble pack or foam material. Samples should be thoroughly cooled before placing in packing material so the packing material serves to insulate

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the pre-cooled sample. The drain plug on the shipping container will be closed and sealed on the

inside and outside with duct tape.

Sampling personnel will inventory the sample bottles from the Site prior to shipment to ensure

that all samples listed on the chain-of-custody form are present. All bottles collected from a

specific sampling interval will be packed and shipped together in the same shipping container.

The originals of the analysis request and chain-of-custody forms will be sealed in a waterproof

plastic bag and placed inside the shipping container prior to sealing of the container. The cooler

will be taped shut using strapping tape over the hinges and custody seals placed across the top

and sides of the cooler lid. Clear tape will be placed over the custody seals to prevent inadvertent

damage during shipping. The tape should not allow the seals to be lifted off with the tape and

then reaffix without breaking the seal.

4.3.5 Sample Designation

For this program, each sample will have a unique sample identification, and will consist of a

boring identifier, sample type identifier, and depth identifier, if appropriate. Hollow stem borings

will be given a numeric identifier (1 - #). Samples will be labeled with the soil boring number

(SB #), the type of sample (soil (SS) or water (GW)) and depth of sample (in feet). For example:

Sample Designation: <u>SB 1 - GW(12)</u>

indicates a groundwater sample collected at a depth of 12 feet bgs from the soil boring number 1.

4.3.6 Equipment Decontamination

Prior to collecting any sample and between sampling locations, all sampling equipment will be

decontaminated using a non-phosphate detergent (e.g., Alconox) or by steam cleaning. Prior to

the drilling, all downhole equipment will be steam-cleaned or scrubbed with a non-phosphate

detergent (e.g., Alconox). If appropriate and feasible, several sets of decontaminated equipment

(e.g., sampling trowels, or core barrels) may be used to minimize downtime during

decontamination if multiple samples are to be collected from the same area. Where feasible,

equipment to be decontaminated will be disassembled to permit adequate cleaning of the internal

portions of the equipment. Equipment to be steam cleaned will be placed on metal cleaning racks that support the equipment for cleaning, rinsing, and air drying. Heavy waterproof gloves will be worn during steam cleaning to reduce the potential for cross-contamination between samples and to protect against skin contact with steam and potential constituents. These gloves will be steam cleaned or replaced each time the equipment is decontaminated.

#### 4.3.7 Investigation-Derived Waste

Introduction. The types of investigation-derived waste (IDW) that are expected to be generated during this sampling program include soil, decontamination water, personal protective equipment (PPE), disposable field equipment, and groundwater. This section describes the activities that will generate each of these wastes and the methods that will be used to minimize the volume of IDW generated whenever possible.

**Soil.** During the field investigation, excess soil generated from sampling activities will be spread onto the ground surface. If soils appear to be impacted with hydrocarbons, they will be place into a 55-gallon drum for proper disposal.

Groundwater and Decontamination Water. Groundwater will be generated primarily through the purging and sampling of temporary groundwater monitoring points. In general, very little excess purge water is anticipated to be collected during this investigation. Purge water will be disposed of at the Rio Vista facility.

**Disposable Equipment and PPE.** Waste generated during the field investigation, including rope, disposable bailers, latex gloves, Tyvex suits, and etc. will be disposed in standard industrial "dumpsters." In the event the equipment or PPE is grossly contaminated, it will be decontaminated before disposal.

#### 4.3.8 Field Equipment Calibration Procedures

#### **Organic Vapor Meters**

Field personnel will use a PID for screening for the presence of organic vapors and for soil sample screening measurements. This instrument will be calibrated prior to use according to the

manufacturer's specifications. The instrument calibration will be checked at the beginning of each day of use and any time meter drift is suspected. All calibration information will be recorded on the daily field records.

#### **Electric Water-Level Indicator**

Electric water-level indicators will be checked before the beginning of field activities by comparing the scale on the water-level tape against an engineering measurement tape. If more than one water-level indicator is used on Site, they will be calibrated to assure the depth-to-water readings are consistent between all probes. Water-level measurements will be recorded to the nearest one hundredth (0.01) of a foot.

#### **4.3.9 Survey**

A licensed surveyor will be used to determine the coordinates and elevations of ground surface and top of casing for the temporary monitoring points. Field activities associated with the survey will be documented. Entries will include the date, time, personnel on Site, work performed, problems, and corrective actions.

#### 5.0 LABORATORY TESTING

#### 5.1 Soil Samples

Soil samples will be collected and analyzed in a laboratory for the following parameters:

- BTEX by EPA SW-846 Method 8021B
- TPH (GRO and DRO) by EPA SW-846 Method 8015M

#### 5.2 Groundwater Samples

Groundwater samples will be collected for laboratory analysis of the following parameters:

BTEX by EPA SW-846 Method 8021B

#### 6.0 DATA EVALUATION AND REPORTING

Following completion of the hollow stem investigation, an interim report will be submitted to provide the data results, an interpretation of the nature and extent of hydrocarbon impacts, and conclusions with regard to potential sources. Hydrocarbon isoconcentration maps will be presented based on data collected during this investigation and previous groundwater sampling events. The report will also provide recommendations for monitoring well installations, a monitoring schedule, and any additional site investigation tasks to fulfill the Stage I Abatement Plan requirements. After completion of the second phase of field investigation, a Site Investigation Report will be issued that presents a site conceptual model. This work will be followed by a Stage 2 Abatement Plan which will select and design, if necessary, an abatement option that when implemented will result in attainment of groundwater concentrations in compliance with NMWQCC standards.

#### 7.0 SCHEDULE

This investigation is tentatively scheduled for April 2006, pending access agreements with WGR and Praxair, and other scheduling considerations. NMOCD will be notified one week prior to initiation of the field work. Results of the investigation will be provided to NMOCD with recommendations for further activities within 45 days of receipt of analytical data. A schedule for subsequent activities will be provided in that report. EPNG will work with NMOCD to expedite completion of field activities and reporting for the submittal of the final site investigation report pursuant to the Stage I Abatement Plan.

#### 8.0 REFERENCES

K.W. Brown and Associates (KWBA), 1987. Land Application Feasibility Study, San Juan River Plant, Phase I Final Report, August 1987.

Philip Environmental, 1998. Summary of Investigations at the San Juan River Plant, Kirtland, New Mexico. June 1998. Prepared for El Paso Natural Gas Company.

Stone, W.J., Lyford, F.P., Frenzel, P.F.Mizell, N.H. and Padgett, E.T., 1983. *Hydrogeology and Water Resources of the San Juan Basin, New Mexico*. New Mexico Bureau of Mines and Mineral Resources, 1983.

**FIGURES** 

