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REPORTS

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MARCH 2005 GROUNDWATER SAMPLING REPORT HOBBS, NEW MEXICO FACILITY

BJ SERVICES COMPANY, U.S.A.

February 2, 2006

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MARCH 2005 GROUNDWATER SAMPLING REPORT HOBBS, NEW MEXICO FACILITY BJ SERVICES COMPANY, U.S.A.

Prepared for

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February 2, 2006

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DISTRIBUTION AND QA/QC REVIEWER'S SIGNATURE

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1.0 INTRODUCTION

Brown and Caldwell conducted a monitor well installation and soil and groundwater sampling event at the BJ Services Company, U.S.A. (BJ Services) facility located at 2708 West County Road in Hobbs, New Mexico on March 8-11, 2005. This report presents a description of the field activities and a summary and evaluation of the analytical results. A groundwater potentiometric surface map and a chloride distribution map are included.

A layout of the facility is shown in Figure 1. The former fuel island area biosparging system was decommissioned in March 2005, as described in the Final Closure Report, GW-072 that was submitted to the New Mexico Oil Conservation Division (NMOCD) on April 13, 2005. NMOCD approved the GW-072 Final Closure Report on June 15, 2005.

BJ Services removed three field waste tanks from the facility on March 6-7, 1997. An ongoing groundwater monitoring program was expanded to address the former field waste tanks area of the facility, as directed by NMOCD in correspondence dated January 21, 1999. Table 1 presents a site chronology detailing the history of investigations into impacts to soil and groundwater in the area of the former field waste tanks at the BJ Services Hobbs, New Mexico facility, along with the history of investigations and remediation conducted by BJ Services pertaining to hydrocarbon impacts associated with the former fuel island area of the facility, for which regulatory closure has been granted.

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2.0 FIELD ACTIVITIES

Brown and Caldwell purged and sampled ten monitor wells at or in the vicinity of the facility on March 8-11, 2005 to determine the concentrations of chloride in groundwater and to evaluate general groundwater quality in the area of the facility. The sampling event included three new monitor wells (MW-17, MW-18, and MW-19) that were installed and sampled for the first time in March 2005. The locations of current and former monitor wells in the area of the facility are shown in Figure 1. Soil samples were collected from the borings associated with the new monitor wells and from a soil boring completed adjacent to existing monitor well MW-16. The following subsections describe the field activities conducted by Brown and Caldwell during the current groundwater sampling and soil sampling event. Section 3.0 presents an evaluation of these data.

2.1 Soil Sampling Activities

Soil samples were collected from the monitor wells MW-17, MW-18, and MW-19 borings and from soil boring SB-16 (located adjacent to existing monitor well MW-16) to evaluate the vertical distribution of chloride impact to soil at these locations. These soil borings were installed using air rotary drilling techniques.

Soil samples were collected from non-indurated vadose zone materials at approximate 10-foot centers from the MW-17, MW-18, and MW-19 soil borings and at approximate 5-foot centers from soil boring SB-16. The associated boring logs are provided in Appendix A. The soil samples were analyzed for chloride by Method 325.2 to determine the vertical distribution of chloride in vadose zone soils at these locations. The laboratory analytical reports and chain-of-custody documentation for the soil samples are provided in Appendix B.

Soil boring SB-16 was backfilled with cement-bentonite grout upon completion of sampling activities. The soil borings for monitor wells MW-17, MW-18, and MW-19 were advanced into the saturated zone for subsequent installation of the monitor wells, as described in Section 2.2.

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Decontamination procedures associated with installation of soil borings and monitor wells consisted of washing drilling equipment with distilled water and a non-phosphate detergent. Decontamination water was discharged to an on-site water reclamation system at the BJ Services facility. Soil cuttings were placed in labeled 55-gallon drums and stored onsite pending analytical results.

2.2 Monitor Well Installation and Development Activities

Monitor wells MW-17, MW-18, and MW-19 were installed and sampled at the request of the New Mexico Oil Conservation Division (NMOCD) to assess and delineate the extent of chloride impact to the subsurface at and in the vicinity of the facility. Monitor well MW-17 was installed near the north fence line of the facility to verify that chloride-impacted groundwater has not migrated northward from the facility. Monitor well MW-18 was installed in the eastern portion of the facility to investigate the potential for chloride impact to groundwater at that location. Monitor well MW-19 was installed approximately 250 feet northeast of existing off-site monitor well MW-16 to define the downgradient extent of chloride impact to groundwater detected at the monitor well MW-16 location.

The monitor well soil borings were advanced to an approximate depth of 78 feet below the observed top of the uppermost saturated zone. The monitor wells were constructed using 15 feet of 2-inch diameter 0.01-inch machine slotted PVC screen and sufficient 2-inch diameter PVC riser pipe to extend the well to the ground surface. The well screens were placed to capture the saturated zone such that approximately 1.5 feet of screen is situated above the apparent top of the saturated zone. The wells were equipped with a 6-inch PVC bottom cap, and a sealing top cap. The annular area of each well was backfilled with 20/40-grade filter sand installed from the total depth of the well to approximately 2 feet above the top of the screen. The remaining annular area was backfilled with a hydrated bentonite seal. For monitor wells MW-17 and MW-18, the uppermost portion of the PVC riser pipe was encased within a flush-mounted approximate 8-inch diameter vault and set within a 3-foot by 3-foot by 4-inch thick concrete surface pad that slopes away from the well. For monitor well MW-19, the above-grade portion of the riser pipe was

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encased in a locking above-grade protective steel casing and set within a 3-foot by 3-foot by 4inch thick concrete pad that slopes away from the well. Four bollards were set in concrete surrounding MW-19's well pad. Construction diagrams for monitor wells MW-17, MW-18, and MW-19 are presented in Appendix A.

The newly installed monitor wells were developed with previously unused disposable bailers and monitored with a turbidity meter until produced groundwater was clear and reasonably free of suspended sediment. The development methods of the new wells were monitored by Brown and Caldwell in order to acknowledge that the wells were free of suspended sediment.

The top-of-casing (TOC) elevations of monitor wells MW-17, MW-18, and MW-19 were surveyed relative to the TOC elevation of existing monitor well MW-16 using field surveying techniques. The horizontal locations of the wells were measured relative to existing features at the facility.

2.3 Groundwater Sampling Activities

Groundwater samples were collected from monitor wells MW-5, MW-10, MW-11A, MW-12D, MW-14, MW-15, MW-16, MW-17, MW-18, and MW-19. Groundwater level measurements to the nearest 0.01 foot were obtained from all monitor wells at the facility using a decontaminated electronic water-level indicator prior to purging and sampling. Current and historical groundwater elevation data for each well are presented in Table 2. A groundwater elevation map for March 8-11, 2005 is presented in Figure 2. The groundwater elevation data indicate that the groundwater flow direction is to the east/northeast.

Monitor wells MW-12D, MW-16, MW-17, MW-18, and MW-19 were purged with a submersible pump and previously unused down-hole tubing until groundwater stabilization occurred. Low flow/low stress purging was performed to maintain the water level at or near the static water level. The remaining wells were purged with previously unused disposable bailers and clean, previously unused polyethylene rope. Three well volumes were purged from monitor well MW-15. Monitor wells MW-5, MW-10, MW-11A, and MW-14 were purged dry.

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Field parameter measurements for pH, specific conductivity, oxidation-reduction potential, dissolved oxygen, and temperature were collected during purging of these wells. Field parameter readings were recorded on the groundwater sampling forms included in Appendix C and summarized in Table 3.

Groundwater samples were obtained directly from the discharge line of the submersible pump (monitor wells MW-12D, MW-16, MW-17, MW-18, and MW-19) or by pouring recovered water from a bailer. The groundwater samples were placed in laboratory-prepared, clean glass or plastic containers, sealed with Teflon[®]-lined lids, labeled, and placed on ice in an insulated cooler for delivery to Southern Petroleum Laboratory in Houston, Texas for analysis using standard chain-of-custody procedures. The laboratory analytical reports and chain-of-custody documentation for groundwater samples collected during the current sampling event are provided in Appendix B.

Field measurement equipment was decontaminated prior to and following each use. Decontamination procedures consisted of washing with distilled water and a non-phosphate detergent, then rinsing with distilled water. Purge and decontamination waters were discharged to an on-site water reclamation system at the BJ Services facility.

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3.0 ANALYTICAL RESULTS

The following subsections present the analytical results for soil and groundwater samples collected during the March 2005 sampling event.

3.1 Soil Samples

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Table 4 summarizes the results for chloride analysis of soil samples from the MW-17, MW-18, MW-19, and SB-16 soil borings. Chloride concentrations in vadose zone soil at these locations are relatively elevated (i.e., exceeding 100 milligrams per kilogram (mg/kg)) in the uppermost 20 feet to 25 feet below grade, and decrease below this interval throughout the remaining portion of the vadose zone.

3.2 Groundwater Samples

Groundwater samples from monitor wells MW-5, MW-10, MW-11A, MW-12D, MW-14, MW-15, MW-16, MW-17, MW-18, and MW-19 were analyzed for the following parameters using the indicated analytical methodologies:

- Chloride (Method 325.3);
- Nitrate, Sulfate, Fluoride (Method E300);
- Bicarbonate and Carbonate Alkalinity (Method 2320B);
- Hardness (Method E130.2); and
- Calcium, magnesium, potassium and sodium (Method 6010B).

Table 5 presents current and cumulative results for chloride analyses of groundwater samples collected at the facility. Current chloride concentrations in monitor wells MW-5, MW-12D, MW-17, and MW-18 are less than the New Mexico Water Quality Control Commission (NMWQCC) chloride standard of 250 milligrams per liter (mg/L), but chloride concentrations in monitor wells

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MW-10, MW-11A, MW-14, MW-15, MW-16, and MW-19 exceed the NMWQCC chloride standard.

Table 6 presents the cumulative analytical results for annual sampling and analysis for NMWQCC constituents. The 2005 analytical results for geochemical parameters (i.e., carbonate, bicarbonate, hardness, fluoride, nitrate, sulfate, and cations) are generally comparable to historic data for these parameters on a well-by-well basis.

3.3 **Data Evaluation**

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Figure 3 depicts the distribution of chloride in groundwater in the area of the facility and indicates the presence of two chloride sources in the area of the facility:

- 1. Former field waste tanks at the BJ Services facility; and
- 2. A separate source in the vicinity of monitor well MW-16.

The occurrence of chloride in association with each of these source areas is discussed below.

Former Field Waste Tanks Source Area

Groundwater chloride impact associated with the former field waste tanks source area is present at the monitor well MW-10 and MW-11A locations and is defined downgradient at the monitor well MW-18 location in the eastern portion of the BJ Services facility. The northern extent of this chloride plume is defined within the boundaries of the BJ Services facility at the monitor well MW-17 location. Previous groundwater sampling conducted by BJ Services at the on-site nested monitor well MW-12/MW-12D location indicated that the degree of chloride impact to groundwater decreased with depth within the uppermost aquifer at the BJ Services facility (see Table 5). The current chloride concentration in monitor well MW-12D is less than the NMWQCC chloride standard of 250 mg/L and is an order of magnitude less than in nearby monitor well MW-11A, which is screened in the upper portion of the uppermost aquifer. Chloride concentrations in this area of impact decrease in an eastward (downgradient) from 2,740 mg/L in monitor well MW-11A P:\Wp\BJSERV\126238\015R.doc 7

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to 321 mg/L and 303 mg/L at monitor wells MW-15 and MW-14, respectively, to 199 mg/L in monitor well MW-18.

Monitor Well MW-16 Source Area

The previously indicated separate chloride source area in the vicinity monitor well MW-16 relative to the former field waste tanks source area is confirmed by groundwater data from the March 2005 sampling event. From the former field waste tanks source area, chloride concentrations decrease in an eastward (downgradient) from 2,740 mg/L in monitor well MW-11A to 321 mg/L and 303 mg/L at monitor wells MW-15 and MW-14, respectively, to 199 mg/L in monitor well MW-18 (i.e., less than the NMWOCC chloride standard of 250 mg/L). Moving further eastward, the chloride concentration in monitor well MW-16 increases by an order of magnitude to 1,140 mg/L, then once again decreases in a northeastward (generally downgradient) direction to 330 mg/L at the MW-19 location. This generalized pattern of decreasing chloride concentrations moving eastward from monitor well MW-11A to the monitor wells MW-14 and MW-15 locations, following by an elevated chloride concentration in monitor well MW-16 has also been documented on the basis of chloride concentration data from March 2004, October 2003, and March/June 2003, as indicated in Table 5. The temporal consistency of this pattern of chloride concentrations indicates that the elevated chloride concentrations being detected at the monitor well MW-16 location are not the result of a sporadic passage of chloride-impacted groundwater from the former field waste tanks area, but instead indicates that a separate chloride source area, from which chloride is continuously leaching to groundwater, is present in the vicinity of monitor well MW-16. Although current data from monitor wells MW-16 and MW-19 indicate that chloride concentrations associated with the monitor well MW-16 source area decrease in a downgradient direction, the downgradient extent of chloride impact to groundwater associated with the monitor well MW-16 source area is not presently defined. -----

Groundwater modeling conducted by Brown and Caldwell prior to installation of monitor well MW-16 in May 2003 indicated an anticipated chloride concentration of less than 250 mg/L at the proposed downgradient monitor well MW-16 location east of the BJ Services facility, based on historic data that had also defined an eastward decrease in chloride concentrations within the BJ P:\Wp\BJSERV\126238\015R.doc 8

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Services facility. Specifically, historic chloride concentrations in former field waste tanks area monitor wells MW-11 and MW-11A had ranged from 834 mg/L to 3,400 mg/L, whereas chloride concentrations in the area of monitor wells MW-14 and MW-15, which are located further east within the BJ Services facility, had ranged from 163 mg/L to 368 mg/L.

Off-site monitor well MW-16 has been sampled six times since its installation in May 2003, with chloride concentrations in the well ranging from 753 mg/L to 1,140 mg/L. During the post-May 2003 time period, chloride concentrations in individual wells at the BJ Services facility have remained generally consistent with previous chloride data from those wells. The data presented in Figure 3 demonstrate that chloride impact associated with the former field waste tanks is limited to within the boundaries of the BJ Services facility and that the concentration of chloride in off-site monitor well MW-16 would not exceed 250 mg/L if there was no off-site source of chloride impact.

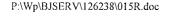
Brown and Caldwell provided further evidence of this off-site source of chloride impact to groundwater in the report for the December 2003 groundwater sampling event, based on a search of NMOCD files relating to permitted oil & gas exploration and production activities in the area, and supplemented by historical aerial photographs depicting industrial development in the vicinity. Brown and Caldwell also presented the results of a water well search that indicated no current groundwater usage within 1 mile downgradient of the facility.

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4.0 CONCLUSIONS AND RECOMMENDATIONS

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The following conclusions and recommendations are based on information obtained during the March 2005 and previous groundwater sampling events at the BJ Services Hobbs, New Mexico facility.

4.1 Conclusions

- The distribution of chloride concentrations within groundwater in the area of the BJ Services Hobbs, New Mexico facility indicates the presence of two separate source areas: the MW-16 area and the former field waste tanks area. Elevated chloride concentrations in groundwater east of the BJ Services facility are apparently attributable to one or more off-site sources. In the absence of these apparent sources, chloride impact attributable to the onsite source would be less than the NMWQCC standard of 250 mg/L in the area to the east of the BJ Services facility.
- Chloride concentrations measured in on-site downgradient monitor wells MW-17 and MW-18 during the current groundwater sampling event are less than the NMWQCC standard of 250 mg/L.
- Elevated chloride concentrations in soil were observed within the uppermost 25 feet below the ground surface at each of the March 2005 boring locations. Chloride concentrations then decreased with depth throughout the vadose zone at each location.

4.2 Recommendations

• Given that (1) chloride impact to groundwater attributable to the BJ Services facility at concentrations exceeding the NMWQCC standard of 250 mg/L is limited to the BJ Services facility, and (2) there is no current downgradient usage of groundwater within 1 mile of the facility, BJ Services should discontinue sampling and analysis pertaining to chloride impact to groundwater within the uppermost aquifer at and in the vicinity of its Hobbs, New Mexico facility.

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DISTRIBUTION

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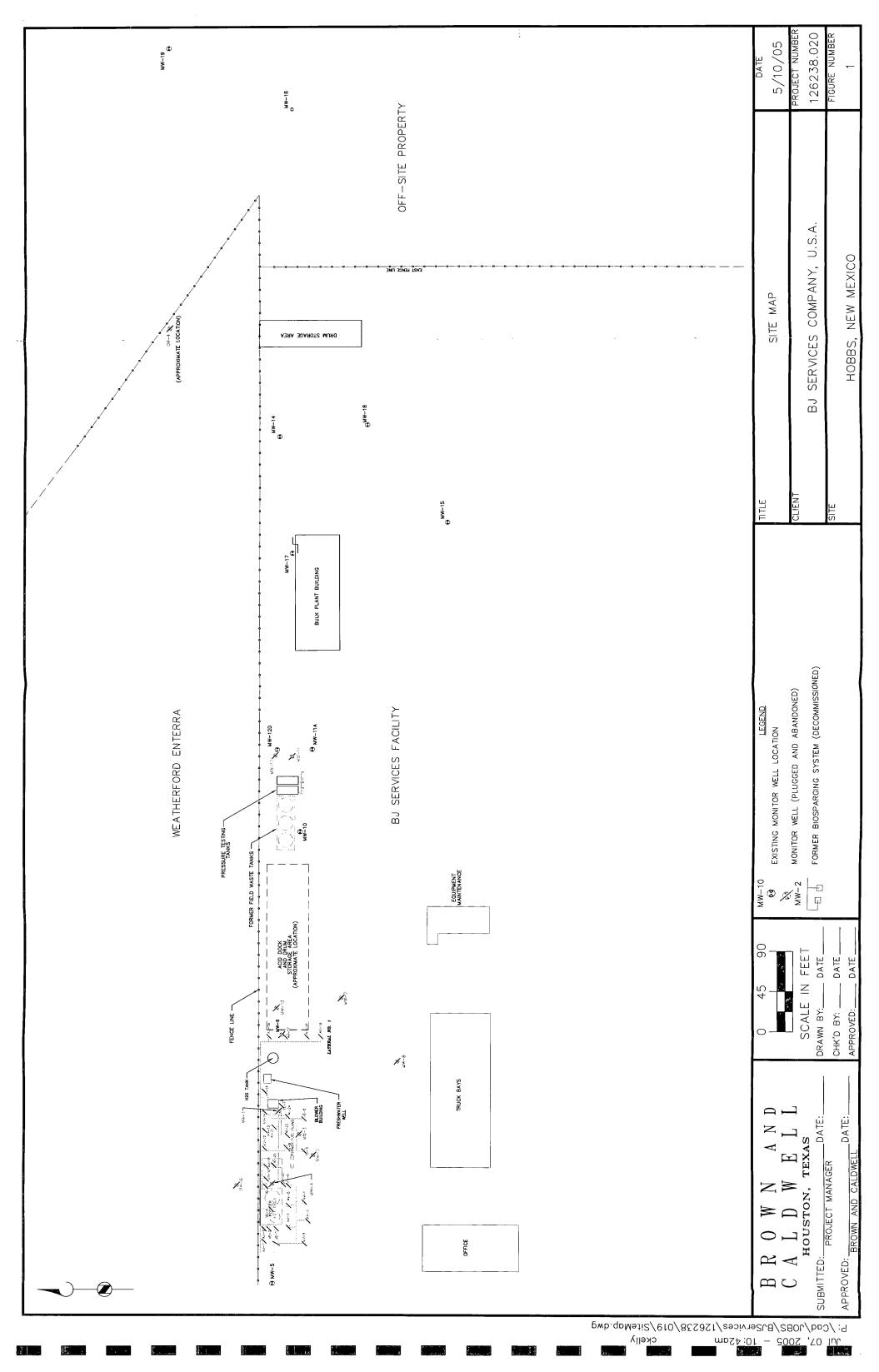
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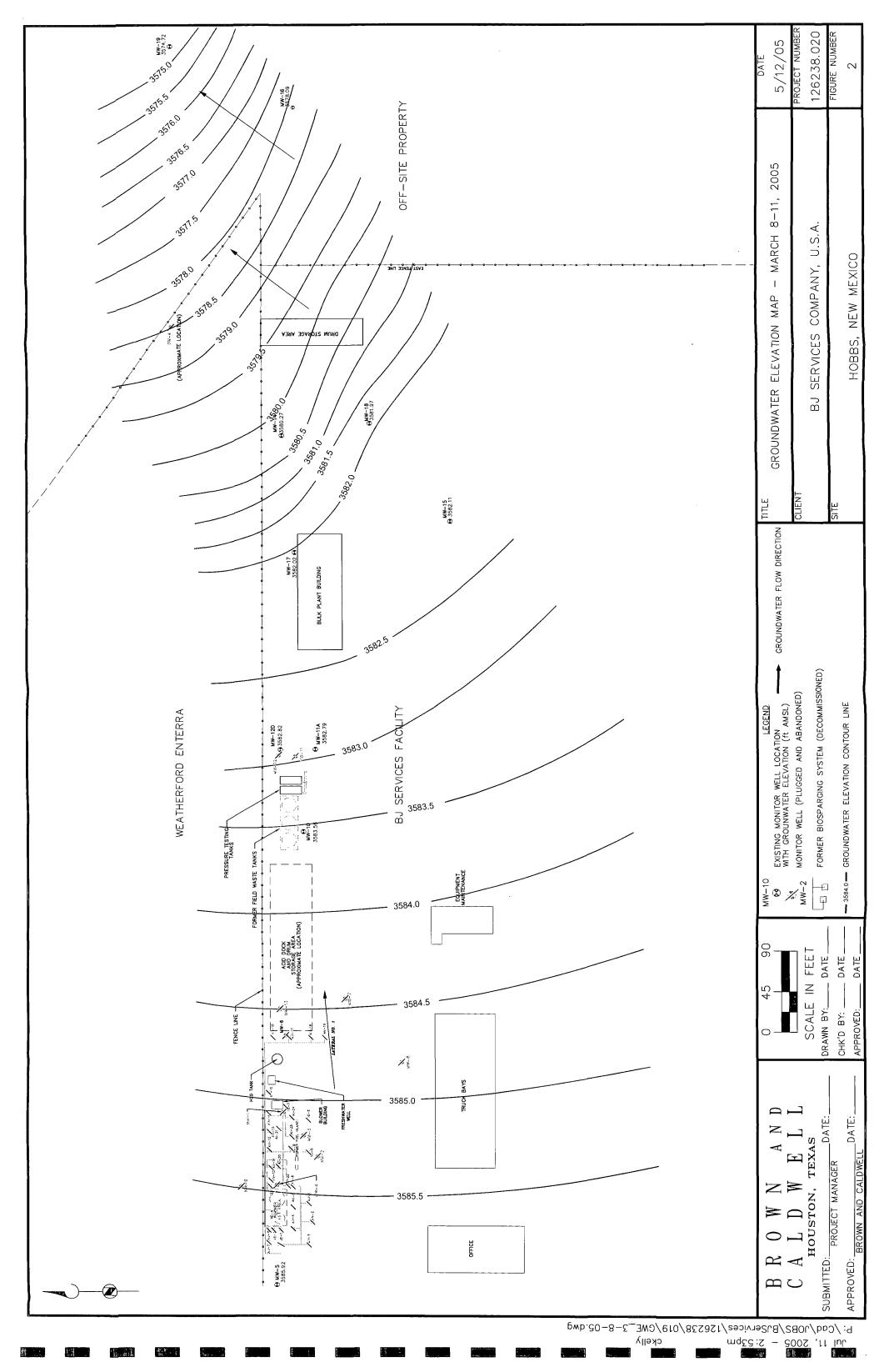
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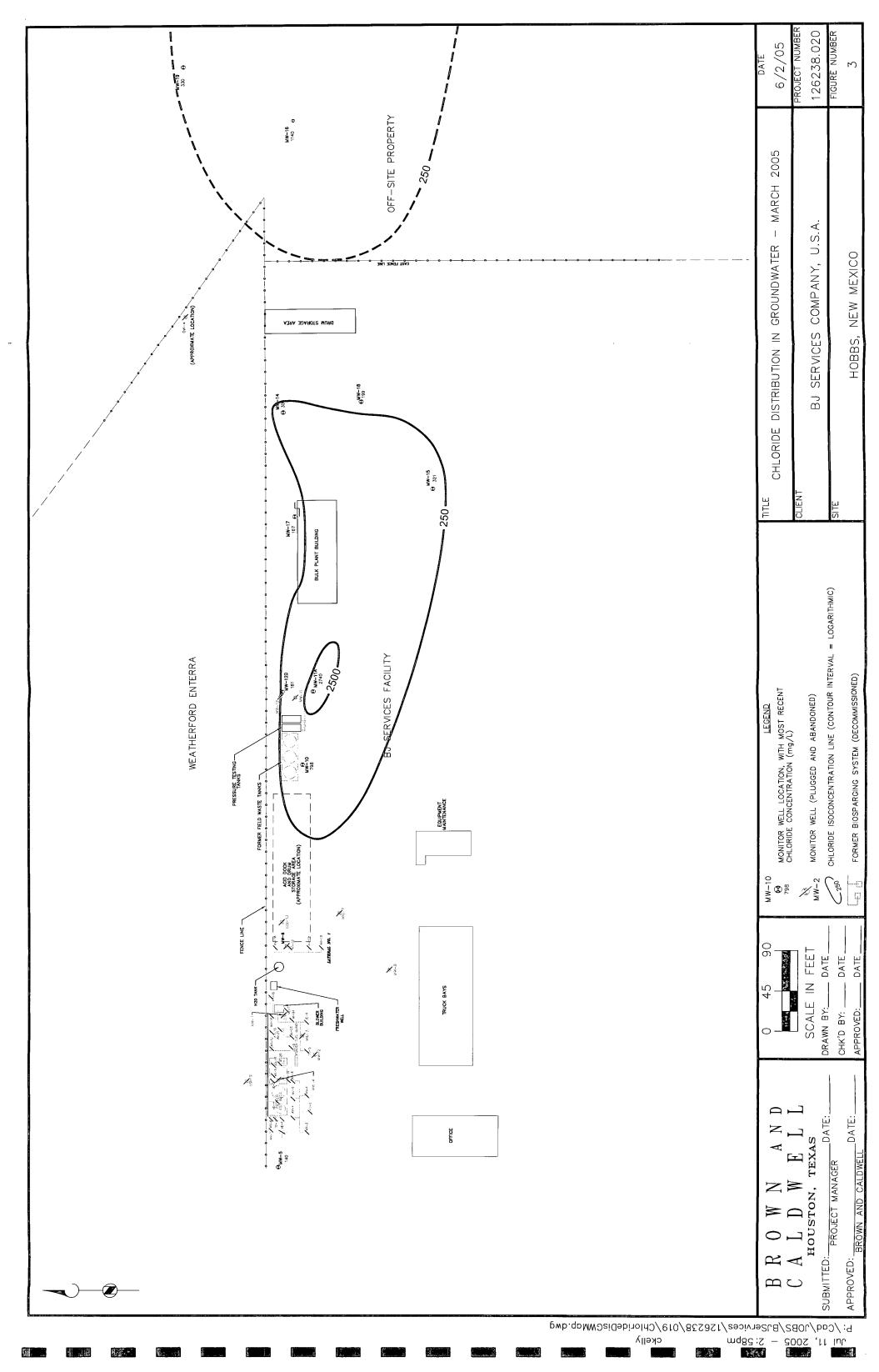
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Date	Activity
February 7, 1991	The New Mexico Oil Conservation Division (NMOCD) conducted an on-site inspection, including sampling of the on-site fresh water well.
August 6, 1991	The NMOCD requested submittal of an investigation work plan.
September 5, 1991	Roberts/Schornick and Associates, Inc. (RSA) submitted Technical Work Plan for soil and groundwater investigation to the NMOCD.
November 15, 1991	The NMOCD approved the Technical Work Plan submitted by RSA.
December 16, 1991	RSA sampled the fresh water well. The analytical results were submitted to the NMOCD.
February 21, 1992	Western sampled the fresh water well. The analytical results were submitted to the NMOCD.
July 29 - August 10, 1992	Brown and Caldwell conducted a soil and groundwater investigation according to the approved Technical Work Plan. The investigation included drilling and sampling nine soil borings, sampling six hand- augured soil borings, installation and sampling of five monitor wells, and sampling of the fresh water well.
October 12, 1992	Brown and Caldwell submitted a Soil and Groundwater Investigation Report to the NMOCD.
December 2, 1992	The NMOCD requested the installation and sampling of four additional monitor wells, including a monitor well on an adjacent property.
April 13, 1993	Brown and Caldwell conducted a vapor extraction pilot test on the existing monitor wells.
April 15, 1993	Brown and Caldwell installed off-site monitor well MW-9.
April 22, 1993	Brown and Caldwell sampled off-site monitor well MW-9.
May 27, 1993	Brown and Caldwell submitted a letter report documenting the installation and sampling of off-site monitor well MW-9 to the NMOCD.
June 2, 1993	Brown and Caldwell conducted a short-term aquifer test using the fresh water well at the facility.
June 8, 1993	USTank Management, Inc. conducted a non-volumetric tank system tightness test on the diesel and unleaded gasoline aboveground storage tanks at the facility.
June 21, 1993	ENSR Consulting and Engineering (ENSR), the environmental consultant for the adjacent property owner on which off-site well MW-9 is located, submitted a request to sample monitor well MW-9.

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July 15, 1993	ENSR split a groundwater sample collected from monitor well MW-9 with Brown and Caldwell.
July 30, 1993	USTank Management, Inc. submitted a tank tightness test report to Brown and Caldwell. The report indicated that both tanks and their associated piping passed.
August 16-19, 1993	Brown and Caldwell installed two additional downgradient monitor wells. Brown and Caldwell sampled each of the existing and newly installed monitor wells.
January 26, 1994	Brown and Caldwell performed a groundwater monitoring event; the existing monitor wells and the fresh water well were purged and sampled. The groundwater samples were analyzed for BTEX.
May 6, 1994	A Remedial Action Plan (RAP) was submitted to the NMOCD.
August 11, 1994	The RAP was approved by the NMOCD.
May 3, 1995	Brown and Caldwell conducted the May 1995 groundwater sampling event.
July 31, 1995	Brown and Caldwell conducted the July 1995 groundwater sampling event.
August 2-9, 1995	Installation of the biosparging system was initiated. Nineteen combined injection/extraction wells and three vacuum extraction wells were installed.
August 14-26, 1995	Remedial Construction Services, Inc. (RCS) constructed the initial design of the biosparging system.
September 19, 1995	Operation of the extraction portion of the biosparging system commenced.
November 13, 1995	Operation of the injection portion of the biosparging system commenced.
November 14, 1995	Brown and Caldwell conducted the November 1995 groundwater sampling event.
February 23, 1996	Brown and Caldwell conducted the February 1996 groundwater sampling event.
May 31, 1996	Brown and Caldwell conducted the May 1996 groundwater sampling event.
August 23, 1996	Brown and Caldwell conducted the August 1996 groundwater sampling event.
December 2, 1996	Brown and Caldwell conducted the December 1996 groundwater sampling event.

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March 6-7, 1997	BJ Services removed three field waste tanks and associated hydrocarbon-impacted soil.
March 12, 1997	Brown and Caldwell conducted the March 1997 groundwater sampling event.
March 14, 1997	Vapor extraction well VE-4 was installed.
April 1997	Vapor extraction well VE-4 was connected to the vapor extraction system.
June 12, 1997	Brown and Caldwell conducted the June 1997 groundwater sampling event.
September 11-12, 1997	Brown and Caldwell conducted the September 1997 groundwater sampling event.
December 10, 1997	Brown and Caldwell conducted the December 1997 groundwater sampling event.
February 3-14, 1998	Air injection wells AI-20 through AI-24, vapor extraction wells VE-5 through VE-7, and monitor wells MW-11A and MW-12 were installed.
February 19, 1998	Operation of previously existing injection wells was suspended in preparation for start-up of new injection wells AI-20 through AI-24.
March 10, 1998	Operation of new air injection wells AI-20 through AI-24 and new vapor extraction wells VE-5 through VE-7 commenced.
March 23-24, 1998	Brown and Caldwell conducted the March 1998 groundwater sampling event.
March 24, 1998	Operation of previously existing injection wells and vapor extraction wells resumed.
June 23, 1998	Brown and Caldwell conducted the June 1998 groundwater sampling event.
September 30, 1998	Brown and Caldwell conducted the September 1998 groundwater sampling event.
December 9-10, 1998	Brown and Caldwell conducted the December 1998 groundwater sampling event.
January 21, 1999	The NMOCD requested submittal of a work plan by March 22, 1999 to perform additional groundwater delineation in the area of the former field waste tanks and the former AST/MW-6 area.
March 9-10, 1999	Brown and Caldwell conducted the March 1999 groundwater sampling event.
March 19, 1999	Brown and Caldwell submitted the work plan for groundwater delineation activities that was requested by the NMOCD.

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May 19, 1999	The NMOCD approved the groundwater delineation work plan.
June 10, 1999	Brown and Caldwell performed sampling of existing monitor wells for the June /July 1999 groundwater sampling event.
July 2, 1999	Brown and Caldwell completed plugging and abandonment of monitor wells MW-2, MW-6, and MW-11; installed and developed monitor wells MW-12D and MW-13; and sampled monitor wells MW-12D and MW-13 to complete the June/July 1999 groundwater sampling event.
July 14, 1999	Brown and Caldwell redirected air discharge from the shallow injection well injection system to Lateral No. 1 and optimized air flow to injection wells AI-16 and AI-17 to apply increased remedial pressure to the eastern portion of the west plume.
September 13-14, 1999	Brown and Caldwell conducted the September 1999 groundwater sampling event.
December 9, 1999	Brown and Caldwell conducted the December 1999 groundwater sampling event.
March 9-10, 2000	Brown and Caldwell conducted the March 2000 groundwater sampling event and shut off air flow to biosparging system Lateral Nos. 4S, 5S, 6S, and 7S.
June 8, 2000	Brown and Caldwell conducted the June 2000 groundwater sampling event.
September 13, 2000	Brown and Caldwell conducted the September 2000 groundwater sampling event.
November 1, 2000	Brown and Caldwell deactivated the biosparging system.
December 7, 2000	Brown and Caldwell conducted the December 2000 groundwater sampling event.
January 2001	Brown and Caldwell installed and sampled monitor wells MW-14 and MW-15.
March 8-9, 2001	Brown and Caldwell conducted the March 2001 groundwater sampling event.
June 21-22, 2001	Brown and Caldwell conducted the June 2001 groundwater sampling event.
July 23, 2001	Brown and Caldwell collected soil samples from four soil borings installed at the former fueling system area of the facility to confirm the effectiveness of the biosparging system in remediating hydrocarbon impact to soil, as specified in the NMOCD-approved RAP.
September 10, 2001	Brown and Caldwell conducted the September 2001 groundwater sampling event.

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December 6, 2001	Brown and Caldwell conducted the December 2001 groundwater sampling event.
February 26, 2002	Brown and Caldwell repaired the crushed well completion on monitor well MW-10.
February 28, 2002	NMOCD requested an evaluation of chloride content of groundwater at the facility.
March 11-12, 2002	Brown and Caldwell conducted the March 2002 groundwater sampling event. Groundwater samples from all water-producing wells at the facility were analyzed for chloride content.
May 21, 2002	Brown and Caldwell submitted the report for the March 2002 groundwater sampling event, including an evaluation of chloride content of groundwater at the facility and a recommendation for installation of a downgradient off-site well (MW-16) to replace off-site well OW-4, which has gone dry.
June 17-18, 2002	Brown and Caldwell conducted the June 2002 groundwater sampling event.
September 16, 2002	Brown and Caldwell conducted the September 2002 groundwater sampling event.
November 11, 2002	Brown and Caldwell submitted the June 2002 Groundwater Sampling Report and Biosparging System Closure Report.
January 9, 2003	Brown and Caldwell conducted the January 2003 groundwater sampling event.
March 6, 2003	Brown and Caldwell conducted the March 2003 groundwater sampling event.
May 13, 2003	Brown and Caldwell installed monitor well MW-16 at a location to the west of the facility.
June 19, 2003	Brown and Caldwell initiated the June 2003 groundwater sampling event.
August 22, 2003	Brown and Caldwell completed the June 2003 groundwater sampling event.
October 2, 2003	Brown and Caldwell conducted the October 2003 groundwater sampling event.
December 17-18, 2003	Brown and Caldwell conducted the December 2003 groundwater sampling event.
March 29-30, 2004	Brown and Caldwell conducted the March 2004 groundwater sampling event.

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March 8-11, 2005	Brown and Caldwell conducted the March 2005 groundwater sampling event. Brown and Caldwell installed monitor wells MW-17 and MW- 18 in the eastern portion of the facility, and monitor well MW-19 at a location to the east of the facility. Soil samples were taken from the MW-17, MW-18, and MW-19 soil borings, as well as from a soil boring identified as SB-16, which was installed at a location adjacent to existing monitor well MW-16. Brown and Caldwell decommissioned the biosparging system at the former fuel island area.
April 13, 2005	The Final Closure Report for the former fuel island area (GW-072) was submitted to NMOCD.
June 15, 2005	NMOCD approved the Final Closure Report for the former fuel island area (GW-072).

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Table 2 Cumulative Groundwater Elevation Data Hobbs, New Mexico Facility BJ Services Company, U.S.A.

Monitor Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (MSL)	Comments
MW-1	3,647.53	8/10/1992	53.22	0.00	3,594.31	(1)
101 00 - 1	5,047.55	2/9/1993	53.03	0.00	3,594.50	(1)
		8/18/1993	53.10	0.00	3,594.43	
	}	1/26/1994	53.31	0.00	3,594.22	
		5/3/1995	54.64	0.20	3,593.05	(2)
		7/31/1995	54.14	0.00	3,593.39	(2)
		11/14/1995	53.69	0.00	3,593.84	
		2/23/1996	54.32	0.00	3,593.21	
		5/31/1996	54.14	0.00	3,593.39	
		8/23/1996	56.17	0.00	3,591.36	
		12/2/1996	55.27	0.00	3,592.26	
		3/12/1997	55.70	0.27	3,592.05	
		6/12/1997	55.08	0.02	3,592.47	
		9/12/1997	55.64	0.51	3,592.31	
		12/10/1997	55.46	0.00	3,592.07	PSH Sheen
		3/24/1998	55.81	0.00	3,591.72	PSH Sheen
		6/23/1998	56.38	0.06	3,591.20	r Str Sheen
		9/30/1998	56.82	0.00	3,590.71	PSH Sheen
		12/9/1998	57.05	0.00		ron sileen
	Į	3/10/1999	57.05	0.00	3,590.48 3,590.08	
		6/10/1999	58.02	0.00	3,590.08	
		7/2/1999	57.90	0.00	3,589.63	
		9/14/1999	58.14	0.00	3,589.39	
		12/9/1999	58.14	-	5,307.37	(3)
		3/9/2000	58.99	0.00	3,588.54	(5)
		06/00	36.99	0.00	5,588.54	
	}	09/00	-	•	-	
		12/7/00	-	-	-	
		3/8/2001	60.35	0.00	3,587.18	
		6/21/01	60.99	0.00	3,586.54	
		9/10/01	61.17	0.00	3,586.36	
		12/6/2001	01.1/	not measured	5,500.50	
		03/11/02	62.11	0.00	3,585.42	
		6/17/02	62.53	0.00	3,585.00	
		9/16/2002	62.43	0.00	3,585.10	
		1/9/2002	62.61	0.00	3,584.92	
		3/6/2003	62.72	0.00	3,584.81	
		6/19/2003	-	-	-	(3) - well no
			(0.07	0.00	7 504 50	located
		10/2/2003	62.97	0.00	3,584.56	
		12/17/2003	63.21	0.00	3,584.32	
		3/29/2004	63.24	0.00	3,584.29	
		3/8/2005		-	-	(11)
MW-2	3,644.84	8/10/1992	52.82	0.00	3,592.02	(1)
		2/9/1993	49.60	0.00	3,595.24	
		8/18/1993	49.71	0.00	3,595.13	
		1/26/1994	49.97	0.00	3,594.87	
		5/3/1995		-	- <u>-</u>	(4),(5)
MW-3	3,645.00	8/10/1992	52.99	0.00	3,592.01	(1)
		2/9/1993	52.72	0.00	3,592.28	
		8/18/1993	52.82	0.00	3,592.18	
		1/0//1004	52.05	0.00	3,591.95	
		1/26/1994	53.05			
		5/3/1995	54.31	0.00	3,590.69	
		5/3/1995 7/31/1995	54.31 51.24	0.00 0.00	3,593.76	
		5/3/1995 7/31/1995 11/14/1995	54.31 51.24 51.10	0.00 0.00 0.00	3,593.76 3,593.90	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996	54.31 51.24 51.10 51.68	0.00 0.00 0.00 0.00	3,593.76 3,593.90 3,593.32	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996	54.31 51.24 51.10 51.68 51.45	0.00 0.00 0.00 0.00 0.00	3,593.76 3,593.90 3,593.32 3,593.55	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996	54.31 51.24 51.10 51.68 51.45 51.55	0.00 0.00 0.00 0.00 0.00 0.00	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 12/2/1996	54.31 51.24 51.10 51.68 51.45 51.55 52.23	0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.0	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 12/2/1996 3/12/1997	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67	$\begin{array}{c} 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ \end{array}$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 12/2/1996 3/12/1997 6/12/1997	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68	$\begin{array}{c} 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ 0.00\\ \end{array}$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 12/2/1996 3/12/1997 6/12/1997 9/11/1997	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32 3,592.32 3,592.29	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 12/2/1996 3/12/1997 6/12/1997 9/11/1997 12/10/1997	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71 52.89	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32 3,592.32 3,592.29 3,592.11	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 3/12/1996 3/12/1997 6/12/1997 9/11/1997 12/10/1997 3/23/1998	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71 52.89 53.22	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32 3,592.29 3,592.11 3,591.78	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 12/2/1996 3/12/1997 6/12/1997 9/11/1997 12/10/1997 3/23/1998 6/23/1998	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71 52.89 53.22 53.66	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.45 3,592.33 3,592.32 3,592.29 3,592.11 3,591.78 3,591.34	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 12/2/1997 6/12/1997 6/12/1997 9/11/1997 12/10/1997 3/23/1998 6/23/1998 9/30/1998	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71 52.89 53.22 53.26 53.22 53.66 54.06	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32 3,592.29 3,592.11 3,591.78	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 3/12/1997 6/12/1997 9/11/1997 12/10/1997 3/23/1998 6/23/1998 9/30/1998 12/9/1998	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71 52.89 53.22 53.66 54.06 54.36	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32 3,592.29 3,592.29 3,592.11 3,591.78 3,591.34 3,590.94 3,590.94	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 3/12/1997 6/12/1997 6/12/1997 9/11/1997 12/10/1997 3/23/1998 6/23/1998 9/30/1998 12/9/1998 3/10/1999	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71 52.89 53.22 53.66 54.06 54.36 54.72	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32 3,592.29 3,592.21 3,592.29 3,592.11 3,591.78 3,591.34 3,590.94	
		5/3/1995 7/31/1995 11/14/1995 2/23/1996 5/31/1996 8/23/1996 3/12/1997 6/12/1997 9/11/1997 12/10/1997 3/23/1998 6/23/1998 9/30/1998 12/9/1998	54.31 51.24 51.10 51.68 51.45 51.55 52.23 52.67 52.68 52.71 52.89 53.22 53.66 54.06 54.36	$\begin{array}{c} 0.00\\$	3,593.76 3,593.90 3,593.32 3,593.55 3,593.45 3,592.77 3,592.33 3,592.32 3,592.29 3,592.29 3,592.11 3,591.78 3,591.34 3,590.94 3,590.94	

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Table 2 Cumulative Groundwater Elevation Data Hobbs, New Mexico Facility BJ Services Company, U.S.A.

Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Elevation (MSL)	Comments
MW-3	3,645.00	9/14/1999	55.42	0.00	3,589.58	
cont.		12/9/1999	55.78	0.00	3,589.22	
		3/9/2000	56.23	0.00	3,588.77	
		6/8/2000	56.66	0.00	3,588.34	
		9/13/2000	56.77	0.00	3,588.23	5
		12/7/2000	57.15	0.00	3,587.85	
l l		3/8/2001	57.69	0.00	3,587.31	
		6/21/01	58.34	0.00 0.00	3,586.66	
1	[9/10/01 12/6/2001	58.54 59.04	0.00	3,586.46 3,585.96	1
		3/11/2002	59.50	0.00	3,585.50	
		6/17/02	59.83	0.00	3,585.17	
1		9/16/2002	59.80	0.00	3,585.20	
		1/9/2003	60.01	0.00	3,584.99	
		3/6/2003	60.10	0.00	3,584.90	
						(3) - well no
· · ·		6/19/2003	•	-	-	located
		10/2/2002	(0.24	0.00	2 591 66	located
.		10/2/2003	60.34	0.00	3,584.66 3,584.50	
		12/17/2003 3/29/2004	60.50 60.55	0.00	3,584.45	
		3/8/2004	-	-	-	(11)
MW-4	3,645.28	8/10/1992	50.55	0.00	3,594.73	(1)
	27.11.7	2/9/1993	50.26	0.00	3,595.02	
		8/18/1993	50.38	0.00	3,594.90	
Į		1/26/1994	50.90	0.30	3,594.63	
		5/3/1995	51.51	0.45	3,594.14	
		7/31/1995	51.74	0.26	3,593.75	}
		11/14/1995	51.03	0.00	3,594.25	
		2/23/1996 5/31/1996	51.65 51.48	0.01 0.00	3,593.64 3,593.80	
ļ l		8/23/1996	51.48 53.49	0.00	3,593.80 3,591.79	
		12/2/1996	52.32	0.00	3,592.96	
		3/12/1997	52.74	0.00	3,592.58	
{ }		6/12/1997	53.08	0.44	3,592.56	1
		9/12/1997	52.60	0.15	3,592.80	1
		12/10/1997	52.89	0.00	3,592.39	PSH Sheen
		3/24/1998	53.20	0.25	3,592.29	
(6/23/1998	53.82	0.22	3,591.64	
i l		9/30/1998	53.96	0.00	3,591.32	200 ml PSF
		12/9/1998	54.27	0.00	3,591.01	
		3/10/1999	54.69	0.04	3,590.62	
		6/10/1999 7/2/1999	55.07 55.10	0.00 0.00	3,590.21 3,590.18	
		9/14/1999	55.33	0.00	3,589.95	
, I		12/9/1999	55.79	0.00	3,589.49	
		3/10/2000	56.12	0.00	3,589.16	l .
1 1		6/8/2000	56.67	0.00	3,588.61	
i		9/13/2000	56.65	0.00	3,588.63	
		12/7/2000	57.05	0.00	3,588.23	
1		3/8/2001	57.72	0.00	3,587.56	
		6/21/01	58.18	0.00	3,587.10	
		9/10/01	58.54	0.00	3,586.74	
		12/6/2001	58.88	0.00	3,586.40	Į
		3/11/2002 6/17/02	59.41 59.67	0.00 0.00	3,585.87	
1		9/16/2002	59.67 59.71	0.00	3,585.61 3,585.57	
, J		1/9/2002	59.91	0.00	3,585.37]
		3/6/2003	60.03	0.00	3,585.25	
		6/19/2003	60.16	0.00	3,585.12	
		10/2/2003	60.30	0.00	3,584.98	
		12/17/2003	60.35	0.00	3,584.93	
		3/29/2004	60.38	0.00	3,584.90	
		3/8/2005	-	-	-	(11)
MW-5	3,647.72	8/10/1992	52.38	0.00	3,595.34	(1)
		2/9/1993	52.06	0.00	3,595.66	
		8/18/1993	52.16	0.00	3,595.56	
l í		1/26/1994	52.50	0.00	3,595.22	[
		5/3/1995	53.57	0.00	3,594.15	
		7/31/1995	53.27	0.00	3,594.45	
		11/14/1995	52.83	0.00	3,594.89	1
		2/23/1996	53.57	0.00	3,594.15	
		5/31/1996	53.16	0.00	3,594.56	1

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Table 2Cumulative Groundwater Elevation DataHobbs, New Mexico FacilityBJ Services Company, U.S.A.

Monitor Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (MSL)	Comment
MW-5	3,647.72	8/23/1996	53.41	0.00	3,594.31	
cont.	ŕ	12/2/1996	53.98	0.00	3,593.74	
		3/12/1997	54.44	0.00	3,593.28	
		6/12/1997	54.48	0.00	3,593.24	
		9/12/1997	54.29	0.00	3,593.43	
		12/10/1997	54.66	0.00	3,593.06	
		3/23/1998	55.05	0.00	3,592.67	
		6/23/1998	55.44	0.00	3,592.28	
		9/30/1998	55.65	0.00	3,592.07	
		12/9/1998	56.00	0.00	3,591.72	
		3/9/1999	56.45	0.00	3,591.27	
		6/10/1999	56.91	0.00	3,590.81	
		7/2/1999	56.93	0.00	3,590.79	
		9/14/1999	57.12	0.00	3,590.60	
		12/9/1999	57.41	0.00	3,590.31	
	[[3/9/2000	57.92	0.00	3,589.80	
		6/8/2000	58.32	0.00	3,589.40	
		9/13/2000		0.00	3,589.36	
	· ·	12/7/2000	58.36 58.71	0.00	3,589.01	
	1	3/8/2001	59.36	0.00	3,588.36	
		6/21/01	59.96 59.94	0.00	3,587.78	
	1			0.00		
		9/10/01	59.85 60.56		3,587.87 3,587.16	
		12/6/2001	60.56	0.00		
		3/11/02	61.12	0.00	3,586.60	
		6/17/02	61.43	0.00	3,586.29	
		9/16/2002	61.52	0.00	3,586.20	
		1/9/2003	61.75	0.00	3,585.97	
	1 1	3/6/2003	61.90	0.00	3,585.82	
		6/19/2003	62.01	0.00	3,585.71	
		10/2/2003	62.16	0.00	3,585.56	
		12/17/2003	62.35	0.00	3,585.37	
	1	3/29/2004	62.56	0.00	3,585.16	ł.
		3/8/2005	61.80	0.00	3,585.92	
MW-6	3,644.74	2/9/1993	50.58	0.00	3,594.16	(1)
		8/18/1993	50.78	0.00	3,593.96	
		1/26/1994	51.00	0.00	3,593.74	
		5/3/1995	52.63	0.00	3,592.11	
		7/31/1995	51.90	0.00	3,592.84	
	· · ·	11/14/1995	51.19	0.00	3,593.55	
		2/23/1996	52.10	0.00	3,592.64	
		5/31/1996	51.76	0.00	3,592.98	
		8/23/1996	51.63	0.00	3,593.11	
		12/2/1996	52.85	0.00	3,591.89	
		3/12/1997	53.55	0.00	3,591.19	
		6/12/1997	52.08	0.00	3,592.66	
	-	9/11/1997	53.72	0.00	3,591.02	
		12/10/1997	53.27	0.00	3,591.47	
		3/23/1998	53.56	0.00	3,591.18	
		6/23/1998	52.88	0.00	3,591.86	
		9/30/1998	54.89	0.00	3,589.85	
		12/9/1998	54.57	0.00	3,590.17	
		3/10/1999	55.10	0.00	3,589.64	
		7/2/1999	-	-	-	(5),(6)
MW-7	3,644.55	2/9/1993	50.53	0.00	3,594.02	(1)
	-	8/18/1993	50.74	0.00	3,593.81	
		1/26/1994	51.01	0.00	3,593.54	
		5/3/1995	52.25	0.00	3,592.30	
		7/31/1995	51.92	0.00	3,592.63	
		11/14/1995	51.48	0.00	3,593.07	
		2/23/1996	52.15	0.00	3,592.40	
		5/31/1996	51.78	0.00	3,592.77	
		8/23/1996	52.02	0.00	3,592.53	
		12/2/1996	52.52	0.00	3,592.03	
		3/12/1997	52.99	0.00	3,591.56	
		6/12/1997	53.08	0.00	3,591.47	
		9/11/1997	53.00	0.00	3,591.55	
1		12/10/1997	53.28	0.00	3,591.27	
		3/23/1998	53.59	0.00	3,590.96	
		6/23/1998	54.20	0.00	3,590.35	
		9/30/1998	54.54	0.00	3,590.01	

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Table 2 Cumulative Groundwater Elevation Data Hobbs, New Mexico Facility BJ Services Company, U.S.A.

Monitor Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (MSL)	Comment
MW-7	3,644.55	12/9/1998	54.74	0.00	3,589.81	
cont.		3/9/1999	55.15	0.00	3,589.40	
		6/10/1999	55.66	0.00	3,588.89	
		7/2/1999	55.73	0.00	3,588.82	
		9/13/1999	55.94	0.00	3,588.61	
		12/9/1999	56.38	0.00 0.00	3,588.17	
		3/9/2000 6/8/2000	56.74 57.17	0.00	3,587.81 3,587.38	
		9/13/2000	57.40	0.00	3,587.15	
		12/7/2000	57.77	0.00	3,586.78	
		3/8/2001	58.29	0.00	3,586.26	
		6/21/01	58.91	0.00	3,585.64	
		9/10/01	59.25	0.00	3,585.30	
		12/6/2001	59.75	0.00	3,584.80	
		3/11/2002	60.03	0.00	3,584.52	
		6/17/02	60.39	0.00	3,584.16	
		9/16/2002	60.39	0.00	3,584.16	
		1/9/2003	60.53	0.00	3,584.02	
		3/6/2003	60.61	0.00	3,583.94	
		6/19/2003	60.73	0.00	3,583.82	
		10/2/2003	60.84	0.00	3,583.71	1
		12/17/2003	60.99	0.00	3,583.56	1
		3/29/2004	61.19	0.00	3,583.36	
MUL	2 2 4 4 07	3/8/2005	50.48		3,594,39	(11)
MW-8	3,644.87	2/9/1993 8/18/1993	50.48 50.67	0.00	3,594.39 3,594.20	(1)
		1/26/1993	50.96	0.00	3,593.91	j
		5/3/1995	52.15	0.00	3,592.72	
		7/31/1995	51.77	0.00	3,593.10	ł
		11/14/1995	51.37	0.00	3,593.50	
		2/23/1996	52.17	0.00	3,592.70	
	1	5/31/1996	51.55	0.00	3,593.32	Ì
		8/23/1996	51.92	0.00	3,592.95	
		12/2/1996	52.43	0.00	3,592.44	
		3/12/1997	52.93	0.00	3,591.94	
		6/12/1997	53.96	0.00	3,590.91]
		9/11/1997	52.73	0.00	3,592.14	
		12/10/1997	53.15	0.00	3,591.72	
		3/23/1998	53.51	0.00	3,591.36	
		6/23/1998	54.01 54.35	0.00 0.00	3,590.86	
	· · · · ·	9/30/1998 12/9/1998	54.60	0.00	3,590.52 3,590.27	
		3/9/1998	55.00	0.00	3,589.87	
		6/10/1999	55.56	0.00	3,589.31	
		7/2/1999	55.57	0.00	3,589.30	
		9/13/1999	55.72	0.00	3,589.15	1
		12/9/1999	-	-		(3)
		3/9/2000	56.52	0.00	3,588.35	
		06/00	-	-	-	
		09/00	-	- 1	-	
		12/00	-	-		
		3/8/2001	58.11	0.00	3,586.76	
		6/21/01 9/10/01	58.72 58.94	0.00 0.00	3,586.15	
		12/6/2001	30.94	not measured	3,585.93	1
1		3/11/2002	59.94	0.00	3,584.93	ł
		6/17/02	60.22	0.00	3,584.65	
		9/16/2002	60.24	0.00	3,584.63	
		1/9/2003	60.42	0.00	3,584.45	
		3/6/2003	60.52	0.00	3,584.35]
		6/19/2003	60.63	0.00	3,584.24	
		10/2/2003	60.75	0.00	3,584.12	
		12/17/2003	60.92	0.00	3,583.95	
		3/29/2004	61.11	0.00	3,583.76	
VIII C	2 (11 20	3/8/2005	40.72		-	(11)
MW-9	3,644.78	4/22/1993	49.73	0.00	3,595.05	(1)
		7/15/1993	49.65	0.00	3,595.13	
		8/18/1993	49.85 50.02	0.00	3,594.93	
		1/26/1994 5/3/1995	50.02	0.00	3,594.76	
		7/31/1995	51.35 50.97	0.00 0.00	3,593.43	
		11/14/1995	50.43	0.00	3,593.81 3,594.35	
1		2/23/1996	51.12	0.00	3,594.35 3,593.66	
	•		21.14	0.00	J.J.J.J.UU	

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Table 2 Cumulative Groundwater Elevation Data Hobbs, New Mexico Facility BJ Services Company, U.S.A.

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Monitor Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (MSL)	Comment
MW-9	3,644.78	5/31/1996	50.89	0.00	3,593.89	
cont.		8/23/1996	50.98	0.00	3,593.80	
		12/2/1996	51.58	0.00	3,593.20	
		3/12/1997	52.21	0.05	3,592.61	
		6/12/1997	52.10	0.00	3,592.68	PSH Sheer
		9/12/1997	51.95	0.00	3,592.83	PSH Sheer
		12/10/1997	52.37	0.00	3,592.41	PSH Shee
·		3/23/1998	52.68	0.00	3,592.10	PSH Shee
		6/23/1998	53.08	0.00	3,591.70	PSH Shee
		9/30/1998	53.39	0.01	3,591.40	PSH Shee
		12/9/1998	53.68	0.00	3,591.10	
		3/10/1999	54.15	0.00 0.00	3,590.63	
		6/10/1999 7/2/1999	54.68 54.71	0.00	3,590.10 3,590.07	
		9/13/1999	54.71	0.00	3,590.07	
		12/9/1999	54.71	0.00	5,590.07	(3)
		3/9/2000	55.69	0.00	3,589.09	(3)
		06/00	55.09	0.00	5,569.09	
		09/00	-		-	
	1 1	12/00	-		-	
		3/8/2001	57.03	0.00	3,587.75	
		6/21/01	57.91	0.00	3,586.87	
		9/10/01	57.95	0.00	3,586.83	
		12/6/2001	51.25	not measured	5,500.05	
		3/11/2002	58.96	0.00	3,585.82	
		6/17/02	59.14	0.00	3,585.64	
	l í	9/16/2002		not measured		
		1/9/2003	59.34	0.00	3,585.44	
	1	3/6/2003	59.48	0.00	3,585.30	
		6/19/2003	59.64	0.00	3,585.14	
		10/2/2003	59.76	0.00	3,585.02	
		12/17/2003	59.93	0.00	3,584.85	
		3/29/2004	60.13	0.00	3,584.65	
		3/8/2005			-	(11)
MW-10	3,644.47	8/18/1993	51.54	0.00	3,592.93	(1)
		1/26/1994	51.90	0.00	3,592.57	
		5/3/1995	52.97	0.00	3,591.50	
		7/31/1995 11/14/1995	52.87 52.51	0.00 0.00	3,591.60 3,591.96	
		2/23/1996	53.05	0.00	3,591.96	
		5/31/1996	52.79	0.00	3,591.42	
		8/23/1996	53.03	0.00	3,591.08	
		12/2/1996	53.41	0.00	3,591.06	
		3/12/1997	54.21	0.00	3,590.26	
		6/12/1997	53.99	0.00	3,590.48	
		9/12/1997	53.94	0.00	3,590.53	
		12/10/1997	54.12	0.00	3,590.35	
		3/23/1998	54.51	0.00	3,589.96	
	1 1	6/23/1998	55.12	0.00	3,589.35	
		9/30/1998	55.61	0.00	3,588.86	
		12/9/1998	55.80	0.00	3,588.67	
		3/9/1999	56.09	0.00	3,588.38	
		6/10/1999	56.60	0.00	3,587.87	
		7/2/1999	56.64	0.00	3,587.83	
		9/14/1999	56.91	0.00	3,587.56	
		12/9/1999	57.37	0.00	3,587.10	
		3/10/2000	57.71	0.00	3,586.76	
		6/8/2000	58.08	0.00	3,586.39	
		9/13/2000	58.44	0.00	3,586.03	
		12/7/2000	58.89	0.00	3,585.58	
		3/9/2001	59.31	0.00	3,585.16	
		6/21/01	59.89	0.00	3,584.58	
		9/10/01	61.34	0.00	3,583.13	
		12/6/2001	60.65	0.00	3,583.82	
		3/11/2002	60.69	0.00	3,583.78	
		6/17/02	60.98	0.00	3,583.49	
		9/16/2002	61.00	0.00	3,583.47	
		1/9/2003	61.07	0.00	3,583.40	
		3/6/2003	61.19	0.00	3,583.28	
		6/19/2003	61.26	0.00	3,583.21	
		10/2/2003	61.38	0.00	3,583.09	
		12/17/2003	61.55	0.00	3,582.92	
		3/29/2004 3/8/2005	61.71 60.91	0.00	3,582.76 3,583.56	
	1	21971006	NU V I	0.00		

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Table 2 Cumulative Groundwater Elevation Data Hobbs, New Mexico Facility BJ Services Company, U.S.A.

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Monitor Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (MSL)	Comment
MW-11	3,643.78	8/18/1993	51.92	0.00	3,591.86	(1)
		1/26/1994	52.32	0.00	3,591.46	
		5/3/1995	53.38	0.00	3,590.40	
		7/31/1995	53.35	0.00	3,590.43	
		11/14/1995	52.96	0.00	3,590.82	
		2/23/1996	53.50	0.00	3,590.28	
		5/31/1996	53.25	0.00	3,590.53	
		8/23/1996	53.49	0.00	3,590.29	
		12/2/1996	53.79	0.00	3,589.99	
		3/12/1997	53.81	0.00	3,589.97	•
		6/12/1997 9/12/1997	53.96	0.00 0.00	3,589.82	
		12/10/1997	52.93	0.00	3,590.85	(5) (6)
MW-11A	3,644.24	3/23/1998	54.79	0.00	3,589.45	(5),(6) (7)
101 00 -1 175	5,044.24	6/23/1998	55.43	0.00	3,588.81	()
		9/30/1998	55.96	0.00	3,588.28	
		12/9/1998	56.13	0.00	3,588.11	
		3/10/1999	56.43	0.00	3,587.81	
		6/10/1999	56.94	0.00	3,587.30	
		7/2/1999	57.01	0.00	3,587.23	
		9/14/1999	57.36	0.00	3,586.88	
		12/9/1999	57.72	0.00	3,586.52	
		3/9/2000	58.01	0.00	3,586.23	
		6/8/2000	58.40	0.00	3,585.84	
		9/13/2000	58.84	0.00	3,585.40	
		12/7/2000	59.29	0.00	3,584.95	
		3/8/2001	59.72	0.00	3,584.52	
		6/21/01	60.28	0.00	3,583.96	
	ĺ	9/10/01	60.69	0.00	3,583.55	
		12/6/2001	60.88	0.00	3,583.36	
		3/11/2002	61.42	0.00	3,582.82	
	[[6/17/02 9/16/2002	61.55 61.59	0.00	3,582.69	
		1/9/2002	61.67	0.00	3,582.65 3,582.57	
	j l	3/6/2003	61.70	0.00	3,582.54	
	[6/19/2003	61.84	0.00	3,582.40	
		10/2/2003	61.88	0.00	3,582.36	
		12/17/2003	62.05	0.00	3,582.19	
		3/29/2004	62.25	0.00	3,581.99	
		3/8/2005	61.45	0.00	3,582.79	
MW-12	3,644.29	3/23/1998	54.72	0.00	3,589.57	(7)
		6/23/1998	55.48	0.00	3,588.81	
		9/30/1998	56.02	0.00	3,588.27	
		12/9/1998	56.17	0.00	3,588.12	
		3/10/1999	56.45	0.00	3,587.84	
		6/10/1999	56.97	0.00	3,587.32	
		7/2/1999	56.99	0.00	3,587.30	
		9/14/1999	57.41	0.00	3,586.88	
		12/9/1999 3/10/2000	57.76 58.08	0.00 0.00	3,586.53 3,586.21	
		6/8/2000	58.08	0.00	3,585.87	
		9/13/2000	58.85	0.00	3,585.44	
		12/7/2000	59.31	0.00	3,584.98	
		3/8/2001	59.76	0.00	3,584.53	
		6/21/01	60.29	0.00	3,584.00	
		9/10/01	60.79	0.00	3,583.50	
:		12/6/2001		I dry during this and subseque		
		3/8/2005	*		-	(11)
MW-12D	3,644.38	7/2/1999	57.13	0.00	3,587.25	(8)
I		9/14/1999	57.74	0.00	3,586.64	
		12/9/1999	57.86	0.00	3,586.52	
		3/9/2000	58.24	0.00	3,586.14	
		6/8/2000	58.56	0.00	3,585.82	
		09/00	-	-	· -	
		12/00	-	-	-	
		3/8/2001	-	-	-	
		6/21/01	-	-	-	
		9/10/01	-	-	-	
		12/6/2001	61.30	0.00	3,583.08	
		3/11/2002	61.61	0.00	3,582.77	

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Table 2 Cumulative Groundwater Elevation Data Hobbs, New Mexico Facility BJ Services Company, U.S.A.

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Monitor Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (MSL)	Comment
MW-12D	3,644.38	6/17/02	61.71	0.00	3,582.67	
cont.		9/16/2002	61.75	0.00	3,582.63	
		1/9/2003	61.86	0.00	3,582.52	
		3/6/2003	61.91	0.00	3,582.47	1
		6/19/2003	61.95	0.00	3,582.43	
		10/2/2003	62.05	0.00	3,582.33	
		12/17/2003	62.21	0.00	3,582.17	
		3/29/2004	62.38	0.00	3,582.00	
		3/8/2005	61.56	0.00	3,582.82	
MW-13	3,645.52	7/2/1999	56.60	0.00	3,588.92	(9)
		9/14/1999	56.92	0.00	3,588.60	
		12/9/1999	57.28	0.00	3,588.24	
		3/10/2000	57.68	0.00	3,587.84	
		6/8/2000	58.04	0.00	3,587.48	
		9/13/2000	58.29	0.00	3,587.23	
		12/7/2000	58.68	0.00	3,586.84	
		3/8/2001	59.19	0.00	3,586.33	
		6/21/01	59.80	0.00	3,585.72	
		9/10/01	60.03	0.00	3,585.49	· ·
		12/6/2001	60.59	0.00	3,584.93	
		3/11/2002	60.94	0.00	3,584.58	
		6/17/02	61.28	0.00	3,584.24	
		9/16/2002	61.23	0.00	3,584.29	
		1/9/2003	61.38	0.00	3,584.14	
		3/6/2003	61.45	0.00	3,584.07	
		6/19/2003	61.58	0.00	3,583.94	
		10/2/2003	61.70	0.00	3,583.82	
		12/17/2003	61.93	0.00	3,583.59	
		3/29/2004	62.04	0.00	3,583.48	
		3/8/2005	-	-		(11)
MW-14	3,642.45	3/8/2001	61.07	0.00	3,581.38	
		6/21/01	61.71	0.00	3,580.74	
		9/10/01	62.31	0.00	3,580.14	
		12/6/2001	62.80	0.00	3,579.65	
		3/11/2002	62.70	0.00	3,579.75	
		6/17/02	62.65	0.00	3,579.80 3,579.90	
		9/16/2002	62.55 62.59	0.00 0.00	3,579.86	
		1/9/2003			3,579.81	
		3/6/2003	62.64	0.00		
		6/19/2003	62.64	0.00	3,579.81 3,579.72	
		10/2/2003	62.73	0.00	3,579.52	
		12/17/2003	62.93	0.00		
		3/29/2004	63.04	0.00	3,579.41	
	2 (12 21	3/8/2005	62.18	0.00	3,580.27	
MW-15	3,643.24	3/8/2001	59.79	0.00	3,583.45	
		6/21/01	60.49 61.02	0.00	3,582.75	ł
		9/10/01 12/6/2001	61.02	0.00 0.00	3,582.22 3,581.77	
		3/11/2002	61.47 61.65	0.00	3,581.77	1
		6/17/02	61.68	0.00	3,581.59	
		9/16/2002	61.68	0.00	3,581.56	
		1/9/2002	61.59	0.00	3,581.65	1
		3/6/2003	61.63	0.00	3,581.61	
	1		61.62	0.00	3,581.62	
		6/19/2003	61.70		3,581.54	
		10/2/2003	61.83	0.00 0.00	3,581.41	}
		12/17/2003	62.01		3,581.23	1
		3/29/2004	61.13	0.00	3,582.11	
- XANZ 12	2 (42 22	3/8/2005		0.00	3,577.23	<u> </u>
MW-16	3,643.73	6/19/2003	66.50		3,577.12	
		10/2/2003	66.61 66.72	0.00	3,577.01	
	1	12/17/2003	66.72	0.00		
		3/29/2004	66.86	0.00	3,576.87	
1/11/ 17	3740.05	3/8/2005	65.64	0.00	3,578.09	
MW-17	3642.25	3/11/2005	61.71	0.00	3,582.02	(1)
MW-18	3641.50	3/11/2005	61.76	0.00	3,581.97	(1)
MW-19	3642.25	3/11/2005	69.01	0.00	3,574.72	(1)

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Table 2 Cumulative Groundwater Elevation Data Hobbs, New Mexico Facility BJ Services Company, U.S.A.

Monitor Well	Top-of-Casing Elevation (MSL)	Date Measured	Depth to Groundwater (feet)	Free Product Thickness (feet)	Groundwater Elevation (MSL)	Comments
OW-4	3,644.06	7/2/1999	58.18	0.00	3,585.88	(8)
		9/14/1999	58.63	0.00	3,585.43	
		12/9/1999	58.92	0.00	3,585.14	
	[3/9/2000	59.19	0.00	3,584.87	
		6/8/2000	59.56	0.00	3,584.50	
		9/13/2000	60.16	0.00	3,583.90	
		12/7/2000	61.15	0.00	3,582.91	
		3/8/2001	61.43	0.00	3,582.63	(10)
		6/21/01	61.48	0.00	3,582.58	
		9/10/01	61.53	0.00	3,582.53	÷
		12/6/2001	we	l dry during this and subseque	ent monitoring events	

⁽¹⁾- Top of casing elevations and groundwater elevations of all monitor wells were relative to an arbitrary datum of 100.00 feet prior to March 1997 and have been converted to Mean Sea Level (MSL).

(2) For wells having measurable thickness of free product, the groundwater elevation was calculated as follows: Groundwater Elevation = (TOC elevation)-(depth to groundwater)+[(free product thickness)x(SG of free product)] Note: The specific gravity (SG) of the free product is 0.82.

⁽³⁾ - Not measured.

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⁽⁴⁾ - Monitor well MW-2 could not be located after January 1994.

⁽⁵⁾ - Well plugged and abandoned July 2, 1999.

⁽⁶⁾ - Monitor well MW-11 could not be located after September 12, 1997.

⁽⁷⁾ - TOC elevations for MW-11A and MW-12 estimated relative to TOC elevation for MW-10.

⁽⁸⁾ - TOC elevations for MW-12D and OW-4 estimated relative to TOC elevation for MW-12.

⁽⁹⁾ - TOC elevation for MW-13 estimated relative to TOC elevation for MW-7.

⁽¹⁰⁾-Well dry (measured depth to water is below base of screen); true groundwater elevation is less than listed groundwater elevation.

Table 3March 2005 Field Screening Results for Groundwater SamplesHobbs, New Mexico FacilityBJ Services Company, U.S.A.

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	Cumulative					
Monitor Well	Liters	Ηd	Temperature (°C)	Conductivity (umhos/cm)	Redox (mV)	UISSOIVED UXYGEN (meter) (mg/L)
	Removed					
MW-5	4.5 ⁽¹⁾	7.03	16.33	978	149.0	6.72
01-WM	4.8 ⁽¹⁾	6.65	17.07	3,357	-55.8	3.11
MW-11A	6.4 ⁽¹⁾	6.30	20.44	8,471	-61.6	3.20
MW-12D	2.4	6.10	20.01	1,050	-64.4	0.52
MW-14	11.4 ⁽¹⁾	6.86	18.26	1,486	132.1	7.32
MW-15	10 ⁽¹⁾	6.70	18.20	1,473	162.3	5.80
MW-16	3.6	6.67	19.03	3,439	145.1	7.79
MW-17	4.8	7.35	16.60	1,111	103.4	8.54
MW-18	4.2	6.72	19.74	1,393	118.1	8.04
MW-19	4.2	6.60	19.87	1,604	110.5	7.50

Monitor wells MW-10, MW-11A, MW-14, and MW-15 were purged by removing 3 well volumes of groundwater from each well. (t) - Well was purged dry using bailing techniques.

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Table 4Chloride Analytical Results for Soil SamplesHobb, New Mexico FacilityBJ Services Company, U.S.A.

Date	Boring	Sample Depth Interval (ft.	Chloride, Total
		below grade)	(325.2) ¹
3/10/2005	MW-17	9-10'	27.3
3/10/2005	MW-17	19-20'	186
3/10/2005	MW-17	29-30'	80.5
3/10/2005	MW-17	39-40'	40.2
3/10/2005	MW-17	49-50'	39.1
3/10/2005	MW-17	59-60'	42.8
3/9/2005	MW-18	9-10'	464
3/9/2005	MW-18	19-20'	363
3/9/2005	MW-18	29-30'	60.1
3/9/2005	MW-18	39-40'	31.4
3/9/2005	MW-18	49-50'	27.1
3/9/2005	MW-18	59-60'	97.9
3/9/2005	MW-19	9-10'	102
3/9/2005	MW-19	19-20'	50.8
3/9/2005	MW-19	29-30'	11.1
3/9/2005	MW-19	39-40'	12.6
3/9/2005	MW-19	49-50'	11
3/9/2005	MW-19	59-60'	13.2
3/9/2005	SB-16	4-5'	31.8
3/9/2005	SB-16	9-10'	39.3
3/9/2005	SB-16	14-15'	105
3/9/2005	SB-16	19-20'	124
3/9/2005	SB-16	24-25'	141
3/9/2005	SB-16	29-30'	93.5
3/9/2005	SB-16	34-35'	45.3
3/9/2005	SB-16	39-40'	70.1
3/9/2005	SB-16	44-45'	31.1
3/9/2005	SB-16	49-50'	32.2
3/9/2005	SB-16	54-55'	29.6
3/9/2005	SB-16	59-60'	26.2

⁽¹⁾ - in mg/kg.

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Table 5 Cumulative Results(1) for Chloride(2) Analyses BJ Services Company, U.S.A. Hobbs, New Mexico Facility

MW-1 MW-3 M 160 150 140 150 140 150 140 150 140 150 140 150 150 155 155 155 155 155 155 155 15	MW-5	9-WM		F	ATA O TANA	101 101	F	VALUE 1 1 A					MW-15	MW-161	MW-17	MW-18	01 112	
160 150 130 140 212 206 213 156 NA NA NA NA NS NS NA 165 NA NA NA NA	130	-	MW-7	8-WW	_	NIW-101 MIM	-	NIW-11A	MW-12	MW-12D	MW-13	MW-14	1 CI - AA TAT	-			MW-19	0W-4
130 140 212 206 163 156 NA NA NA NA S8 196 NS NS NA 165 NA NA NA NA		380	310	350	110	2,200	3,400	đN	đz	ďN	đN	đŊ	đz	dN	ЧN	đN	NP	NS
212 206 163 156 NA NA 258 196 NS NS NA 165 NA 165 NA NA	66	210	250	360	140	2,000	2,900	dN	đz	NP	ЧŅ	đ	đ	đ	đN	đ	£	NS
163 156 NA NA NA NA 258 196 NS NS NA 165 NA 165 NA 165 NA 165 NA 165 NA 165 NA NA NA NA NA NA NA NA	151	183	223	364	164	2,390	NS	940	1,200	đN	đ	đž	đz	đ	dN	dΝ	ЧŅ	NS
NA NA 258 196 NS NS NA 165 NA NA NA NA	155	411	238	274	123	1,160	NS	834	314	ЧŅ	dN	£	đž	ЧN	đ	đ	đ	NS
258 196 NS NS NA 165 NA NA NA NA	ΝA	dN	ΑN	AN	NA	NA	dN	AN	NA	195	496	đz	ďN	ď	đN	đ	ďX	266
NS NS NS NS NS NA 165 NA 165 NA NA 165 NA NA NA	196	đN	224	241	131	474	đN	1,290	327	117	276	đ	đX	ďN	đN	dN	ďZ	258
NA 165 NA NA NA NA	NS	ďN	NS	NS	NS	NS	dN	ŃS	NS .	NS	NS	368	219	đ	ЧŅ	ďN	ď	NS
NA NA NA	152	đ	224	250	127	879	dN	1,720	586	NS	276	327	NA	đN	đN	đ	đN	D-SN
NA NA	ΝA	đN	NA	ΝA	NA	NA	ΝP	NA	AN	NS	NA	222	222	đŊ	dΝ	đ	ЧN	NS-D
	NA	ďN	NA	NA	NA	NA	NP	NA	NS-D	NA	NA	245	228	ЧŅ	dN	ЧN	đ	D-SN
9/18/2001 NA NA NA	NA	ďN	NA	AN	NA	NA	ЧŊ	NA	NS-D	79	NA	NA	NA	ЧŅ	đž	ЧŅ	ďN	NS-D
12/6/2001 NA NA NA	NA	NP	NA	NA	NA	NA	đz	NA	NS-D	NA	NA	276	215	đ	đŊ	đN	đN	D-SN
3/11-12/2002 177 172 183	127	đN	188	241	110	861	ΝP	1,230	NS-D	76	207	284	224	đN	đ	ЧР	đN	NS-D
6/18/2002 NS NA NA	NA	đN	NA	NS	NS	NA	Ê	NA	NS-D	NA	145	258	233	đN	đ	ЧN	đ	NS-D
9/16/2002 NS NS NS	121	ЧN	NS	NS	NS	1,030	đ	1,550	D-SN	86	NS	293	246	đN	ЧN	đN	đ	NS-D
1/9/2003 NS NS NS	123	ЧŅ	NS	NS	NS	525	ЧN	3,150	NS-D	95	NS	179	228	đ	ďN	ďN	ďN	NS-D
3/6/2003 NS NS NS	116	٩N	NS	NS	NS	363	đN	2,900	NS-D	102	NS	163	272	đ	ЧŅ	ďN	đ	NS-D
6/20/2003 NS NS NS	NS	ЧN	NS	NS	NS	NS	đ	NS	US-D	89.3	NS	NS	NS	983	ЧN	đ	đŊ	NS-D
8/22/2003 NS NS NS	NS	dΝ	NS	NS	NS	NS	NP	NS	NS-D	NS	NS	182	280	841	đ	đ	đ	NS-D
10/2/2003 NS NS NS	194	ďN	NS	NS	NS	420	ďN	3,240	D-SN	99. 8	NS	175	298	963	đN	ЧŊ	đN	NS-D
12/18/2003 NS NS NS	NA	đz	NS	NS	NS	NA	ЧŅ	NA	NS-D	NA	NS	123	263	823	NP	đ	đ	NS-D
3/30/2004 NS NS NS	70	Ê	NS	NS	NS	928	dN	2,980	NS-D	116	NS	119	245	753	đ	đ	đŊ	NS-D
3/24/2005 NP NP NP	140	đz	đ	dN	đz	798	đž	2,740	đ	161	đž	303	321	1,140	167	661	330	ЧŊ

(3) - MW-2 not operative after May 3, 1995; P&A'd 7/1/99.

NS = not sampled during applicable sampling event. NA = not analyzed for chloride during applicable sampling event. NS-D = not sampled because well was dry during applicable sampling event.

NP = not present at time of sampling event.

MW-6 P&A'd 7/1/99.

MW-11 P&A'd 7/1/99.

MW-11A installed February 1998.

MW-12 installed February 1998 (screened at the top of the saturated zone).

MW-12D installed June 1999, adjacent to MW-12 (screened in a lower portion of the uppermost saturated zone).

MW-13 installed June 1999.

MW-14 and MW-15 installed January 2001.

MW-16 installed May 2003. MW-17, MW-18, and MW-19 installed March 2005.

MW-1, MW-3, MW-4, MW-7, MW-8, MW-9, MW-12, MW-13, and OW-4 P&A'd March 2005.

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Table 6 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs Hobbs, New Mexico Facility BJ Services Company, U.S.A.

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Table 6 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs Hobbs, New Mexico Facility BJ Services Company, U.S.A.

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Table 6 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs Hobbs, New Mexico Facility

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Table 6 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs Hobbs, New Maxio Facility BJ Services Company, U.S.A.

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 Table 6

 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs

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NS-D NS-D NS-D NS-D NS-D NS-D NS-D NS NS NS NS NS NS-D US-D NS-D NS-D 0W-4 0.105 NS NS-D NS-D NS-D O-SN < 0.01 NS-D SN 91-WM ₽ MW-18 MW-14 | MW-15 | MW-16 | MW-17 *** NS 0.0002 NP NP NP NP NP NS NS NS NS NS NS NS NS < 0.005 NP NP NP NP NP NP NP NA NS NA NS NS 0.0002 NA NS NA NS NS 0.005 < 0.01 < 0.01 < 0.01 NA NS NA NS ar ar MW-13 <0.0002 NS <0.0002 <0.0002 0.02 < 0.01 NS 0.0104 <0.005 0114 MW-11A MW-12 MW-12D NP NP NP NP NP NP NS NS <0.0002 <0.0002 NP NP NP NP 0.005 NS NS <0.005 <0.005 NA NA NA NA NA <0.0002 NP NP NP NP NP NS NS NS <0.005 NA NA 0.005 0.02 < 0.01 NS NS NS < 0.01 0.01 0.01 NA NA NS-D NS-D NS-D NS-D NS-D NP NP NP 0.00627 <0.0002 <0.0002 <0.0002 < 0.005 NS-D < 0.005 <0.005 NS-D NS-D NS-D NS-D NS-D <0.005 <0.005 <0.005 <0.005 NS 0.0124 0,0469 NS-D NS-D NS-D NS-D NS-D NS SN NS SN dz dz SZ **US-D** NS-D NS-D US-D U-SN dy dy NS Monitor Wells⁽¹⁾ NP NP < 0.0002 NS <0.0002 NS <0.0002 <0.0002 <0.0002 <0.0002 NS NA <0.0002 NS 0.00595 NS 0.0342 NS 0.0392 0.023 0.0168 NS NA NA NP NP NP NS 0.0119 <0.005 <0.005 NS NA NA <0.005 <0.005 <0.005 <0.005 <0.005 NS NS 20.005 < 0,005 <0.005 0.009 ų ų SS MW-11 < 0.0002 < 0.0002 0.0025 < 0.002 NS NS NS ď ЧŅ MW-10 < 0.0002 NS <0.0002 <0.0002 NA NS <0.0002 NS 0.00661 NS 0.0234 0.0234 NA NS <0.0002 <0.0002 < 0.002 < 0.0002 < 0.0002 0.0246 NA NS < 0.01 < 0.002 < 0.005 < 0.005 < 0.005 <0.0003 <0.005 <0,005 <0.005 <0.005 NA NS c 0.005 NS 0.031 NS 0.0109 <0.005 < 0.01 SN NS NS SX 6-WW < 0.0002 NS <0.0002 NS <50.01 NS ND ND ND NS NS NS NS NS NS NS NS <50.002 NS < 0.005 NS⁻ 0.00597 < 0.0002 < 0.0002 <0.0002 <0.0002 < 0.002 < 0.005 < 0.005 <0.005 <0.005 <0.005 0.0054 NS. ND NS NS NS NS NS NS ß Q 8-WM < 0.0002 NS <0.0002 < 0.0002 <0.0002 NS <0.0002 < 0.002 < 0.002 < 0.005 < 0.005 NS < 0.005 0.0003 NS <0.005 ND NS NS NS NS NS NS NS NS NS <0.005 <0.005 NS <0.005 NS NS NS ND NS NS NS NS NS ND SN SN SN SN SN SN SN MW-7 < 0.0002 < 0.0002 <0.0002 NS <0.0002 0.00926 < 0.002 < 0.002 < 0.005 < 0.005 NS < 0.005 NS <0.005 0.0005 <0.0002 ND NS NS NS NS NS NS NS NS 00617 0.005 NS NS ND ND NS NS NS NS NS NS 9-WM < 0.0002 < 0.0002 <0.0002 < 0.0002 < 0.002 < 0,002 < 0.005 <0.004 <0.005 <0.005 0.013 x x x x x x x x x * * * * * * * * * * đ đ đ đ NS NS NS <0.0002 0.000243 < 0.0002 < 0.0002 < 0.0002 MW-4 | MW-5 < 0.005 0.00565 <0.0002 <0.0002 NS <0.005 NS NA €0.005 0.00587 00558 NS 0.0248 NS 0.0101 < 0.0174 NS NS < 0.002 < 0.002 < 0.005 <0,005 <0.005 0000 <0.004 <0.004 <0.005 <0.005 <0.005 0.006 NS NS NS SZ SN Ν SN NS 0.00602 < 0.0002 < 0.0002 < 0.0002 NS NS NS <0.0002 <0.0002 <0.0002 0.00508 NS N0104 NS NS NS NS NS NS NS < 0.002 < 0.005 <0.005 NS <0.005 <0.005 NS NS NS NS NS <0.04 <0.005 <0.005 <0.005 <0.005 NS 10.01 NS NS NS NS SS NS NS NS NS < 0.0002 NS NS NS <0.0002 MW-3 < 0.0002 < 0.0002 <0.0002 <0.0002 0.00702 < 0.005 0.00625 <0.005 <0.005 <0.005 <0.005 <0.04 <0.004 <0.005 <0.005 0.006 SN S NS NS NS NS NS NS NS SS MW-I : 0.0002 < 0.0002 < 0.0002 NS NS NS <0.0002 <0.0002 <0.0002 < 0.002 0.00549 < 0.005 < 0.002 <0.005 <0.005 <0.005 <0.005 <0.004 <0.004 <0.005 <0.005 <0.005 NS NS NS NS NS NS NS NS 0.005 SS SS NS NS NS NS SN 9/11-12/2002 6/20/2003 8/21-22/2003 Sample Date 6/10-7/2/1999 3/9-10/2000 6/10-7/2/1999 3/11-12/2002 3/21-22/2003 6661/2/2-01/5 3/11-12/2002 3/21-22/2003 111-12/2002 3/23-24/1998 3/23-24/1998 /23-24/1998 1/14/2001 3/8-9/2001 3/9-10/2000 6661/01-6/8 3/9-10/2000 6661/01-6/8 3/9-10/2000 /21-22/2003 9661/01-6/8 3/6/2003 1/14/2001 /30/2004 8/1/1995 8/23/1996 1/14/2001 3/8-9/2001 6/20/2003 3/30/2004 8/23/1996 1/14/2001 3/8-9/2001 3/6/2003 6/20/2003 3/30/2004 8/1/1995 8/23/1996 3/8-9/2001 3/6/2003 6/20/2003 3/30/2004 3/6/2003 8/1/1995 Analyte (units) rominm lenium cont.) rcurv cad

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 Table 6

 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs

 Hobbs, New Mexico Facility

 BJ Services Company, U.S.A.

Analyte (units)	Sample Date		0.110				1	ŀ	ł		IIDIA			- L	ŀ	ŀ	ŀ	ŀ	ŀ			T
		I-MW	MW-I MW-3	MW-4	c-MM	9-MW	L-WW	MW-8	M - 6-WW	4 01-Wh	M 11-Wh	MW-10 MW-11 MW-11A MW-12		MW-12D M	MW-13 M	MW-14 M	MW-I5 M	MW-16 M	MW-17 M	MW-18 MV	0 61-/	0W4
										PAHs (µg/L)												
Accnaphthene	8/1/1995	< 50	< 10	< 500	< 5	< 30	< 5	< 5	< 5	< 5	< 5	đX				ΝΡ	٩Ŋ	чъ	чn			NS
	8/23/1996	9 ~		< 30	\$	< 30	د ۲	< 5	\$` \$	\$°	<5	NP				NP	đN	NP	NP			NS
	3/23-24/1998	2	<03 203	<03	£()>	<0.3	<0.3	<03 C 05	<0.3	6.0>	NS	£.0>				ЧN	dN	NP	чр			NS
	3/9-10/1999	< 0.1	< 0.1	<2.0	< 0.1	<2.0	()	<0.1	< 0.1	< 0.1	ЧN	< 0.1				٩N	ď	NP	NP			NS
	6/10-7/2/1999	SN	NS	SN	SN	dz	SN	NS	SN	SN.	ЧN	NS				NP	dN	NP	NP			<0.1
	3/9-10/2000	0.28	1.0 >	< 0.1	€.0	dN	<0°]	<0.1	<0.1	< 0.1	ЧN	-0×				NP	ЧŅ	NP	NP			<0.1
	1/14/2001	SN	SN	NS	NS	dN	NS	NS	NS	NS	ЧN	SN			-	<0.1	<0.1	NP	NP			NS
	3/8-9/2001	<0.12	\$0.13	<0.12	€0.	ЧN	<0.13	<0.12	<0.12	<0.15	NP	<0.13				NA	NS	чр	ďX			4S-D
	3/11-12/2002	< 0.1	<0,11	< 0.1	< 0.1	ďN	QN	QN	QN	QN	NP	<0.1				NS	NS	NP	dN			4S-D
	3/6/2003	SN	SN	NS	NA	dN	NS	NS	NS	NA	NP	<0.1				NA	NA	dN	đ			4S-D
	6/20/2003	NS	SN	NS	NS	å	NS	NS	NS	SN	NP	NS				NS	NS	< 5	ďX			d-S-D
	8/21-22/2003	SN	SN	SN	<0.1	đz	SN	SN	NS	< 0.1	đN	NA	NS-D	NA	SN	< 0.1	< 0.1	NS	ΝΡ	NP	NP NP	NS-D
	3/30/2004	NS	NS	NS	< 0.1	NP	NS	NS	NS	< 0.1	dN	1.0>	_	_	_	<0,1	1.0>	<0.1	NP	-	-	4S-D
Acenaphthylene	\$661/1/8	< 50	< 10	< 500	<\$ S	< 30	<\$	< 5	< 5	< <u></u>	ŝ	NP				ďX	ΝÞ	NP	ЧŅ			NS
	8/23/1996	0 ~	< 10	< 30	<\$	< 30	<3	< 5	ŝ	\$ S	\$ \$	NP				dN	ЧŅ	NP	٩N			NS
	3/23-24/1998	0 V	<0.1	<0.1	1.0≻	<0.1	1.0≥	<0,1	≤0.1	<0.1	NS	<0.1				NP	dN	NP	ЧŅ			NS
	3/9-10/1999	< 0.1	1'0 ×	< 0.1	< 0.1	<2.0	1.0>	<0.1	< 0.1	< 0.1	ďN	< 0.1	_			dN	dN	٩N	NP			NS
	6/10-7/2/1999	NS	NS	NS	NS	dN	NS	NS	NS	NS	МŊ	NS				NP	NP	NP	NP			<0.1
	3/9-10/2000	0.91	< 0.1	< 0.1	1.0>	ЧN	1.0>	I.0≻	<0.1	0.4	ďŻ	<0.1 <				ЧP	NP	NP	NP			<0.1
	1/14/2001	NS	NS	NS	NS	dN	NS	NS	NS	NS	ч'n	NS		-		<0.1	<0.1	NP	٩N			NS
	3/8-9/2001	<0.12	<0,13	<0.12	€0.1	đX	<0.13	<0.12	<0.12	0.71	dN	0.35				NA	NS	NP	NP			4S-D
	3/11-12/2002	1.0 >	<0.11	< 0.1	< 0.1	dN	ND	DN	QN	â	NP	1.1				NS	NS	ЧР	NP			d-Sh
	3/6/2003	NS	NS	NS	NA	đN	NS	NS	NS	NA	ЧN	€. <u>1</u>				NA	NA	NP	dN			4S-D
	6/20/2003	NS	SN	NS	NS	ΝP	NS	NS	NS	SN	ЧŅ	NS				NS	NS	< 5	ЧN			4S-D
	8/21-22/2003	NS	SN	NS	< 0.1	ΔN	NS	NS	NS	< 0.1	NP	NA				< 0.1	< 0.1	NS	ЧN			4S-D
	3/30/2004	NS	NS	NS	< 0,1	٩N	NS	NS	NS	< 0.1	ЧN	<0.1			_	1.0>	<0.1	<0.1	dN		-	4S-D
Anthracene	\$661/1/8	< 50	01 >	< 500	°,	< 30	<5	<5	<5 <	ŝ	< <u>5</u>	NP				AN	ЧN	ЧР	đ			NS
	8/23/1996	0 v	01 ×	< 30	< 5	< 30	<\$	د ۲	< <u>`</u>	ŝ	< <u>\$</u>	dN				ЧŅ	dN	dN	dN			SN
	3/23-24/1998	0[v	1.0>	€	♥	.0≻	₹	₽	9	,	SN	₹				dz !	du i	z ;	ż :			ę :
····	3/9-10/1999	-0 - 	0 ~	-0°	0.11.02.03.04.04.05.04.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.05.0<l< td=""><td>2°0</td><td>1.0</td><td>-0-</td><td>1.0 ></td><td>1.0 ~</td><td>dz 1</td><td><0.1 ~ 0.1</td><td></td><td></td><td></td><td>d a</td><td>ż ż</td><td></td><td></td><td></td><td></td><td>2</td></l<>	2°0	1.0	-0-	1.0 >	1.0 ~	dz 1	<0.1 ~ 0.1				d a	ż ż					2
	6661/7/1-01/0	CN CL C								8	div.						a a		đ			
	1/14/2001	SN SN	SN	SN	NS	dz	NSN	SN	NS	SN	ž	NS				<0.1	<0.1 1.0>	ЧN	ďz			NS
	3/8-9/2001	<0.12	<0.13	<0.12	<0.1	NP	<0.13	<0.12	<0.12	<0.15	ЧŅ	<0.13				NA	NS	NP	NP			VS-D
	3/11-12/2002	< 0.1	<0.11	< 0.1	< 0.1	NP	QN	QN	QN	Q	NP	<0.1				NS	NS	NP	ďN			d-S-D
	3/6/2003	NS	NS	NS	٨٨	dN	NS	NS	NS	NA	NP	<0.1				NA	NA	NP	ďN			d-SP
	6/20/2003	NS	NS	NS	NS	NP	NS	NS	NS	SN	NP	NS				NS	NS	<\$	NP			VS-D
	8/21-22/2003	NS	NS	NS	< 0.1	чр	NS	NS	NS	< 0.1	dN	NA				< 0.1	<0.1	NS	NP			d-SP
	3/30/2004	NS	NS	NS	< 0.1	dN	NS	NS	NS	< 0.1	ЧN	<0.1				<0.1	<0.1	<0.1	dИ	-	╉	₹S-D
Benzo(a)-	\$661/1/8	< 50	< 10	< 500	< 5	< 30	< 5 <	<5	< 5 <	ŝ	<5	ďN			-	AP	NP	NP	dN		•	SN
inthracene	8/23/1996	10	e 10	< 30	< 5	< 30	< 5	ŝ	< 5	\$	ŝ	ďX				ЧŅ	dN	dN	dN			SN
	3/23-24/1998	0[v	1.0>	<0.	<0.1	10	1.0>	<0.1	€). 1	. 9	NS	<0.1				đ	ΔŊ	dN	٩X			SN SN
	2 /0-1//1000	102	102	0.7	< 0.1	<2.0	9	0	< 0.1	101	ATD.					GN	dN	22	2			SS

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 Table 6

 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs

 Hobbs, New Mexico Facility

 BJ Services Company, U.S.A.

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Analyte (unite)	Comula Data										Mon	itor Wells'	~									
		MW-1	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	6-WM	MW-10	MW-11 N	MW-11A	MW-12 M	MW-12D) N	MW-13 N	MW-14 N	MW-15 1	MW-16	MW-17	MW-18	MW-19	0W-4
Benzo(a)-	6/10-7/2/1999	NS	NS	NS	NS	dN	NS	SN	NS	NS	NP	NS	NS	<0.1	< 1.0	ЧŅ	NP	NP	đN	NP	ЧN	<0.1
anthracene	379-10/2000	0.18	< 0.1	< 0.1	-05 -	dN	<0.	<0.1	<0.1	< 0.1	ЧN	<0.1	<0,ł	<0.1	<0.1	ЧN	NP	NP	NP	dN	NP	1.0⊳
(cont.)	1/14/2001	SN	SN	SN	SN	đ	SN	SN	SN	NS	ΝP	NS	SN	SN	NS	<0.1	<0.1	NP	ďN	dN	dN	SN
	3/8-9/2001	<0.12	<0.13	<0.12	<u>6.1</u>	dN	<0.13	<0.12	<0.12	<0.15	NP	<0.13	<0.13	NS	<0.12	AN	NS	ЧN	dN	ďX	đŅ	NS-D
	3/11-12/2002	<0.1	<0.II .0>	< 0.1	< 0.1	đz	Ð	Q	g	QN	dN	€	D-SN	1 .0>	<0.1	SN	NS	ЧР	dN	đ	ďN	D-SN
	3/6/2003	SN	SN	S	A N	dz.	SN	Sz	Sz	AN	ďz	Ū.0≻	D-SN	€	SN	٩N	AN	dz	dN	đ	dN	D-SN
	6/20/2003	NS	SN	SN	NS	đ	SN	SN	SN	SN	dN	NS	D-SN	AN	SN	NS	SN	~ S	чP	dN	dz	NS-D
	8/21-22/2003 2/20/2004	NSN	SN NS	SN SN	1.0 ×	dz 9	NS	SN NS	NS NS	1.0 ×	dz S	NA VA	D-SN	NA	NS	< 0.1	1.0 >	SN	dN MN	dN N	d X	US-D
Bourse(t-)	200101110	5		003	1.1	100.7	5	2	2		J.	1.11	1-62		S :	1.17	-112	-112			ž	U-SN
Denzo(k)-	2001/1/8				0 1	2	ç ,	ç ,	ç 1	ç ;	ç ,		ż	dz 4	dv .	d y	da da	dz 4	a a	dx 3	dv d	S S
	0661/67/9	2 2			7			5	Ç Ę	Ç Ę	0		ž	ž	ż ż	ż	ž	ž	ž	ż	ż	2 5
	8/2/1/147-57/5	2				VI.1	1.02	1.05	÷		ź	₽		ž	ЧN	4N	4N A	Å.	ż	d z	d N	ŝ
	3/9-10/1999	<0.1	< 0.1	0.2	< 0.1	<2.0	-1°0>	-0°	< 0.1	<0.1 <	dN	< 0.1	< 0.1	dN	NP	dN	dN	dz	dN	NP	dN	NS
	6/10-7/2/1999	NS .	NS	SN	NS	dN	SN	SN	SN	SN	NP	NS	SN	-0°I	< 1.0	ЧŅ	dN	đ	ЧN	dN	dN	I,0≿
	3/9-10/2000	< 0.1	< 0.1	< 0.1	< 0.1	ďX	< 0.1	< 0,1	< 0,1	< 0.1	NP	< 0.1	< 0.1	< 0.1	< 0.1	ΝP	NP	ď	dN.	ЧN	dN	< 0.1
	1/14/2001	NS	NS	SN	NS	ďX	NS	NS	NS	SN	NP	NS	NS	NS	NS	<0.1	40.1	ЧN	ЧN	ΝP	ЧN	NS
	3/8-9/2001	<0.12	<0.13	<0.12	<0.1	ďN	<0.13	<0.12	<0.12	<0.15	ЧN	<0.13	<0.13	NS	<0.12	NA	NS	NP	ďN	NP	NP	NS-D
	3/11-12/2002	< 0.1	<0.11	< 0,1	< 0.1	ЧN	QN	QN	ΩŇ	QN	NP	<0.1	NS-D	<0.1	<0.1	NS	NS	ЧŅ	ЧŅ	NP	ч'n	D-SN
	3/6/2003	NS	NS	SN	NA	dN	NS	NS	NS	NA	đz	<0.1 1.0>	D-SN	<0.1	NS	NA	NA	ЧN	dN	ЧN	ЧN	NS-D
	6/20/2003	NS	NS	SN	SN	dN	NS	NS	NS	SN	dz	NS	D-SN	NA	NS	NS	NS	< 5	NP	ΝP	ЧN	NS-D
	8/21-22/2003	NS	NS	SN	< 0.1	٩N	NS	NS	SN	< 0.1	ďN	NA	NS-D	NA	NS	1.0 >	< 0.1	NS	ЧN	NP	dN	NS-D
	3/30/2004	NS	NS	NS	< 0.1	NP	NS	NS	NS	< 0.1	NP	<0.1	NS-D	<0.1	NS	<0.1	<0.1	1.0>	dN	NP	NP	NS-D
Benzo(a)pyrene	8/1/1995	< 50	01 ×	< 500	< 5	< 30	< 5	\$?	< 5	<5	< 5	đ	NP	dz	NP	ΔN	ЧN	dN	ЧN	NP	ď	NS
	8/23/1996	< 10	< 10	< 30	< 5	< 30	< 5	< <u>5</u>	< 5	ŝ	< 5	ЧŅ	NP	ЧN	dN	ΝP	NP	NP	NP	NP	٩X	NS
	3/23-24/1998	< 10	<0.1	<0.1	1.0>	<0.1	<0,1	l.0≻	<0.1	<0.1	NS	<0.1	<0.1	dN	NP	NP	NP	NP	ЧN	ЧN	ЧN	NS
	3/9-10/1999	< 0.1	< 0.1	0.2	< 0.1	2.0	10>	1.0≻	< 0.1	< 0.1	dN	< 0.1	< 0.1	dN	NP	NP	dN	dN	dN	AN	dN	NS
	6/10-7/2/1999	NS	SN	NS	NS	dN	NS	SN	NS	SN	NP	SN	NS	1.0>	<1.0	dN	ЧN	đz	dN	dN	dN	1.0⊳
	3/9-10/2000	< 0.1	< 0.1	< 0.1	< 0.1	ďN	< 0.1	< 0.1	< 0.1	< 1.0 >	ЧN	< 0.1	< 0.1	< 0.1	< 0.1	dN	NP	ЧN	dN	ЧN	ď	< 0.1
	1/14/2001	NS	NS	NS	NS	ЧN	NS	NS	NS	SN	ЧN	NS	SN	NS	NS	≤0.1	Ū.	ЧN	đX	ЧN	đ	SN
	3/8-9/2001	<0.12	<0.13	<0.12	<0.1	ЧN	<0.13	<0.12	<0.12	<0.15	ЧN	<0.13	<0.13	NS	<0.12	NA	SN	ЧN	dN	NP	dN	NS-D
	3/11-12/2002	< 0.1	<0.11	< 0.1	< 0.1	٩N	QN	QN	â	Q	NP	<0.1	D-SN	<0.1 20.1	<0.1	NS	NS	ďN	ЧN	ď	dN	D-SN
	3/6/2003	NS	NS	NS	AN	ЧN	NS	SN	NS	NA	NP	<0.1	NS-D	≤0.1	NS	AN	NA	ЧN	ЧN	dN	dN	D-SN
_	6/20/2003	SN	NS	SN	SN	đz	SN	NS	NS	SN	dN	SN	NS-D	NA	NS	NS	SN	ŝ	ď	dN	dN	NS-D
	8/21-22/2003	NS	NS	NS	< 0.1	ЧN	NS	NS	SN	< 0.1	NP	NA	NS-D	NA	SN	< 0.1	< 0.1	SN	AN	NP	dN	D-SN
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	3/9-10/1999	< 0.1	< 0.1	42.0	<0`I	<2.0	10⊳	<0.1	< 0.1	< 0.1	ЧN	< 0.1	< 0.1	ЧN	ч'n	٩N	dN	đN	ЧN	٩N	ď	SN
	6/10-7/2/1999	NS	NS	NS	SN	NP	NS	SN	NS	SN	ЧN	NS	NS	40.1	< 1.0	ďN	dN	dN	ЧN	ЧN	ď	0>
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 Table 6

 Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs

 Hobbs, New Mexico Facility

 BJ Services Company, U.S.A.

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Summary of Groundwater Quality Parameters and Detected PAHs, Metals, VOCs and SVOCs Hobbs, New Mexico Facility BJ Services Company, U.S.A. Table 6

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	MW-5	NA	AN	NS	NA	AN	SN	NS	ΝA	NA	NS	NA	NS	NA	NS	AN	٩N		< 5 < 5	NS	NA	< 5	SN	NA	\$`	SZ	NA	8~	NS	NA	40	SN	NA	<\$>	NA N
	MW-4	NA	SN	SN	NA	NS	NS	SN	NA	NS	NS	NA	NS	AN	NS	NA	SN		< 500	NS	NS	1500	NS	NS	< 500	NS	NS	< 800	NS	NS	10000	SN	NS	< 500	SN SN
	MW-3	٩N	NS	NS	NA	NS	NS	NS	NA	NS	NS	NA	NS	٩N	NS	NA	NS		26	NS	NS	62	NS	NS	56	SN	NS	< 20	NS	NS	< 20	NS	NS	01 ×	SN SN
	MW-1	AN	NS	NS	AN	NS	NS	NS	NA	NS	SN	NA	NS	NA	NS	NA	NS		< 5()	SN	NS	280	NS	NS	< 50	NS	NS	< 80	NS	NS	750	NS	NS	< 50	SN SN
Samule Date		3/9-10/2000	6/20/2003	6661/2/2-01/9	3/9-10/2000	6/20/2003	3/23-24/1998	6/10-7/2/1999	3/9-10/2000	6/20/2003	6/10-7/2/1999	3/9-10/2000	6/10-7/2/1999	3/9-10/2000	6/10-7/2/1999	3/9-10/2000	6/20/2003		8/1/1995	661/2/1-01/9	6/20/2003	8/1/1995	6661/2/2-01/9	6/20/2003	8/1/1995	6661/2/2-01/9	6/20/2003	8/1/1995	6/10-7/2/1999	6/20/2003	\$661/1/8	6/10-7/2/1999	6/20/2003	\$661/1/8	6/10-7/2/1999 6/20/2003
Analvte (units)		Isopropylbenzene	(cont.)	Naphthalene			n-Propytbenzene				1.2,4-Trimethyl-	benzene	1.3.5-Trimethyl-	benzene	MTBE				2.4-Dimethyl-	phenal		2-Methy-1-	naphthalene		2-Methytphenol			4-Methylphenol			Bis(2-cthylhexyl)-	phthalatc		Phenol	

(1) - NW-2 not operative after May 3, 1995; NW-11 not operative after September 1997; MW-2, MW-6, and MW-11 P&A'd 7/1/99.
(2) - NP = Well not present at time of sampling event.

(3) - NS = Well not sampled.

(4) - NA = Not Analyzed.
 (5) - NS-D = Well not sampled (dry well).
 (6) - ND = No data - sample aliquot not collected due to insufficient well yield.

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APPENDICES

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APPENDIX A

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Section 20

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Boring Logs and Monitor Well Construction Diagrams: Monitor Wells MW-17, MW-18, MW-19 and Soil Boring SB-16

43					Ма	onitoring Well:				MW-	17		
100 Mar 100	Projec	ct Na	ame:	B	J Services Company, USA				Pr	oject Nur	nber: <u>1</u> 2	26238.0	20 Sheet <u>1</u> of <u>3</u>
পি ম সং	Projec	ct Lo	ocatio	on: 1	Hobbs, New Mexico					Logged E	by: B. Can	nacho	Approved: R. Rexroad
単ない					Harrison and Cooper				- ·	Date Star Fotal Bor	ing		Date Finished: 3/10/05 Depth to Static
and the second					Ingersol-Rand TH-60	Driller: Leonard				Depth: (f		<u> </u>	Water: (feet)
_	Drillin				Air Rotary	Borehole Diameter:	51/	8	+	TOC Ele Diameter of Well C	and Type	2" Scl	Ground Elevation: nedule 40 PVC
and the second second	Comr				ged by cuttings					Slot Size	0.01" nent Method	Filter N	Material: 20/40 Silica Sand VC Bailer
	Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description		PID Readings	Sampled Interval	Recovery (feet)	Sample ID			Monitoring Well Remarks
	$\begin{array}{c} - \\ - \\ 2 \\ - \\ - \\ 4 \\ - \\ - \\ - \\ - \\ - \\ - \\ -$		CL SP		Concrete Pad Fill, Sand with gravel SANDY CLAY (CL), Dark brown moist. SILTSTONE, Light brown siltstor grained, moderatley moist. SAND (SP), Whitish, fine grained rounded siltstone gravel, low mo	e with caliche, fine , contains 1/2 inch isture content.				9-10'	2.0		Locking Well Cap (Below Grade Completion)
	26 28 30 32				SAA, light brown, low moisture co SAA, light pinkish brown, slightly					29-30'			

Monitoring Well:

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Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Monitoring Well Remarks	
									Hydrated Bentonite Seal	
36		SP		SAND (SP), light brown sand, medium grained, contains 0.5 to 1.0 inch diameter sandstone nodules, slightly moist.						
40-								39-40'		
42-				SANDSTONE, Medium brown sandstone, >1" diameter nodules of very fine lithified sandstone, slightly moist.						
44 - -										
46										
48			 					49-50'		
50				SAA, .5" to 1" nodules of rounded sandstone.						
52 54										
56	-	ŚŴ		SAND (SW), brown sand, Fine to very fine grained, moist.						
 58		E							58.0	
								59-60'	20/40 Silica Sand Filter H	Pack
62	Ţ			SAA, wet						
64 — 		•							0.01-inch slotted well scr	een
66 — - - -				SAA, medium to fine grained.						
68 70										
70 				Light pinkish brown fine grained lithified sandstone, dry. (Aquitard)						
4										

Monitoring	Well:
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MW-17

roject	t Na	ime:	_ <u>B</u>	J Services Company, USA			Pro	ject Nun	nber: 126238.020	Sheet <u>3</u> of _
Deptn (rect)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Monitoring Remark	Well s
5 - - 3 -				Total Depth = 78 feet					75.3 Bottom cap 78.0	· · · ·
-										
				•						

				Мс	onitoring \	Nell:				MW-	18		
Proje	ct Na	ame:	B	J Services Company, USA					Pr	oject Nu	mber:12	<u>6238.0</u>	20 Sheet of
Proje	ct Lo	catio	n: I	Hobbs, New Mexico					·	Logged I	By: B. Cam	acho	Approved: R. Rexroad
			• • •	Harrison and Cooper					+ •	Date Star Total Bor	ring	5	Date Finished: 3/9/05 Depth to Static
		-1		Ingersol-Rand TH-60	Driller:	Leonard				Depth: (f		<u> </u>	Water: (feet)
		letho Meth		Air Rotary cuttings	Borehole	Diameter:	51/	8.	- 1	TOC Ele Diameter of Well (and Type	2" Sch	Ground Elevation:
Comr				ged by cuttings						Slot Size	: 0.01'' nent Method:	Filter N	Material: 20/40 Silica Sand VC Bailer
Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description			PID Readings	Sampled Interval	Recovery (feet)	Sample ID			Monitoring Well Remarks
				FILL, Sand with Gravel.					-		2.0_		Locking Well Cap (Below Grade Completion)
2		CL		SANDY CLAY (CL), Grayish to caliche, slightly moist.	white sand	ly clay with					2.0		
6 			× × × × × × × × × × × × × × × × × × ×	SILTSTONE, Light brown siltstor very fine grained, moderatley me	ne with cal	iche, fine to				9-10'			
2		SP	× ×	SANDSTONE, Medium brown sa slightly moist. SAND (SP), Whitish, fine grained									Hydrated Bentonite Seal
8 - 8 - 0 -		51		rounded sandstone nodules, low	moisture c	content.				19-20'			
2				SANDSTONE, Light pinkish brow cemented caliche, fine grained, c	vn sandsto Iry.	ne with							
										29-30'			

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Project	t Na	ime:		J Services Company, USA		11	Pro	oject Nur	mber: <u>126238.020</u> Sheet <u>2</u>
Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Monitoring Well Remarks
34 - - - 36 - - - - - - - - - - - - - - - - - - -		SP		SAND (SP), light brown sand, medium to fine grained, contains 0.5 to 1.0 inch diameter sandstone nodules, slightly moist.				39-40'	Hydrated Bentonite Seal
		· · · · · · · · · · · · · · · · · · ·		SAA, Medium brown.					
				SAA, < .5" diameter sandstone nodules, moist.				49-50'	
4				SAA, Very fine sand, moist.		يىتى بىرى يەرىكى بىرىكى بىر		59-60'	58.0 20/40 Silica Sand Filter Pack
	Y	SW		SAND (SW), Light brown sand, fine to very fine grained, well sorted, wet.					0.01-inch slotted well screen
8 - - - - - - - - - - - - - - -				SANDSTONE, Light brown sandstone, medium to fine grained, wet.					

State.						Monitor	ring Well:	·				MW-	18				
المدورية	Proje	ect N	ame:	B	J Services Compa	ny, USA					Pro	oject Nu	mber: _	126238	3.020	Sheet3	of
「「「「「」」」	Depth (feet)	Depth to Water	USC Soil Type	Lithology		Description			PID Readings	Sampled Interval	Recovery (feet)	Sample ID			Monitoring V Remarks	Vell	
	76-												75.3-		Bottom cap		
	78-	-		· · · ·	Total Depth = 78 feet	~						•	78.0_				
No. and and a second																	
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Proie	et Le	catio	on: I	Hobbs, New Mexico					Logged F	By: B. Cam	acho	Approved: R. Rexroad
				Harrison and Cooper				+	Date Star	· · · · · · · · · · · · · · · · · · ·		Date Finished: 3/9/05
				Ingersol-Rand TH-60	Driller: Leonard	i He	ine	1.	Total Bon Depth: (f	ring	<u>,</u>	Depth to Static Water: (feet)
Drilli	ing N	ſetho	d:	Air Rotary	Borehole Diameter:	5 1	8"		TOC Ele			Ground Elevation:
Samı	oling	Metł	nod:	cuttings					Diameter of Well C	and Type Casing:	2" Sc	hedule 40 PVC
Com	ment	s:	Log	ged by cuttings			_		Slot Size	: 0.01"	Filter	Material: 20/40 Silica Sand
									Developr	nent Method:	2"	PVC Bailer
Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	1	PID Readings	Sampled Interval	Recovery (feet)	Sample ID			Monitoring Well Remarks
2-		CL ML		Dark brown silty clay with sand a moist.	nd gravel, slightly					2.0	•	Locking Well Cap (Above Grade Completion)
4 4 6				Medium brown fine to very fine s moist.	andstone, moderatley						50 2 2 3 3	
8				Light pinkish brown caliche, little	fine sand, moist.				9-10'			
14				SAA, dry.								Hydrated Bentonite Seal
20				SAA, slightly moist.					19-20'			
22				Light pinkish brown caliche-ceme 0.5" nodules of lithified sandsto	nted sandstone, with ne, dry							
28		SP		Light brown medium to fine sand,	slightly moist.				29-30'			

Monitoring Wel	1:
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Project Name: BJ Services Company, USA				J Services Company, USA		_ Project Number:			mber: <u>126238.020</u> Sheet <u>2</u> of
Depth (feet) Depth to Water USC Soil Type		Description Description					Sample ID	Monitoring Well Remarks	
34 				Medium brown sandstone, 0.5" to 1.0" nodules of very fine lithified sandstone, slightly moist.				39-40'	Hydrated Bentonite Seal
44		SW		SAA, 0.5" nodules of lithified sandstone, moist. Medium brown medium to fine grained sand, moist.				49-50'	
	¥			SAA, fine to very fine sand, wet.				59-60'	56.0 20/40 Silica Sand Filter Pack
64 66 68 70 72				Dark brown sandstone, medium to fine grained, wet.					0.01-inch slotted well screen
 74									73.0Bottom cap

1.722.22	Project Name: BJ Services Company, USA				J Services Company, USA		mber: <u>126238.020</u> Sheet <u>3</u> of <u>3</u>			
	Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Monitoring Well Remarks
「「「「」」	76	· ·			Total Depth = 78 feet					78.0
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Monitoring Well:

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		ame:		·									· · ·	
Project Location: Hobbs, New Mexico							I	Logged By:	B. Can	nacho	Approved: R. Re	xroad		
Drilli	ng C	ontra	ctor:	Harrison and Cooper						Date Started Total Borin		5	Date Finished: 3/ Depth to Static	9/05
Drilli	ng E	quipr	nent:	Ingersol-Rand TH-60	Driller:	Leonard	l Hei	inei	n I	Depth: (feet	t) 62.0		Water: (feet)	
Drilli	ng N	1etho	d:	Air Rotary	Borehole	e Diameter:	51/	8"		TOC Elevat Diameter ar			Ground Elevation:	
-				cuttings			-,		Ċ	of Well Cas	sing:	1		
Comr	nent	s:	Log	ged by cuttings						Slot Size: Developme	nt Method	Filter N	laterial:	
Depth (feet)	Depth to Water	USC Soil Type	Lithology	Descriptior	1		PID Readings	Sampled Interval	Recovery (feet)	Sample ID			Soil Boring Remarks	
- - 2-		CL ML		Dark brown silty clay with sand a moist.								s t	B-16 was plugged with bentonite seal	a hydrate
- - 4-				Medium brown fine to very fine s moist.	andstone, s	slightly				4-5'				
6-													,	
8-														
										9-10'				
0				Light pinkish brown caliche, little moist.	fine sand,	slightly								
2														
4-				SAA, some fine to very fine sand,	moist					14-15'				
					, moisti								at an	
6														
8										19-20'				
0-										17-20				
				SAA, slightly moist.										
2—														
4-										24-25'				
6-			······································	Light pinkish brown caliche-ceme	ented sands	tone,dry.								
-			· · · · ·											
-8										29-30'				
30-														
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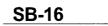
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Sheet	2	of	2
Sheet	<u> </u>	of	4

Depth (feet)	Depth to Water	USC Soil Type	Lithology	Description	PID Readings	Sampled Interval	Recovery (feet)	Sample ID	Soil Boring Remarks
34-		SP		Light brown medium to fine sand, dry.				34-35'	
36	-								
38	5 - -			Medium brown sandstone, 0.5" to 1.0" nodules of very fine lithified sandstone, slightly moist.	-			39-40'	
44	-		· · · · · · · · · · · · · · · · · · ·					44-45'	
46— — 48—				SAA, 0.5" nodules of lithified sandstone.					
50-	-							49-50'	
52 <u>-</u>	•								
54 56		sw	••••	Medium brown medium to fine grained sand, moist				54-55'	
58 — 				SAA, fine to very fine sand.					
60 <u>-</u> 	Ţ				4 			59-60'	
62—			••••• ••••	Total Depth = 62 feet					

APPENDIX B

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Laboratory Analytical Reports

APPENDIX B

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Laboratory Analytical Reports

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Brov	wn & Caldwell	HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901 MAR 2 5 2005 BROWN AND CALDWELL HOUSTON BJ Service/126238.020	
Certificate	of Analysis Number:	CALDWIE	
!	<u>05030473</u>	HOUST	
Report To:	Project Name:	BJ Service/126238.020	/
Brown & Caldwell	<u>Site:</u>	Hobbs, NM	
Rick Rexroad	Site Address:		
1415 Louisiana			
Suite 2500	PO Number:		
Houston		New Mexico	
тх	State:	New Mexico	
77002-	State Cert. No.:		
ph: (713) 759-0999 fax: (713) 308-3886	Date Reported:	3/21/2005	

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This Report Contains A Total Of 45 Pages

Excluding This Page, Chain Of Custody

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Attachments



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Case Narrative for: Brown & Caldwell

Certificate of Analysis Number:

05030473

Report To:	Project Name: BJ Service/126238.020
Brown & Caldwell	Site: Hobbs, NM
Rick Rexroad	Site Address:
1415 Louisiana	
Suite 2500	PO Number:
Houston	
тх	State: New Mexico
77002-	State Cert. No.:
ph: (713) 759-0999 fax: (713) 308-3886	Date Reported: 3/21/2005

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

The result for fluoride on your sample "MW-10" was reported as ND (not detected) at a 5-fold dilution due to matrix interference.

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Your sample "MW-5" was randomly selected for use in SPL's quality control program for metals by Method 6010B, and the percent recoveries and RPD's for calcium and magnesium could not be reported because the concentrations for these elements in the sample were greater than four times the amount of spike added to the sample.

Any other exceptions associated with this report will be footnoted in the analytical result pages or the quality control summary pages.

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Pat Lynch Senior Project Manager

3/22/2005



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

		Ce		f Analysis Number:			
			0	<u>5030473</u>			····
Report To:	Brown & Caldwell			Project Na	me: BJ Service/1262	38.020	
1885	Rick Rexroad			Site:	Hobbs, NM		
	1415 Louisiana			Site Addre	Nee.		
代表	Suite 2500			<u>One Addre</u>			
4 K .	Houston						
	тх			PO Numbe	er:		
25 8	77002-			State:	New Mexico		
	ph: (713) 759-0999	fax: (713) 30	8-3886	State Cert	<u>. No.:</u>		
Fax To:	Brown & Caldwell			Date Repo	orted: 3/21/2005		
formers.	Rick Rexroad	fax : (713) 3	08-3886	<u>Buto Nope</u>			
Clien	t Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
1W-5		05030473-01	Water	3/8/2005 4:45:00 PM	3/11/2005 9:30:00 AM		
NW-10	<u> </u>	05030473-02	Water	3/8/2005 5:30:00 PM	3/11/2005 9:30:00 AM		
MW-18-S-9-10'	· · · · · · · · · · · · · · · · · · ·	05030473-03	Soil	3/9/2005 8:00:00 AM	3/11/2005 9:30:00 AM	·····	
W-18-S-19-20	D'	05030473-04	Soil	3/9/2005 8:10:00 AM	3/11/2005 9:30:00 AM		
1W-18-S-29-30	ט'	05030473-05	Soil	3/9/2005 8:15:00 AM	3/11/2005 9:30:00 AM		
MW-18-S-39-40)'	05030473-06	Soil	3/9/2005 8:20:00 AM	3/11/2005 9:30:00 AM		
MW-18-S-49-50)'	05030473-07	Soil	3/9/2005 8:25:00 AM	3/11/2005 9:30:00 AM		
/IW-18-S-59-60)'	05030473-08	Soil	3/9/2005 8:40:00 AM	3/11/2005 9:30:00 AM		
SB-16-4-5'		05030473-09	Soil	3/9/2005 10:00:00 AM	3/11/2005 9:30:00 AM		
SB-16-9-10'		05030473-10	Soil	3/9/2005 10:05:00 AM	3/11/2005 9:30:00 AM		
5B-16-14-15'		05030473-11	Soil	3/9/2005 10:10:00 AM	3/11/2005 9:30:00 AM		
B-16-19-20'		05030473-12	Soil	3/9/2005 10:15:00 AM	3/11/2005 9:30:00 AM		
SB-16-24-25'		05030473-13	Soil	3/9/2005 10:20:00 AM	3/11/2005 9:30:00 AM		
6B-16-29-30'		05030473-14	Soil	3/9/2005 10:25:00 AM	3/11/2005 9:30:00 AM		
6B-16-34-35'		05030473-15	Soil	3/9/2005 10:30:00 AM	3/11/2005 9:30:00 AM		
SB-16-39-40'		05030473-16	Soil	3/9/2005 10:35:00 AM	3/11/2005 9:30:00 AM		
SB-16-44-45'		05030473-17	Soil	3/9/2005 10:40:00 AM	3/11/2005 9:30:00 AM	·····	
6B-16-49-50'		05030473-18	Soil	3/9/2005 10:45:00 AM	3/11/2005 9:30:00 AM		
6B-16-54-55'		05030473-19	Soil	3/9/2005 10:50:00 AM	3/11/2005 9:30:00 AM		
SB-16-59-60'		05030473-20	Soil	3/9/2005 10:55:00 AM	3/11/2005 9:30:00 AM		
MW-19-S-9-10'		05030473-21	Soil	3/9/2005 11:35:00 AM	3/11/2005 9:30:00 AM		
W-19-S-19-20)'	05030473-22	Soil	3/9/2005 11:40:00 AM	3/11/2005 9:30:00 AM		
MW-19-S-29-30)'	05030473-23	Soil	3/9/2005 11:45:00 AM	3/11/2005 9:30:00 AM	······································	
MW-19-S-39-40)'	05030473-24	Soil	3/9/2005 11:50:00 AM	3/11/2005 9:30:00 AM		

P. Lynck Pat Lynch Senior Project Manager

3/21/2005

Date

Joel Grice Laboratory Director

Ted Yen Quality Assurance Officer



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

<u> </u>			DIOWII	a calancii			
		Ce	rtificate of	Analysis Number:			
			<u>05</u>	030473			
Report To:	Brown & Caldwell			Project Nam	e: BJ Service/126	238.020	
	Rick Rexroad			<u>Site:</u>	Hobbs, NM		
	1415 Louisiana Suite 2500			Site Addres	<u>s:</u>		
97 347	Houston TX			PO Number:			
	77002- ph: (713) 759-0999	fax: (713) 30	8-3886	<u>State:</u> State Cert. N	New Mexico		
<u>Fax To:</u>	Brown & Caldwell		<u> </u>	Date Report			
	Rick Rexroad	fax : (713) 3	08-3886				
Clie	at Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received		HOLD

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
/WV-19-S-49-50'	05030473-25	Soil	3/9/2005 11:55:00 AM	3/11/2005 9:30:00 AM	····	
MW-19-S-59-60'	05030473-26	Soil	3/9/2005 12:00:00 PM	3/11/2005 9:30:00 AM		
MVV-5	05030473-27	Water	3/10/2005 7:40:00 AM	3/11/2005 9:30:00 AM		
1W-10	05030473-28	Water	3/10/2005 7:55:00 AM	3/11/2005 9:30:00 AM		

ynch Pat Lynch Senior Project Manager

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Date

Joel Grice Laboratory Director

Ted Yen Quality Assurance Officer

3/21/2005 8:25:31 AM



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-5		Colle	cted: 0	3/08/2005 16:45	SPL Sample ID: 0	5030473-01
		Site	: Hot	obs, NM		
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed Analy	rst Seq.#
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg/L	
Alkalinity, Bicarbonate	225	2		1	03/16/05 17:00 A_E	2685861
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg/L	
Alkalinity, Carbonate	ND	2		1	03/16/05 17:00 A_E	2685936
CHLORIDE, TOTAL			MCL	E325.2	Units: mg/L	
Chloride	140	5		5	03/18/05 13:15 T_H	2688019
HARDNESS, TOTAL (TITRIMETR	IC, EDTA)	· · · ·	MCL	E130.2	Units: mg/L	
Hardness (As CaCO3)	270	25		5	03/17/05 14:00 CV	2686869
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg/L	
Fluoride	1	0.5		1	03/11/05 14:44 CV	2679305
Sulfate	110	5		10	03/14/05 14:24 CV	2685268
METALS BY METHOD 6010B, TO	TAL		MCL	SW6010B	Units: mg/L	·····
Calcium	84.3	0.1		1	03/15/05 11:38 MW	2684043
Magnesium	12.9	0.1		1	03/15/05 11:38 MW	2684043
Potassium	2.97	2		1	03/15/05 11:38 MW	2684043
Sodium	126	0.5		1	03/15/05 11:38 MW	2684043

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/14/2005 15:50	VMD	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-10	Client Sample ID: MW-10		cted: C	3/08/2005 17:30	SPL Sample ID): 050	30473-02
		Site	: Hot	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg	3/L	
Alkalinity, Bicarbonate	523	2		1	03/16/05 17:00	A_E	2685865
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg	 ₽/L	
Alkalinity, Carbonate	ND	2		1	03/16/05 17:00	A_E	2685937
CHLORIDE, TOTAL			MCL	E325.2	Units: mg	a/L	
Chloride	798	10		10	03/18/05 13:15	т_н	2688022
HARDNESS, TOTAL (TITRIMET	RIC, EDTA)		MCL	E130.2	Units: mg	g/L	
Hardness (As CaCO3)	1300	250		50	03/17/05 14:00	CV	2686870
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg	a/L.	
Fluoride	ND	2.5		5		CV	2679330
Sulfate	360	25		50	03/14/05 14:36	CV	2685269
METALS BY METHOD 6010B, TO	DTAL		MCL	SW6010B	Units: mg/L		
Calcium	310	0.1		1		MW	2684049
Magnesium	101	0.1		1	03/15/05 12:02	MW	2684049
Potassium	9.68	2		1	03/15/05 12:02	MW	2684049
Sodium	383	0.5		1	03/15/05 12:02	MW	2684049

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/14/2005 15:50	VMD	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Client Sample ID: MW-18-S-9-10'		Colle	ected: (3/09/2005 8:00	SPL Sample ID	: 0503	30473-03	
		Site	: Hot	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #	
CHLORIDE, TOTAL			MCL	E325.2	Units: mg	/kg		
Chloride	464	10		1	03/17/05 14:10	т_н	2686782	

Qualifiers:

1.24

ND/U - Not Detected at the Reporting Limit

 $\ensuremath{\mathsf{B}}$ - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-18-S-19-20'		Colle	ected: (3/09/2005	8:10	SPL Sample II	D: 0503	30473-04			
Site: Hobbs, NM											
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #			
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg				
Chloride	363	10		1		03/17/05 14:10	т_н	2686783			

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Client Sample ID: MW-18-S-	Coll	ected: (03/09/2005 8:1	5	SPL Sample II	80473-05		
		Site	e: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor Q	UAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E32	25.2	Units: m	g/kg	
Chloride	60.1	10		1		03/17/05 14:13	т_н	2686784

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-18-S-39-40'		Coll	ected: ()3/09/2005	8:20	SPL Sample II): 0503	05030473-06	
Site: Hobbs, NM									
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #	
CHLORIDE, TOTAL			MCL	E	325.2	2 Units: mg/kg			
Chloride	31.4	10		1		03/17/05 14:13	T_H	2686785	

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-18-S-49	9-50'	Coll	ected: (03/09/2005	3:25	SPL Sample II	D: 0503	0473-07
Site: Hobbs, NM								
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	27.1	10		1	_	03/17/05 14:13	т_н	2686786

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Client Sample ID: MW-18-S-	-59-60'	Coll	ected: (3/09/2005 8:	:40	SPL Sample II) : 0503	0473-08
		Site	e: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E3	25.2	Units: m	g/kg	
Chloride	97.9	10		1		03/17/05 14:13	Т_Н	2686787

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-4-5'		Colle	ected: 0	SPL Sample II	D: 0503	30473-09		
		Site	: Hot	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL		Al man	MCL	E	325.2	Units: m	g/kg	
Chloride	31.8	10		1		03/17/05 14:13	т_н	2686788

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-9-10'		Colle	cted: ()3/09/2005	SPL Sample II	D: 0503	5030473-10	
		Site	: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	39.3	10		1		03/18/05 9:24	T_H	2687200

Qualifiers:

ND/U - Not Detected at the Reporting Limit

- B Analyte detected in the associated Method Blank
- * Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution

MI - Matrix Interference

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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Client Sample ID: SB-16-14-15'		Colle	ected: (3/09/2005 10:10	SPL Sample I): 0503	0473-11
		Site	: Hol	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUA	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E325.2	Units: m	g/kg	
Chloride	105	10		, <u>1</u>	03/18/05 9:24	T_H	2687204

Qualifiers:

ND/U - Not Detected at the Reporting Limit

 $\ensuremath{\mathsf{B}}$ - Analyte detected in the associated Method Blank

- * Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-19-20'	· · · · · · · · · · · · · · · · · · ·	Colle	ected: (3/09/2005 10:15	SPL Sample II) : 0503	0473-12
		Site	: Hoł	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E325.2	Units: m	g/kg	
Chloride	124	10		1	03/18/05 9:26	Т_Н	2687205

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-24-25'		Colle	ected: C	3/09/2005 10:20	SPL Sample II	D: 0503	0473-13
		Site	: Hot	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E325.2	Units: m	g/kg	
Chloride	141	10		1	03/18/05 9:26	T_H	2687206

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-29-30'		Colle	ected: (3/09/2005 1	10:25	SPL Sample II	D : 0503	80473-14
		Site	: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	93.5	10		1		03/18/05 9:26	T_H	2687207

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-34-35	5'	Coll	ected: 03	/09/2005	10:30	SPL Sample II	D: 0503	0473-15
		Site	: Hobb	s, NM				
Analyses/Method	Result	Rep Limit	[Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	45.3	10		1		03/18/05 9:26	T_H	2687208

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-39-40'		Colle	ected: (03/09/2005	10:35	SPL Sample II	D: 0503	0473-16
		Site	: Hol	bbs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Facto	r QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL		E325.2	Units: m	g/kg	
Chloride	70.1	10		1		03/18/05 9:26	T_H	2687209

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-44-45'		Colle	cted: 03/09/2005 10:40			SPL Sample II	D: 0503	05030473-17	
		Site	: Hol	obs, NM					
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #	
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg		
Chloride	31.1	10		1		03/18/05 10:19	т_н	2687435	

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

 $\ensuremath{\mathsf{B}}$ - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-49-50'		Colle	cted: 0	3/09/2005 1	SPL Sample I	D : 0503	5030473-18	
		Site	: Hoł	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	32.2	10		1		03/18/05 10:19	T_H	2687438

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-54-55'		Colle	Collected: 03/09/2005 10:50 SPL Sample ID: (
		Site	Hot	obs, NM						
Analyses/Method	Result	Rep.Limit		Dil. Factor QUA	L Date Analyzed	Analyst	Seq. #			
CHLORIDE, TOTAL		······································	MCL	E325.	2 Units: m	g/kg				
Chloride	29.6	10		1	03/18/05 10:19	т_н	2687439			

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: SB-16-59-60'		Colle	ected: 0	3/09/2005 10:55	SPL Sample I): 0503	0473-20
		Site	: Hot	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E325.2	Units: m	g/kg	
Chloride	26.2	10		1	03/18/05 10:21	Т_Н	2687440

ND/U - Not Detected at the Reporting Limit

 $\ensuremath{\mathsf{B}}\xspace$ - Analyte detected in the associated Method Blank

- * Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Client Sample ID: MW-19-S-9-10'		Colle	ected: (3/09/2005	11:35	SPL Sample II	D: 0503	0473-21
		Site	: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	102	10		1		03/18/05 10:21	T_H	2687441

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-19-S	-19-20'	Coll	ected: (3/09/2005	11:40	SPL Sample II	D: 0503	0473-22
		Site	e: Hot	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL	······		MCL	E	325.2	Units: m	g/kg	
Chloride	50.8	10		1		03/18/05 10:21	T_H	2687442

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-19-S-29-30'		Colle	ected: C	3/09/2005 11:4	15	SPL Sample I	D: 0503	0473-23
		Site	: Hot	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor QL	JAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E325	5.2	Units: m	g/kg	
Chloride	11.1	10		1		03/18/05 10:21	Т_Н	2687443

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-19-S-39-40'		Colle	ected: 0	3/09/2005 11:50	SPL Sample I	D: 0503	0473-24
		Site	: Hob	bs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QU	AL Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E325.	2 Units: m	g/kg	
Chloride	12.6	10		1	03/18/05 10:21	T_H	2687444

Qualifiers:

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ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-19-S-49-50	,	Colle	cted: ()3/09/2005	11:55	SPL Sample II	D: 0503	0473-25
		Site	Hoł	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	11	10		1		03/18/05 10:22	T_H	2687447

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-19-S-59-60) ¹	Coll	ected:()3/09/2005	12:00	SPL Sample II	D: 0503	30473-26
		Site	e: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	13.2	10		1		03/18/05 10:22	T_H	2687448

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

- * Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Client Sample ID: MW-5		Coll	ected: ()3/10/2005	7:40	SPL Sample II	D: 0503	80473-27
	- · · · ·	Site	e: Hol	bbs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ION CHROMATOGRAPHY			MCL	E	300.0	Units: m	g/L	
Nitrogen, Nitrate (As N)	4.2	0.5		· 1		03/11/05 15:09	CV	2679306

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-10		Coll	ected: (03/10/2005	7:55	SPL Sample I	D: 0503	30473-28
		Site	e: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ION CHROMATOGRAPHY			MCL	E	300.0	Units: m	g/L	
Nitrogen, Nitrate (As N)	ND	0.5		1		03/11/05 15:21	CV	2679307

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

Quality Control Documentation

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell BJ Service/126238.020

					BJ Ser	vice/12623	38.020							
Analysis:	Metals by	/ Method (6010B, Total							kOrder:		30473		
Method:	SW6010E	3							Lab	Batch II	D: 462	!77		_
		Met	thod Blank				Samp	les in Anal	tical Bate	ch:				
RunID:	TJA_05031	5A-2684041	1 Units:	mg/L			Lab S	ample ID		Client	Sample II	D		
Analysis Date:	03/15/200	5 11:29	Analyst:	MW				473-01A		MW-5				
Preparation Date:	03/14/200	5 15:50		VMD	Method SW	/3010A	05030	473-02A		MW-1	0			
Calciu	·	Analyte		Result	Rep Limit									
Calciu				N										
Magn				N										
Potas Sodiu				<u>N</u>										
				<u>La</u>	aboratory C	ontrol Sa	mple (L	<u>CS)</u>						
		Runic):	TJA_050	315A-268404	2 Unit	s: m	g/L						
		Analy	sis Date:	03/15/20	005 11:33	Ana	lyst: M	Ŵ						
		Prepa	ration Date:	03/14/20	005 15:50	Prep	By: V	MD Method	SW3010/	Ą				
t														
			Analy	e			Result	Percent	Lower	Upper				
						Added		Recovery	Limit	Limit				
1		Calcium				1	0.9836	.98.36	80) 12	20			
		Magnesi		·		1	0.9880	98.80						
		Potassiu	im			10	9.216	92.16	f		{			
3.		Sodium	······································		l	1	0.9604	96.04	80	12	20			
			Matrix	Spike (A	/S) / Matrix	Spike D	plicate	(MSD)						
1			<u>Indi IX</u>	opine In	<u>noj i matrix</u>		photoc							
		Sam	ple Spiked:	05030	473-01									
8		Run		-	50315A-26840			mg/L						
1			lysis Date:		2005 11:42			MW						
		Prep	paration Date:	03/14/	2005 15:50	Pro	ep By:	VMD Metho	d SW301	0A				
• r===	-1.4-		Canada		MO	L MC 0/	MC							L. P
	alyte		Sample Result	MS Spike	MS Result	MS % Recove				D %	RPD		Low Limit	
				Added			Add			,				
Calcium			84.33		85.4	4 1	vic —	1 8	5.92	N/C	N/C	20	- 75	12
Magnesium			12.90	1	13.9		₩C		3.92	N/C	N/C			12:
Potassium			2.970	10	13.2		2.3		2.38	94.06	6.449		75	
Sodium	· ···· ·······		126.4	1	126.	5 N	1/C	1 1	25.3	N/C	N/C	20	75	125
		I			- <u>-</u>	• • • • • • • • • • • • • • • • • • •			···· ·	······································		· · · · · · · · · · · · · · · · · · ·		
			J _ 4 4 5 5				Antoin							
Qualifiers:			d at the Repor	-				erference	o due te F	Nilutie -				
	-		I in the associ					Unreportabl						
	J ~ ⊏Suma	ateu value	between MDL	anu PQ	L	- Re	covery (Dutside Adv	isable QC	LIMITS				

J - Estimated value between MDL and PQL

* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



Marian 2

HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

					n & Cald /ice/12623								
Analysis:	Ion Chromatograph	у						Worl	kOrder	r: 05	030473		
Method:	E300.0							Lab	Batch	ID: R1	35560E	3	
	Met	hod Blank				Samp	les in Analy	tical Batc	h:				
RunID:	IC1_050311A-2679297	Units:	mg/L			<u>Lab Sa</u>	ample ID		<u>Clier</u>	nt Sample	ID		
Analysis Date:	03/11/2005 12:38	Analyst:	CV			05030	473-01B		MW-	5			
						05030	473-02B		MW-	10			
	Analyte			Rep Limit									
Fluori Nitrog	de gen,Nitrate (As N)		ND ND										
			Lal	boratory C	ontrol Sar	nple (LC	<u>CS)</u>	<u> </u>		<u>.</u>			
	RuniD	:	IC1_05031	11A-2679298	Units	mg	g/L						
	Analys	sis Date:	03/11/20	05 12:50	Analy	st: C\	V						
		Analy	to	——————————————————————————————————————	Spike F	esult	Percent	Lour	Unno				
		Analy	le		Added	esuit	Recovery	Lower Limit	Uppe Limi				
					10	0.77	97.7	85	1	115			
	Fluoride				10	9.77							
		Nitrate (As N)		10	9.77	98.3	85	1	115			
		Nitrate (As N)				98.3	85	1	115			
			· · · · · · · · · · · · · · · · · · ·	S) / Matrix	10	9.83		85	1	115			
 	Nitrogen,	Matrix	Spike (M	S) / Matrix	10	9.83		85	1	115			
,	Nitrogen, Sam	<u>Matrix</u> ple Spiked:	Spike (M 050304	173-01	10 Spike Du	9.83 Dlicate (MSD)	85	1	115			
,	Nitrogen, Sam Runl	<u>Matrix</u> ple Spiked: D:	Spike (M 050304 IC1_050	173-01 311A-267932	10 Spike Dup 28 Unit	9.83 blicate (s: r	MSD) ng/L	85	1	115			
	Nitrogen, Sam Runl	<u>Matrix</u> ple Spiked:	Spike (M 050304 IC1_050	173-01	10 Spike Dup 28 Unit	9.83 blicate (s: r	MSD)	85		115	-		
) 	Nitrogen, Sam Runl	<u>Matrix</u> ple Spiked: D:	Spike (M 050304 IC1_050	173-01 311A-267932	10 Spike Dup 28 Unit	9.83 blicate (s: r	MSD) ng/L	85		115			
	Nitrogen, Sam Runl	<u>Matrix</u> ple Spiked: D: ysis Date: Sample	Spike (M 050304 IC1_050 03/11/2 MS	173-01 1311A-267932 2005 21:01 MS	10 Spike Dup 28 Unit Ana MS %	9.83 <u>s:</u> yst: MSE	MSD) ng/L CV	MSI	D %	RPD	RPD	Low	High
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date:	Spike (M 050304 IC1_050 03/11/2	173-01 1311A-267932 2005 21:01	10 Spike Dup 28 Unit Ana	9.83 blicate (s: r lyst: () MSE	MSD) mg/L CV D MSD e Resul	MSI			RPD Limit		
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI	D %	RPD	Limit	Limit	Limit
	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result	Spike (M 050304 IC1_050 03/11/2 MS Spike Added	173-01 1311A-267932 2005 21:01 MS Result	10 Spike Dug 28 Unit Ana MS % Recover	9.83 <u>plicate (</u> s: r lyst: () y MSE y Spik Adde	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Analy	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result 1.03	Spike (M 050304 IC1_050 03/11/2 MS Spike Added 10	173-01 1311A-267932 2005 21:01 MS Result 10.4	10 Spike Dur 28 Unit Ana MS % Recover 4 93	9.83 elicate (s: r lyst: (y MSE y Spik Adde 7	MSD) mg/L CV D MSD e Resul	MSI It Reco	D % overy	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runl Anal	<u>Matrix</u> ple Spiked: D: ysis Date: Sample Result 1.03	Spike (M 050304 IC1_050 03/11/2 MS Spike Added 10	173-01 1311A-267932 2005 21:01 MS Result 10.4	10 Spike Dur 28 Unit Ana MS % Recover 4 93 MI - M	9.83 olicate (s: r lyst: (y Spik Adde 7	mg/L CV D MSD e Resul ed	t Reco	D % overy 90.6	RPD	Limit	Limit	Limit
Ar	Nitrogen, Sam Runi Analy nalyte	Matrix ple Spiked: D: ysis Date: Sample Result 1.03	Spike (M 050304 IC1_050 03/11/2 MS Spike Added 10	173-01 1311A-267932 2005 21:01 MS Result 10.4	10 Spike Dur 28 Unit Ana MS % Recover 4 93 MI - M D - Re	9.83 olicate (s: r lyst: (y MSE y Spik Adde 7 7	mg/L CV D MSD e Resul 10	t MSI Reco 10.1	D % overy 90.6	RPD	Limit	Limit	Limit

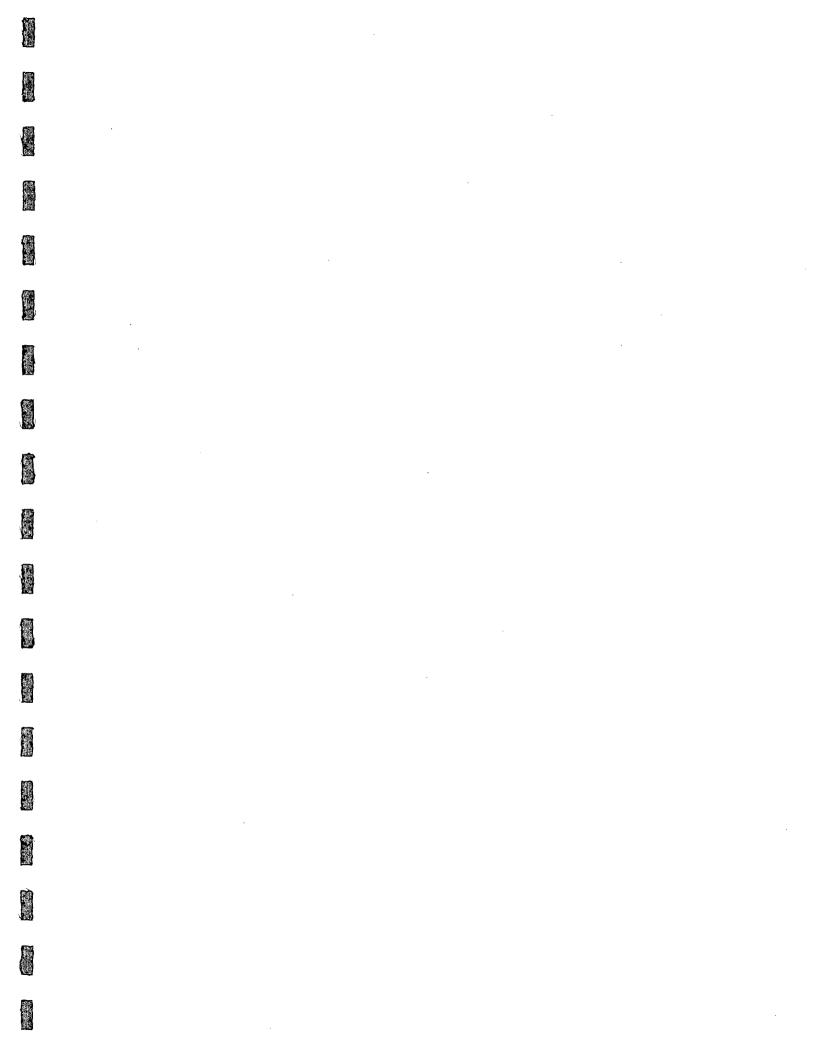


S. Same

HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell vine/126229 020

					vn & Cal ervice/1262									
Analysis:	Ion Chromatograph E300.0	vy								(Order: Batch II)30473 35910		
Method:		hod Blank				Sam	ples ir	n Analyt	ical Batc	h:				
RunID: Analysis Date:	IC1_050314A-2685258 03/14/2005 12:18	Units: Analyst:	mg/L CV			0503	<u>Sampl</u> 0473-0 0473-0	01B		<u>Client</u> MW-5 MW-1		<u>D</u>		
Sulf	Analyte		Result ND	Rep Lim										
		. <u></u>	La	boratory	Control S	ample (L	<u>_CS)</u>							
	RunID Analys	: is Date:		14A-26852 105 12:31			ng/L CV							
ι		Analy	rte		Spike Added	Result		cent overy	Lower Limit	Upper Limit				
	Sulfate				10	10.1		101	85	11	15			
Ą	Analyte	Sample Result	MS Spike	MS Result	MS S Recov	very Spi	ke	MSD Result	MSI Reco	D % overy	RPD	RPD Limit	Low Limit	High Limit
D		1940	Added 5000		060	Add 102 5	ded	60	60	100	1.46	20	80	120
Sulfate													4	
Qualifiers:	ND/U - Not Detected B - Analyte detected J - Estimated value b N/C - Not Calculated	in the assoc between MDL	iated Meth	nod Blank -	× D-I *-F	Recovery	v Unrep Outsid	portable le Advis	due to D able QC	Limits	al limits do	not an	nlu	
1	N/C - Not Calculated							an or spi			or intrites do	пот ар	piy.	
The percent rec	ported RPD may differ fro	are correct a	s reported		significant	figures a	nd							





VR.

HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

BJ Service/126238.020

		BJ Se	ervice/126238.0	20			
Analysis: Method:	Alkalinity, Bicarbonate M2320 B				WorkOrder: Lab Batch ID:	05030473 R135936	
	Method Blank		S	amples in Analyti	cal Batch:		<u></u>
RunID: Analysis Date:	WET_050316X-2685847 Units: 03/16/2005 17:00 Analyst:	mg/L A_E	0	ab Sample ID 5030473-01B 5030473-02B	<u>Client San</u> MW-5 MW-10	nple ID	
AI	Analyte kalinity, Bicarbonate	Result Rep Lim	iit .0				
		Laboratory	Control Sampl	e (LCS)			
} 	RunID: Analysis Date:	WET_050316X-268 03/16/2005 17:00		mg/L A_E			
Ş [Analy Alkalinity, Bicarbonate		Spike Res Added 14.4 14	ult Percent Recovery	Lower Upper Limit Limit 90 110		
)	Aikainity, Dicarbonate		ample Duplicate		30 110		
		03/16/2005 17 Analyte	Sample Result	DUP RPD Result	Limit		
	Alkalinity, Bicart	onate	98.5	99.5	1.02 20		
,							
1 1							
Qualifiers:	ND/U - Not Detected at the Repor B - Analyte detected in the associ J - Estimated value between MDL	ated Method Blank	C D - Recov	x Interference very Unreportable e ery Outside Advisa			
1	N/C - Not Calculated - Sample col					its do not apply.	
The percent re rounding, the re	coveries for QC samples are correct as eported RPD may differ from the displa	reported. Due to	significant figure	es and			2005 8:25:38



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

BJ Service/126238.020

nalysis: lethod:	Alkalinity, Carbo M2320 B	nate					kOrder: Batch ID:	05030473 R135939	÷
	<u>N</u>	lethod Blank		S	amples in A	nalytical Bate	:h:		
RunID: Analysis Date:	WET_050316Y-268 03/16/2005 17:00		mg/L A_E	0	ab Sample II 5030473-01B		<u>Client Sa</u> MW-5	mple ID	
				0	5030473-02B		MW-10		
Alka	Analyte linity, Carbonate	F	Result Rep Lin	nit 2.0					
			Laborator	v Control Sampl	e (LCS)				
	Ru	nID: W	'ET_050316Y-268	5931 Units:	mg/L				
	Ana	alysis Date: 03	3/16/2005 17:00) Analyst:	A_E				
		Analyte		Spike Res	ult Percer	t Lower	Upper		
		Analyte		Added	Recove		Limit		
	Alkalir	nity, Carbonate		14.4 14	.07 97	.71 90	110		
			<u>S</u>	ample Duplicate	1				
		Original Sample:	05030438-03						
		RuniD:	WET_050316Y-		: mg/L				
		Analysis Date:	03/16/2005 17	7:00 Analy	vst: A_E			V.	
	Ì	Δρ	alyte	Sample	DUP	RPD F	RPD		
				Result	Result		imit		
		Alkalinity, Carbona	te	ND	ND	0	20		
Qualifiers:	ND/U - Not Detec	ted at the Reportin	g Limit	MI - Matri	x Interferenc	e			
Qualifiers:		ted at the Reportin ted in the associate	-	-		e able due to D	Dilution		
Qualifiers:	B - Analyte detect J - Estimated valu	ted in the associate le between MDL a	ed Method Blan nd PQL	k D - Recov * - Recov	very Unreport ery Outside /	able due to D Advisable QC	Limits		
	B - Analyte detect J - Estimated valu N/C - Not Calcula	ted in the associate ue between MDL ar ted - Sample conce	ed Method Blan nd PQL entration is grea	k D - Recov * - Recov ater than 4 times	very Unreport ery Outside A the amount o	able due to D Advisable QC	Limits	nits do not apply	· · · · · · · · · · · · · · · · · · ·
The percent rec	B - Analyte detect J - Estimated valu	ted in the associate ie between MDL ar ted - Sample conce es are correct as re	ed Method Blan nd PQL entration is grea	k D - Recov * - Recov ater than 4 times significant figure	very Unreport ery Outside A the amount of s and	able due to D Advisable QC	Limits		/. 1/2005 8:25:38



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

Method:	Chloride, Total E325.2							WorkOrde Lab Batch		030473 35990		
	Met	hod Blank				Samples	s in Analytic	al Batch:				
RunID:	KONELAB_050317E-26	867 Units:	mg/kg			L <u>ab</u> Sam	nole ID	Clie	nt Sample II	D		
nalysis Date:	03/17/2005 14:10	Analyst:	тн			0503047			-18-S-9-10'	2		
and yold Bate.	00,1112000 11110					0503047			-18-S-19-20'			
						0503047	3-05A	MW	-18-S-29-30'			
	l l		D		1	0503047	3-06A	MW	-18-S-39-40'			
Chi	Analyte		Result F	tep Limit	i	0503047	3-07A	MW	-18-S-49-50'			
					j	0503047	3-08A	MW	-18-S-59-60'			
					,	0503047	3-09A	SB-	16-4-5'			
			Labo	oratory C	Control Sam	ole (LCS	1		<u></u>			
		Analy	te					ower Upp				
1	Chloride	Analy	te		Added			_imit Lim				
	Chloride				Added	552.6	ecovery 110.5	_imit Lim	lit			
		Matrix	Spike (MS) / Matrix	Added 500 5	552.6	ecovery 110.5	_imit Lim	lit			
		<u>Matrix</u> ple Spiked:	Spike (MS 0503043	<u>) / Matrix</u> 7-04	Added 500 5	R 552.6 icate (M	ecovery 110.5	_imit Lim	lit			
	Sam Runi	<u>Matrix</u> ple Spiked:	Spike (MS 0503043) / Matrix 7-04 3_050317E	Added 500 (Spike Dupl 2-26867 Units	R 552.6 icate (M:	110.5 <u>SD)</u>	_imit Lim	lit			
	Sam Runi	<u>Matrix</u> ble Spiked: D:	Spike (MS 0503043 KONELAB) / Matrix 7-04 3_050317E	Added 500 (Spike Dupl -26867 Units	R 552.6 icate (M:	110.5 <u>SD)</u>	_imit Lim	lit			
	Sam Runi	<u>Matrix</u> ble Spiked: D:	Spike (MS 0503043 KONELAB) / Matrix 7-04 3_050317E	Added 500 (Spike Dupl -26867 Units	R 552.6 icate (M:	110.5 <u>SD)</u>	_imit Lim	lit	RPD Limit		High Limit
, Chloride	Sam Runi Anal	<u>Matrix</u> ble Spiked: D: /sis Date: Sample	Spike (MS 0503043 KONELAB 03/17/200 MS Spike Added) / Matrix 7-04 3_050317E 05 14:10 MS	Added 500 5 Spike Dupl E-26867 Units Analy MS % Recovery	R 552.6 icate (M st: T_l Spike Added	ecovery 110.5 SD) /kg H MSD Result	_imit Lim 80 MSD % Recovery	iit 120 RPD	Limit	Limit	Lin

Qualifiers:

ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference

- B Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

- J Estimated value between MDL and PQL * - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Brown & Caldwell

BJ Service/126238.020

				DJ Jer		30.020						
Analysis:	Hardness, Total (1	itrimetric, ED	OTA)					Work	Order:	05030	0473	
Method:	E130.2							Lab E	atch ID:	R135	996	
	Me	thod Blank				Samp	les in Analy	tical Batch	1:			
RunID:	WET_050317G-26868	64 Units:	mg/L			Lab S	ample ID		Client Sa	imple ID		
Analysis Date:	03/17/2005 14:00	Analyst	: CV				473-01A		MW-5			
		ŗ				05030	473-02A		MW-10			
	Analyte		Result	Rep Limit								
Hard	iness (As CaCO3)		N	D 5.0								
	14 <u>0</u> ,		L	aboratory C	Control Sa	ample (L(CS)				·	
	Runl	D:	WET 05	0317G-26868	66 Unii	s: m	g/L					
		sis Date:		005 14:00		lyst: C	-					
		Analy	/te			Result	Percent	Lower	Upper			
					Added		Recovery	Limit	Limit			
	Hardne	s (As CaCO3	3)		330	335	102	85	115			
		Matrix	Spike (I	MS) / Matrix	Spike D	uplicate (MSD)					
	6		05000	524.00								
	Ru	nple Spiked:		531-08)50317G-2686	6873 14	nits: r	ng/L			,		
		lysis Date:	. –	2005 14:00			ng/∟ CV					
		iyolo Date.	00/11/	2000 14.00		aryst. •	J V					
							-					
A	nalyte	Sample	MS	MS	MS %		-					ow High
		Result	Spike Added	Result	Recove	ery Spik Adde		t Reco	very	L	_imit Li	mit Limi
lardness (As Ca	CO3)	675	1250	195	0	102 12	50 1	920	100	1.29	20	80 12
	<u> </u>		-l	l					ł		<u> </u>	

Qualifiers:

ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Brown & Caldwell B.I Service/126238.020

		BJ Service/126	5238.020					
Analysis:	Chloride, Total E325.2					Order: Batch ID:	05030473 R136012	
	Method Blank	<u></u>	Samp	les in Analy				
RunID:	KONELAB_050318A-26871 Units: mg/kg		l ah S	ample ID		Client San	nnle ID	
nalysis Date:	03/18/2005 9:24 Analyst: T_H		-	473-10A		SB-16-9-10		
				473-11A		SB-16-14-1		
			05030	473-12A		SB-16-19-2		
			05030	473-13A		SB-16-24-2	25'	
011		Rep Limit	05030	473-14A		SB-16-29-3	30'	
Chic	oride ND	10	05030	473-15A		SB-16-34-3	35'	
5			05030	473-16A		SB-16-39-4	40'	
	RunID: KONELAE Analysis Date: 03/18/20	3_050318A-26871 Ui 05 9:24 Ar		g/kg _H				
	Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit		
_	Chloride	500	469.5	93.90	80	120		
					. .			
	Matrix Spike (M	S) / Matrix Spike	Duplicate	(MSD)				
ł	Sample Spiked: 050304		l taita .					
		AB_050318A-26872		mg/kg ты				
	Analysis Date: 03/18/2	2005 9:24	Analyst:	т_н				

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	39.28	500	481.4	88.42	500	480.6	88.26	0.1718	20	76	131

Qualifiers:

ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Brown & Caldwell BJ Service/126238.020

a de la companya de l					BJ Ser	vice/1262	238.020									
Analysis:	Chloride	, Total								Work	Order	. 050	30473			
inethod:	E325.2									Lab E	Batch	ID: R1	36027			
	- <u></u>	Me	thod Blank				Sam	ples	in Analytic	al Batci	n:					
RunID:	KONELAB	_050318B-2	6874 Units:	mg/kg			Lab Sample ID Client Sample ID									
Inalysis Dat	e: 03/18/200)5 10:19	Analyst:	Т_Н			05030473-17A SB-16-44-45'									
			,	-				30473				6-49-50'				
							0503	30473	-19A	SB-16-54-55'						
		Analuto		Result	Rep Limit	1	0503	30473	-20A		SB-1	6-59-60'				
	Chloride	Analyte		ND			0503	30473	-21A		MW-	19 - S-9-10'				
α μ					<u> </u>		0503	30473	-22A		MW-	19-S - 19-20'				
							0503	30473	-23A		MW-	19-S - 29-30'				
							0503	30473	-24A		MW-	19-S-39-40'				
								30473				19-S-49-50'				
							0503	30473	-26A		MW-	19-S-59-60'				
				La	boratory C	Control S	ample (LCS)			<u></u>					
		RuniE):	KONELA	B_050318B-2	26874 Un	its: i	mg/kg	2							
			sis Date:		- 005 10:19	-		т_н								
							-									
1		[Analy	te		Spike	Result	Pe	ercent L	ower	Uppe	r				
						Added				Limit	Limi					
	Chloride					500 476.0 95.21 80					1	120				
			Matrix	Spike (M	IS) / Matrix	Spike D	uplicate	e (MS	<u>D)</u>						<u> </u>	
		Run	pple Spiked: ID: lysis Date:		473-17 AB_050318E 2005 10:19		nits: nalyst:	mg/ł T_H	-							
	Analyte		Sample Result	MS Spike Added	MS Result	MS 9 Recov	ery Sp	SD bike Ided	MSD Result	MSE Reco		RPD	RPD Limit	Low Limit	High	
Chloride			31.14	500	617.	4 1	17.2	500	616.	5	117.1	0.1388	20	76	13	
		- <u></u>										·	1		L	
ł																
.		·	<u> </u>									·				
Qualifiers:			d at the Repor				Matrix II									
5	-		in the associ					-	eportable d							
	I Cation	ated value	hotucon MDL	and POI		* - R	acovany	/ Outei	ide Advisal	hle OC I	imits					
			between MDL d - Sample coi				-									

rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



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8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

					BJ Ser	vice/126	238.020			·					
Analysis: Method:	Chloride, To E325.2	tal									kOrder: Batch ID		30473 36067		
· · ·		Me	ethod Blank				Sar	nples i	in Analy	tical Bate	ch:				
RunID:	KONELAB_050	318E-	26880 Units:	mg/L			Lab	Samp	ole ID		<u>Client</u>	Sample II	<u>)</u>		
Analysis Date:	03/18/2005 1	3:15	Analyst:	т_н				30473- 30473-			MW-5 MW-1				
Chi	Ana	lyte		Result		4									
				Li	aboratory	Control	Sample	LCS)			<u>-</u>				
	,	Runi	D:	KONELA	B_050318E-	26880 U	nits:	mg/L							
l			ysis Date:		005 13:15			т_н							
•			Analy	te		Spike Added	Result	-	ercent covery	Lower Limit	Upper Limit				
j	c	hlorid	8			50	47.5	7	95.14	80) . 12	20			
			Matrix	Spike (N	MS) / Matri	x Spike	Duplicat	e (MS	<u>D)</u>						
		Sar	nple Spiked:	05030	473-01										
5		Ru	nID:	KONEL	_AB_050318	E-26880 I	Jnits:	mg/l	-						
		Ana	alysis Date:	03/18/	2005 13:15	5 /	Analyst:	Т_Н							•
·	Analyte		Sample	MS	MS	MS	0/. N/	SD	MSD	MS	D %	RPD	RPD	Low	High
			Result	Spike Added	Result	Reco	very S	oike Ided	Result		overy	RF D	Limit		Limit
Chloride			140.4	250	433	.5	117.2	250	43	2.2	116.7	0.3099	20	76	131
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Qualifiers:	ND/U - Not D	etecte	ed at the Repor	ting Limi	it	MI	- Matrix I	nterfer	rence						
			d in the associ	. –		D -	Recover	y Unre	eportable	due to D	Dilution				

- J Estimated value between MDL and PQL
- D Recovery Unreportable due to Dilution

* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and

rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sec. The Sample Receipt Checklist And Chain of Custody . Taking ALC: N 128 A 18. 19 12 B 12 W Í

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Sample Receipt Checklist

		· · · · · · · · · · · · · · · · ·		
	Workorder: 05030473		Received By: NB	
	Date and Time Received: 3/11/2005 9:30:00 AM Temperature: 4.0°C		Carrier name: FedEx Chilled by: Water Ice	
	1. Shipping container/cooler in good condition?	Yes 🔽	No 🗋 Not Present	
	2. Custody seals intact on shippping container/cooler?	Yes 🗹	No 🗌 Not Present 🔲	
「「「「「」」	3. Custody seals intact on sample bottles?	Yes	No 🗌 Not Present 🗹	
	4. Chain of custody present?	Yes 🗹	Νο	
i secore	5. Chain of custody signed when relinquished and received?	Yes 🗹	Νο	
	6. Chain of custody agrees with sample labels?	Yes 🗹	No 🗌	
_	7. Samples in proper container/bottle?	Yes 🔽	No	
a second	8. Sample containers intact?	Yes 🗹	• No 🗌	
P	9. Sufficient sample volume for indicated test?	Yes 🗹	No	
-	10. All samples received within holding time?	Yes 🔽	No	
	11. Container/Temp Blank temperature in compliance?	Yes 🔽	No	
	12. Water - VOA vials have zero headspace?	Yes	No 🗌 Not Applicable 🗹	
_	13. Water - pH acceptable upon receipt?	Yes 🗹	No Not Applicable	
· Alert		Contract Data	9 Times	
	SPL Representative: Client Name Contacted:	Contact Date a		
	Non Conformance Issues:			
a state	Client Instructions:			
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Relinquished by: Relinquished by:	Ben CAMACHO	Other	48hr 🔄 10 day 🗶	24hr 🔲 72hr 🔲	TAT	B-16-	58-16-14-51	5B-16-9-10'	58-16-4-5'	MW-18-5-59-66	MW-18-5-49-50	MW-18-5-39-40	MW-185-29-35'	MW-18-5-19-26	MW-14-5-9-10'	MW-10	Ma -5	5	Sampled By: Box (Site Address: Hobbs, NM	Project No: 126238.020	Project Name: BJ Service	City. Housteri		Address: 1415 Louisiana	Contact: Kick Kerfox	
	Bay	No3 Anal	Special Reporting Requirements:	-	Special Detection Limits (Specify)	3/4/05	3/4/05	3/4/05	3/4/05	3/9/05	3/9/09	19/0	3/9/05		3/9/05	8	3/8/05	DATE	CAMA CHO			(P	Jidic. 1	2		.d	
	2	ysis has	۱		limits (Specify)	1015	1010	1005	1000	0840	5233	0180	0815	0180	0800	1730	1645	TIME					17, 110002	V 770000	Fax: (713) 308-3886	Phone: (713) 759-0999	
		4841	5-115															COMP		ę.	Std			au	Caner	MW-Mon	hudmber
date S \ ,	3/10	Hell tu	is methow			X	X	X	X	×	X	X	X	X	X	X	X	GRAB			X	QAIQC Level	(describe below)		(desoribe below)	MW-Monitoring Wells SEP	onditional transformed
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bine bine	1200		જે		~	\succ	X	X	X	X	\times	X		X	\mathbf{X}	, ,	UI,	Soll	1×				Ē				
	6	Containe	.aborator		Consultar		~	-	<u>-</u> . '		~	/	~	/	/	2	م	N	um	bei	r Co	onta	iner			3PL Worl	CC Net
Received		Container Type:	Laboratory Remarks (i)		Consultant Remarks	402	40.2	462	29/2	Yoz	402	402	402	402	402	3,3	3	c	ont	ain	er	Тур	54 🗢	·· .		SPL Workorder Nu	
1 by: The second s		1=40m	1		S	١	۱	í	i	j	ł	۱	i	l) .	HNO3	HU03	P	pl	erv 1.č	ati }///	ilor.	.c			umber:	
NOA NOA		I vial/2	RCRA													X	X	r –	1.		-	1	K,Na (りくく	3		Г С	
		=16oz p	metale													X	X					D-325.			ر _	00030475	
		lastic (EC.													X	X	Ca	rb/8	lica		ardn				نې کې	
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		1=40ml vial/2=16oz plastic 3=32oz plastic br	Jene									•									• • • •		D ///				raye (
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	Phone: (713) 759-0999		MW-Monitoring Wells SEP	ig Wells SEP	N	SPL Workorder N	order Nun	lumber:			200			
1415 Louisiana	Fax: (713) 308-3886		Other (dase	(describe below)						C) V	(
Suite 2500			last	lar.				<u>_</u>		RED	UESTED	REQUESTED ANALYSIS	S	
City: Houston	State: TX, 770002		Other (des	(describe below)		br		<u></u>	0		30,1		•••••	
						tain	pe		9, K, I 5.3		nese D//	2		
Project Name: BJ Service			g	QAUQC Level		om!	Ty				-	5, .		ability (
Project No: 126238.020			S ^d			· Çc	er -	ativ	19,C:)))/ CLI	terendet - de	يْنْ	25		
Site Address: Hobbs, NM			с С	Other		ber	ai n		210		- C	3 3,		
Sampled By: Bon Camacho	cho			Ma	Matrix	um	ont		64		<u>ío</u> ć	-325.	<u></u>	iji cu da 20
6	Ħ	TIME	COMP GF	GRAB Water	Soii	N	C			N O3	45	ap		فسجدوه
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58-16-29-30 3/41		1025			X		402	1				× 		
58-16-34-35 3/4/05		1030		×.	X		402	1				×		
6-39-401 3		1035			X		402	1				×		
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5/3-16-49-501 3/9	105 1	045			X		402)				X		
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5 B-16-59-60 3/9	F.	12 0 0			X		4cz	ĺ				\times		
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Other						Container Type:	Type: 1	=40ml v	lal/2=16	ioz plas	tic 3=3;	ل ۳ Type: 1=40ml viai/2=16oz plastic 3=32oz plastic		3/4/1/15
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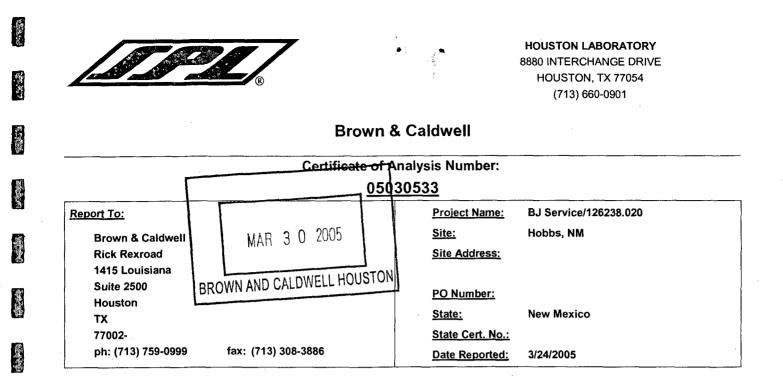
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SALE V

$\frac{14/0.5}{14} = \frac{14}{5} + 14$	Contact: Rick Rec(cond) Address: 1415 Louisiana Suite 2500 City: Houston Project Name: BJ Service Project No: 126238.020 Site Address: Hobbs, NM Sampled By: Bog Cham	DA	Phone: (713) 759-0999 Fax: (713) 308-3886 State: TX, 770002 TE TIME	Jamin Juni B Livering Wells SEP MW-Monitoring Wells SEP Other (desoribe balow) WCWaste Char. Other (desoribe balow) Other QAAQC Level Std QLP Other MAQP Mather Mather	Identing Wells St (describe below) (describe below) (describe below) (describe below) (describe below) (describe below) (describe below) (describe below)	sSEP (Number Container SPL Workorder Number Container Type Preservative	Container Type	Preservative 7	RGRA Metals,Ca,Mg,K,Na 6©10	\$04FLI-399.8/CLD-325.3		$\begin{array}{c} 1003 \\ \hline \\ Carb/Bicarb/H ardness \\ 45500 - COA- D / 130, 1 \\ \hline \\ CLD-325,3 \\ 3\chi 5, 2 \\ \hline \\ \end{array}$	
SAMPLE ID DATE TIME COMP GRAB Water Soil Z O $U - G - 5 - 4g - 5d$ $3/4/6 - 5$ $1/6 - 5$ $1/6 - 5$ X X $1/6 - 2$ $U - G - 5 - 53 - 4d$ $3/4/6 - 5$ $1/4 - 2$ X X X $1/6 - 2$ $U - 5$ $3/4/6 - 5$ $1/4 - 2$ X X X $1/6 - 2$ $U - 10$ $3/4/6 - 5$ $1/4 - 2$ X X X $1/6 - 2$ $U - 10$ $3/4/6 - 5$ $1/4 - 2$ X X $1/6 - 2$ X X $1/6 - 2$ $U - 10$ $3/4/6 - 5$ $0.75 - 5$ $0.75 - 5$ X X $1/2$ $2/6 - 2$ $U - 10$ $3/46 - 5$ $0.75 - 5$ $0.75 - 5$ X X $1/2$ $2/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ $1/6 - 5$ <th>Sampled By: Ben C.4.</th> <th>MACHO</th> <th></th> <th>Q Q</th> <th></th> <th>Other Mat</th> <th></th> <th>umber (</th> <th>ontaine</th> <th>reserva</th> <th>RA Metals, 6010</th> <th>WFL1-399.8/C</th> <th>F </th> <th>rb/Bicarb/ 5<i>ර</i>ප - උද</th> <th></th>	Sampled By: Ben C.4.	MACHO		Q Q		Other Mat		umber (ontaine	reserva	RA Metals, 6010	WFL1-399.8/C	F 	r b/Bicarb / 5 <i>ර</i> ප - උද	
$\begin{array}{c c c c} 1.16 - 5 & 1.16 5 & 1.16 \\ 1.16 - 5 - 57 - 6.0^{\circ} & 3/6/6 & 5 & 1/6 \\ 1.16 - 5 - 57 - 6.0^{\circ} & 3/6/6 & 5 & 1/6 \\ 1.16 - 5 & 3/6/6 & 5 & 1/6 \\ 1.16 - 5 & 3/6/6 & 5 & 0.75 \\ 1.1 & 2 & 1 & 2 \\ 1.1 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 \\ 1.1 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & 2 & $		DATE	TIME	_		Water	Sol	Nı	C (Pr	RCR	SO44	NO3	Car 45	.
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TAT Special Detection Limits (Specify) Consultant Remark TAT Special Detection Limits (Specify) Consultant Remark $Tatr Special Reputing Requirements:Social Reputing Requirements:$	MW-10	3/10/03	0755		X	X.		-	نخ	1			X		1 1
TAT Special Detection Limits (Specify) Consultant Remarks $12hr$ 10 day X Special Reporting Requirements: Social Reporting Requirements: $Social Reporting Requirements:Social Reporting Requirements:Soci$	/														
TAT Special Detection Limits (Specify) Consultant Remarks $172hr$ 10 day S Special Detection Limits (Specify) Consultant Remarks 10 day S Special Reporting Requirements: Soci / Mino 1/5/5 = C h for i d e $3 \lambda 5$; 2 Soci / Mino 1/5/5 = C h for i															l
TAT Special Detection Limits (Specify) Consultant Remarks \square 72hr \square Special Reporting Requirements: Soci 1 Minor 1/Sris = C. h. (cr. i. d. = 3,25, 2, Soci 1 Minor 1/Sris = C. h. (cr. i. d. = 3,25, 2, Soci 1 Minor 1/Sris = C. h. (cr. i. d. = 3,25, 2, Soci 1 Minor 1/Sris = C. h. (cr. i. d. = 3,25, 2, date Consultant Remarks Laboratory Remarks date quished by Sampler: $M = 3$ A_{MS} (YS) S C quished by: $M = 3$ A_{MS} (YS) S M Container Type: date date time quished by: $M = 3$ A_{MS} YS A_{MS} YS $M = 3$ $M = 6$ quished by: $M = 3$ $M = 5$ $M = 7$ $M = 7$ Received quished by: $M = 5$ $M = 7$ $M = 7$ $M = 7$ $M = 7$													100	15 TO 15	榮
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Attachments



Case Narrative for:

Brown & Caldwell

Certificate of Analysis Number:

<u>05030533</u>

Report To:	Project Name: BJ Service/126238.020
Brown & Caldwell	Site: Hobbs, NM
Rick Rexroad	Site Address:
1415 Louisiana	
Suite 2500	PO Number:
Houston	
ТХ	State: New Mexico
77002-	State Cert. No.:
ph: (713) 759-0999 fax: (713) 308-3886	Date Reported: 3/24/2005

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above ¹Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Lynch Pat Lynch Senior Project Manager

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Date



Case Narrative for: Brown & Caldwell

Certificate of Analysis Number:

	<u>050</u>	<u>30533</u>	
Report To:		Project Name:	BJ Service/126238.020
Brown & Caldwell		<u>Site:</u>	Hobbs, NM
Rick Rexroad		Site Address:	
1415 Louisiana			
Suite 2500		PO Number:	
Houston			
тх		<u>State:</u>	New Mexico
77002-		State Cert. No .:	
ph: (713) 759-0999	fax: (713) 308-3886	Date Reported:	3/24/2005

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

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SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

. Lipch Pat Lynch Senior Project Manager

3/24/2005



Brown & Caldwell

		Certificate of An <u>05030</u>	•	
Report To:	Brown & Caldwell Rick Rexroad		Project Name:	BJ Service/126238.020
	1415 Louisiana		<u>Site:</u>	Hobbs, NM
	Suite 2500 Houston		<u>Site Address:</u>	
	тх		PO Number:	· · · ·
	77002- ph: (713) 759-0999	fax: (713) 308-3886	<u>State:</u> <u>State Cert. No.:</u>	New Mexico
Fax To:	Brown & Caldwell		Date Reported:	3/24/2005
	Rick Rexroad	fax : (713) 308-3886		

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-18	05030533-01	Water	3/11/2005 9:45:00 AM	3/12/2005 10:00:00 AM		
ИW-15	05030533-02	Water	3/11/2005 10:15:00 AM	3/12/2005 10:00:00 AM	,	
MW-16	05030533-03	Water	3/11/2005 10:50:00 AM	3/12/2005 10:00:00 AM		
MW-19	05030533-04	Water	3/11/2005 11:45:00 AM	3/12/2005 10:00:00 AM		

Pat Lynch Senior Project Manager

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3/24/2005

Date

Joel Grice Laboratory Director

Ted Yen Quality Assurance Officer



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-18	r	Colle	ected: ()3/11/2005 9:45	SPL Sample ID:	05030533-01
		Site	: Hot	obs, NM		
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg/l	
Alkalinity, Bicarbonate	273	2		1	03/22/05 19:00 A	E 2693050
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg/l	
Alkalinity, Carbonate	ND	2		11	03/22/05 19:00 A	_E 2693059
CHLORIDE, TOTAL			MCL	E325.2	Units: mg/l	_
Chloride	199	10		10	03/23/05 10:44 T_	
HARDNESS, TOTAL (TITRIMETE	RIC, EDTA)		MCL	E130.2	Units: mg/l	_
Hardness (As CaCO3)	650	125		25	03/17/05 14:00 C	V 2686878
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg/l	_
Fluoride	1.7	0.5		1	03/14/05 19:00 C	V 2685289
Nitrogen, Nitrate (As N)	3.4	0.5		1	03/12/05 14:07 C	V 2681637
Sulfate	220	25		50	03/14/05 16:04 C	V 2685276
METALS BY METHOD 6010B, TO	OTAL		MCL	SW6010B	Units: mg/l	
Calcium	207	0.1		1	03/22/05 12:29 M	
Magnesium	43.7	0.1		1	03/22/05 12:29 M	W 2692404
Potassium	3.65	2		1	03/22/05 12:29 M	W 2692404
Sodium	99.7	0.5		1	03/22/05 12:29 M	W 2692404
		· · · · · · · · · · · · · · · · · · ·				

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/15/2005 9:30	BMB	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-15	<u></u>	Colle	cted: ()3/11/2005 10:15	SPL Sample II	D: 0503	0533-02
		Site:	Hot	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: m	g/L	
Alkalinity, Bicarbonate	227	2		11	03/22/05 19:00	A_E	2693052
ALKALINITY, CARBONATE			MCL	M2320 B	Units: m	g/L	
Alkalinity, Carbonate	ND	2		1	03/22/05 19:00	A_E	2693061
CHLORIDE, TOTAL			MCL	E325.2	Units: m	g/L	
Chloride	321	10		10	03/23/05 10:45	Т_Н	2692988
HARDNESS, TOTAL (TITRIMETE	RIC, EDTA)		MCL	E130.2	Units: m	g/L	
Hardness (As CaCO3)	640	50		10	03/17/05 14:00	CV	2686881
ION CHROMATOGRAPHY			MCL	E300.0	Units: m	g/L	
Fluoride	1.1	0.5		. 1	03/14/05 19:13	CV	2685290
Nitrogen, Nitrate (As N)	2.9	0.5		1	03/12/05 14:19	CV	2681638
Sulfate	200	10		20	03/14/05 16:42	CV	2685279
METALS BY METHOD 6010B, TO	DTAL		MCL	SW6010B	Units: m	g/L	·····
Calcium	218	0.1		1	03/22/05 12:33	MW	2692405
Magnesium	35.8	0.1		1	03/22/05 12:33	MW	2692405
Potassium	3.42	2		1	03/22/05 12:33	MW	2692405
Sodium	105	0.5		1	03/22/05 12:33	MW	2692405

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/15/2005 9:30	BMB	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-16		Colle	ected: C)3/11/2005 10:50	SPL Sample ID	: 0503	0533-03
		Site	e: Hot	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg	j/L	
Alkalinity, Bicarbonate	352	2		1	03/22/05 19:00	A_E	2693053
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg	ı/L	
Alkalinity, Carbonate	ND	2		1	03/22/05 19:00	A_E	2693062
CHLORIDE, TOTAL			MCL	E325.2	Units: mg	ı/L	
Chloride	1140	20		20	03/23/05 12:16		2693184
HARDNESS, TOTAL (TITRIMETI	RIC, EDTA)		MCL	E130.2	Units: mg	j/L	
Hardness (As CaCO3)	620	50		10	03/17/05 14:00	CV	2686882
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg	1/L	
Fluoride	8.2	2.5		5	03/14/05 19:26	CV	2685291
Nitrogen, Nitrate (As N)	3.2	0.5		1	03/12/05 14:32	CV	2681639
Sulfate	110	5		10	03/14/05 16:55	CV	2685280
METALS BY METHOD 6010B, TO	OTAL		MCL	SW6010B	Units: mg	1/L	
Calcium	192	0.1		1		MW	2692406
Magnesium	34.9	0.1		1	03/22/05 12:37	MW	2692406
Potassium	4.06	2		1	03/22/05 12:37	MW	2692406
Sodium	612	2.5		5	03/22/05 12:56	MW	2692410

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/15/2005 9:30	BMB	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID: MW-19		Colle	cted: 0)3/11/2005 11:45	SPL Sample ID	: 0503	30533-04
		Site:	Hol	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg	 ۱/L	
Alkalinity, Bicarbonate	207	2		1	03/22/05 19:00	A_E	2693054
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg	ı/L	
Alkalinity, Carbonate	ND	2		1	03/22/05 19:00	A_E	2693063
CHLORIDE, TOTAL			MCL	E325.2	Units: mg	j/L	
Chloride	330	10		10	03/23/05 10:45		2692989
HARDNESS, TOTAL (TITRIMETR	IC, EDTA)		MCL	E130.2	Units: mg	j/L .	
Hardness (As CaCO3)	620	50		10	03/17/05 14:00	cv	2686883
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg	ı/L	
Fluoride	1.2	0.5		· 1		CV	2685292
Nitrogen, Nitrate (As N)	9.4	0.5		1	03/12/05 14:45	CV	2681640
Sulfate	200	10		20	03/14/05 17:07	CV	2685281
METALS BY METHOD 6010B, TO	TAL		MCL	SW6010B	Units: mg]/L	
Calcium	206	0.1		1	03/22/05 12:41	MW	2692407
Magnesium	37.2	0.1		1	03/22/05 12:41	MW	2692407
Potassium	5.64	2		1	03/22/05 12:41	MW	2692407
Sodium	158	0.5		1	03/22/05 12:41	MW	2692407

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/15/2005 9:30	BMB	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution

MI - Matrix Interference

Quality Control Documentation

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

Metals by Me	athod 6010													
SW6010B		B, Totai							WorkO Lab Ba			30533 87		
	Method	Blank		<u> </u>		Sar	nples i	n Analytic	al Batch:					
	1:27	Units: Analyst: Prep By:	mg/L MW BMB N	Method SV	V3010A	050 050 050)30533-)30533-)30533-	01A 02A 03A	ת ת ת	MW-18 MW-15 MW-16		<u>)</u>		
	lyte			0.1		050	30533-	04A	r	MVV-19				
				2]									
			La	boratory (Control S	ample	<u>(LCS)</u>							
			03/22/20	05 11:35	An	ałyst:	mg/L MW BMB (Method SV	/3010A			• •		
		Analyt	te		Spike Added	Result								
м	agnesium				1 1 10	1.00)1	109.4 100.1 102.3	80 80 80	120	5			
S	odium				1	0.962	29	96.29	80	12())			
	Sample				x Spike D	uplicat	te (MSI	<u>5)</u>					<i>.i</i>	
	RunID:	-	TJA_050	0322A-2692			mg/L MW							
								•						
yte	R	ample lesult	MS Spike Added	MS Result		very S	pike	MSD Result			RPD			
		0.1918	1	1.25	50 1	05.8	1	1.26	7 10	07.5	1.381	20	75	125
		ND	1				1				3.374	20	75	125
							10	··						125 125
B - Analyte de	etected in th	ne associ	ated Meth	hod Blank	D - I	Recove	ry Unre	ence portable d	ue to Dilut	tion	· · · · · · · · · · · · · · · · · · ·			
	ND/U - Not D B - Analyte d J - Estimated	TJA_050322A-2692390 03/22/2005 11:27 03/15/2005 9:30 Analyte ium ium Im RunID: Analysis D Preparatio Calcium Magnesium Potassium Sodium Sodium Sample S RunID: Analysis Preparati Sum Sample S RunID: Analysis Preparati	TJA_050322A-2692390 Units: 03/22/2005 11:27 Analyst: 03/15/2005 9:30 Prep By: Analyte ium im RunID: Analysis Date: Preparation Date: Analy Calcium Magnesium Potassium Sodium Notassium Sodium Matrix Sample Spiked: RunID: Analysis Date: Preparation Date: Yte Sample Spiked: RunID: Analysis Date: Preparation Date: yte Sample Spiked: RunID: Analysis Date: Preparation Date: ND ND ND ND ND ND ND	TJA_050322A-2692390 Units: mg/L 03/22/2005 11:27 Analyst: MW 03/15/2005 9:30 Prep By: BMB M Analyte Result ium NE ium NE	TJA_050322A-2692390 Units: mg/L 03/22/2005 11:27 Analyst: MW 03/15/2005 9:30 Prep By: BMB Method SV Analyte Result Rep Limit MD 0.1 ND 0.1 ND 0.5 Laboratory (RunID: TJA_050322A-26923 Analysis Date: 03/22/2005 11:35 Preparation Date: 03/15/2005 9:30 Analyte Calcium Magnesium Potassium Sodium Matrix Spike (MS) / Matrix Sample Spiked: 05030495-24 RunID: TJA_050322A-2692 Analysis Date: 03/22/2005 11:44 Preparation Date: 03/15/2005 9:30 (Matrix Spike (MS) / Matrix Sample Spiked: 05030495-24 RunID: TJA_050322A-2692 Analysis Date: 03/22/2005 11:44 Preparation Date: 03/15/2005 9:30 yte Sample MS MS Result Added 0.1918 1 1.25 ND 10 9.84 ND 10 9.84	TJA_050322A-2692390 Units: mg/L 03/22/2005 11:27 Analyst: MW 03/15/2005 9:30 Prep By: BMB Method SW3010A Analyte Result Rep Limit UM 0 0.1 UM 0 0.1 UM 0 0.5 Laboratory Control S RunID: TJA_050322A-2692391 Un Analysis Date: 03/22/2005 11:35 An Preparation Date: 03/15/2005 9:30 Pre Analyte Spike Added Calcium 1 Potassium 10 Sodium 1 ND Sodium 1 ND Sodium 1 Magnesium 10 Sodium 1 ND Sodium 1 ND Sodium 1 ND ND VIE Sample Spiked: 05030495-24 RunID: TJA_050322A-2692393 U Analysis Date: 03/22/2005 11:44 A Preparation Date: 03/15/2005 9:30 P VIE Sample Spiked: 05030495-24 RunID: TJA_050322A-2692393 U Analysis Date: 03/22/2005 11:44 A Preparation Date: 03/15/2005 9:30 P VIE Sample MS MS MS Result Added 9 ND 10 9.847 8 ND 1 0.9846 9 ND 1 1.016 9 ND 1 1.016 9 ND/U - Not Detected at the Reporting Limit MI- B - Analyte detected in the associated Method Blank D - J - Estimated value between MDL and PQL F	TJA_050322A-2692390 Units: mg/L Lat 03/22/2005 11:27 Analyst: MW 050 03/15/2005 9:30 Prep By: BMB Method SW3010A 050 050 Oscillar Result Rep Limit 050 Analyte Result Rep Limit 050 050 Analyte Result Rep Limit 050 050 Mm 0.1 ND 0.1 0.5 050 Mm ND 0.5 0.5 050 050 Mam ND 0.5 0.5 050 050 Laboratory Control Sample Result ND 0.1 0.15 0.5 RunID: TJA_050322A-2692391 Units: Analysis 0.10 10.2 Sodium 1 1.00 10.2 5 0.0 0.962 Matrix Spike (MS) / Matrix Spike Duplicat Added 1 1.0.2 1 0.962 Sample Spiket: 05030495-24 RunID: TJA_050322A-2692393<	TJA_050322A-2692390 Units: mg/L Lab Samp 03/22/2005 11:27 Analyst: MW 05030533- 0503053- 0000000000	TJA_050322A-2692390 Units: mg/L Lab Sample ID 03/15/2005 9:30 Prep By: BMB Method SW3010A 05030533-02A 05030533-03A 05030533-03A 05030533-04A 01/15/2005 9:30 Prep By: BMB Method SW3010A 05030533-04A 05030533-04A 05030533-04A 05030532-05022A Many 0.1 0.1 0 05030522A-2692391 Units: mg/L Analysis Date: 03/15/2005 9:30 Prep By: BMB Method SW Calcium 1 1.001 100.1 Potassium 1 1.001 102.3 Sodium 1 0.01 102.3 Sample Spiked: 05030495-24 Manalysis Date: 03/22/2005 11:44 Analysis MWW Prepar	TJA_050322A-2692390 Units: mg/L Lab Sample ID G 03/15/2005 11:27 Analyst: MW 05030533-01A I 03/15/2005 9:30 Prep By: BMB Method SW3010A 05030533-02A I 05030533-03A I 05030533-03A I 05030533-03A I 05030533-04A ND 0.1 0 0 05030533-04A I 05030533-04A ND 0.5 05030533-04A I 05030533-04A I 05030533-04A ND 0.5 0 0503053-04A I 0 Imm ND 0.5 ND 0.5 0 ND 0 Imm ND 0.5 ND 0.5 ND ND 0 Imm ND 0.5 ND ND ND ND ND ND ND Imm ND 0.5 ND ND	TJA_050322A-2692390 Units: mg/L Lab Sample ID Client 3 03/22/2005 11:27 Analyst: MW 05030533-01A MW-18 03/15/2005 9:30 Prep By: BMB Method SW3010A 05030533-02A MW-16 05030533-03A MW-16 05030533-03A MW-16 Analyte Result Rep Limit 05030533-04A MW-19 Analyte Result Rep Limit 05030533-04A MW-19 um ND 0.1 05030533-04A MW-19 um ND 0.5 ND 05030533-04A MW-19 um ND 0.5 ND 05030533-04A MW-19 um ND 0.5 ND 0.5 ND 05030533-04A MW-19 Ium ND 0.5 ND 0.5 ND ND 10 ND 10 10.0 ND 10 10 10 10 10 120 Galcium 1 0.9628 96.29 80	TJA_050322A-2692390 Units: mg/L Lab Sample ID Client Sample ID 03/22/2005 11:27 Analyst: MW 05030533-01A MW-18 03/22/2005 9:30 Prep By: BMB Method SW3010A 05030533-02A MW-15 05030533-02A MW-15 05030533-02A MW-15 05030533-04A MW-16 05030533-04A MW-19 Imm ND 0.1 ND 05030533-04A MW-19 Imm ND 0.1 ND 05030533-04A MW-19 Imm ND 0.5 ND 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 10 1	TJA_060322A-2692390 Units: mg/L Lab Sample ID Client Sample ID 03/22/2005 11:27 Analyst: MW 05030533-01A MW-18 03/22/2005 9:30 Prep By: BMB Method SW3010A 05030533-02A MW-16 05030533-03A MW-16 05030533-03A MW-16 05030533-04A MW-19 05030533-04A MW-19 Analyte Result Rep Limit 05030533-03A MW-16 05030533-04A MW-19 0503053-04A MW-19 Analyte Result Rep Limit mg/L Mm ND 0.5 MW-19 Client Sample ID Client Sample ID Client Sample ID Min ND 0.5 MW-19 Client Sample ID Client Sample ID Client Sample ID Min Matrix Spike Sample Solution 1001 80 120 Sample Spiked: <	TAM_050322A-2692390 Units: mg/L Lab Sample ID Client Sample ID 03/22/2005 11:27 Analysi: MW 05030533-02.A MW-16 03/22/2005 9:30 Prep By: BMB Method SW3010.A 05030533-02.A MW-15 05030533-02.A MW-15 05030533-04.A MW-15 05030533-04.A MW-16 0503053-04.A MW-16 Mm 0.1 N0 0.5 Laboratory Control Sample (LCS) RuniD: TJA_050322A-2692391 TJA_050322A-2692391 Units: mg/L Analysis Date: 03/15/2005 9:30 Prep By: BMB Method SW3010A Matrix Spike Method SW3010A Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Sample Spike (MS) / Matrix Spike Duplicate (MSD) Sample Spike (MS) / Matrix Spike Duplicate (MSD) Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Sample Spike (MS) / Matrix Spike Duplicate (MSD) Matrix Spike (MS) / Matrix Spike Duplicate (MSD) Matrix Spike (MS) / Matrix Spike Duplicate (MSD)



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Quality Control Report

HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Brown & Caldwell

					vn & Ca ervice/126									
» Analysis:	Ion Chromatograph	ıy							Work	Order:	05	030533		
lethod:	E300.0								Labi	Batch ID): R1	35694		
	Met	hod Blank				Sam	ples in	Analyti	ical Batc	h:				
RunID:	IC1_050312A-2681627	Units:	mg/L			Lab	Sampl	<u>e ID</u>		<u>Client</u>	Sample I	D		
nalysis Date:	03/12/2005 12:01	Analyst:	CV			0503	0533-0)1C		MW-18	3			
							0533-0			MW-15				
							0533-0 0533-0			MW-16 MW-19				
	Analyte			Rep Lim		0505	0333-0	40		1010 0-12	5			
IN	litrogen, Nitrate (As N)			0.5	0									
			La	boratory	Control S	Sample (I	CS)							
	RunID):	IC1 0503	12A-26816	28 Ur	nits: r	ng/L							
		sis Date:	_	05 12:14			SV							
											_			
		Analy	te		Spike Added	Result	Per	cent	Lower Limit	Upper Limit				
	Nitrogon	,Nitrate (As N			10	9.78	1	97.8	85		E			
	Nittogen	Nillale (AS N	<u>) </u>		10	9.70		97.0	65	11	5			
	Runi	ple Spiked:	050305 IC1_050			Duplicate Units: Analyst:	(MSD mg/L CV	1						
	Runi	ple Spiked: D:	050305 IC1_050 03/12/2 MS Spike	531-11 0312A-2681	1633 U 7 A MS	Units: Analyst: % MS very Spi	mg/L CV SD ke) MSD Result		D % overy	RPD	RPD Limit	Low Limit	High Limit
	Runi Anal Analyte	ple Spiked: D: ysis Date: Sample Result	050305 IC1_050 03/12/2 MS Spike Added	531-11 0312A-268 2005 13:1 MS Result	1633 U 7 A MS Reco	Units: Analyst: % MS very Spi Add	mg/L CV SD ke Jed	MSD Result	Reco	overy		Limit	Limit	Limit
litrogen,Nitrat	Runi Anal Analyte	ple Spiked: D: ysis Date: Sample	050305 IC1_050 03/12/2 MS Spike Added	531-11 0312A-268 2005 13:1 MS Result	1633 U 7 A MS	Units: Analyst: % MS very Spi	mg/L CV SD ke	MSD Result			RPD	Limit	Limit	Limit
litrogen,Nitrat	Runi Anal Analyte	ple Spiked: D: ysis Date: Sample Result ND	050305 IC1_050 03/12/2 MS Spike Added 10	531-11 0312A-268 2005 13:1 MS Result 9	1633 U 7 A MS Reco .57	Units: Analyst: % MS very Spi Add	mg/L CV	MSD Result 9.	Reco	overy		Limit	Limit	Limit
	Runi Analyte le (As N) ND/U - Not Detected B - Analyte detected	ple Spiked: D: ysis Date: Sample Result ND	050305 IC1_050 03/12/2 MS Spike Added 10	531-11 0312A-268 2005 13:1 MS Result 9	1633 U 7 A Reco .57 .57 .57	Units: Analyst: Very Spi Add 95.7	mg/L CV	MSD Result 9.	due to D	93.9 93.9		Limit	Limit	Limit
	Runi Analyte le (As N)	ple Spiked: D: ysis Date: Sample Result ND	050305 IC1_050 03/12/2 MS Spike Added 10 10	531-11 0312A-268 2005 13:1 MS Result 9	1633 U 7 A Reco .57 .57 .57 .57	Units: Analyst: Very Spi Add 95.7 95.7 - Matrix Ir Recovery Recovery	mg/L CV	MSD Result 9. 9. ence portable le Advis	due to Diable QC	93.9 93.9 ilution Limits	1.88	Limit	Limit	Limit



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell B | Samina/126238.020

					BJ Sei	rvice/126	238.020							
Analysis: Nethod:	Ion Chron E300.0	natograp	hy							kOrder: Batch II		030533 35910 <i>4</i>		
<u></u>		Me	thod Blank				Samp	les in Analy	tical Batc	h:				
unID: nalysis Date:	IC1_050314 03/14/200		Units: Analyst:	mg/L CV			05030 05030	5ample ID 0533-01C 0533-02C 0533-03C		<u>Client</u> MW-1 MW-1 MW-1	5	D		
	luoride ulfate	Analyte		Result ND ND		2	05030	0533-04C		MW-1	9			
	······································			Lai	boratory	Control S	ample (L	CS)		<u> </u>				
		Runi[Analy): sis Date:	IC1_05031 03/14/20	14A-268525 05 12:31		its: m alyst: C	ıg/L ∨						
			Analy	te		Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit				
		Fluoride	· ····································			10	9.81	98.1	85					
		Sulfate	· · · · · · · · · · · · · · · · · · ·	····- <u></u>		10	10.1	101	85	1	15			
			Matrix	Spike (M	S) / Matri	x Snike D	uplicate	(MSD)			<u></u>			
		Run	iple Spiked: ID: lysis Date:		33-01 314A-2685 005 16:17			mg/L CV						
	Analyte		Sample Result	MS Spike Added	MS Result	MS 9 Recov		ke Resul		D % overy	RPD	RPD Limit	Low Limit	High Limit
ulfate			224	500	74	41	103 :	500	729	101	1.66	5 20	80	120
								erference			····			

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



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Brown & Caldwell

BJ Service/126238.020

Analysis:	Ion Chro	omatograpi	hy		BJ Se	rvice/1262	238.020	•	Worl	kOrder:	050	030533		
Method:	E300.0								Lab	Batch II): R1	35910E	3	
		Met	thod Blank				Samp	oles in Analy	tical Batc	h:				
RunID:	IC1_0503	14A-2685258	Units:	mg/L			Lab S	ample ID		<u>Client</u>	Sample I	D		
Analysis Date:	03/14/20	05 12:18	Analyst:	CV			05030)533-01C		MW-1	8	-		
)533-02C		MW-1				
)533-03C		MW-1				
[Analyte		Result	Rep Lim	it	05030)533-04C		MW-1	9			
	luoride ulfate			N										
0					0.5	0]								
,	· ·			La	aboratory	Control S	ample (L	CS)						
		Runic):	IC1_0503	314A-26852	59 Un	its: m	ig/L						
		Analy	sis Date:	_	005 12:31		alyst: C							
			Analy	⁄te		Spike	Result	Percent	Lower	Upper	ļ			
		El				Added		Recovery	Limit	Limit				
		Fluoride Sulfate				10 10	9.81 10.1	98.1 101	85 85	11				
		Sunate				10	10.1		00					
	<u> </u>		Matrix	Spike (N	/IS) / Matri	ix Spike D	uplicate	(MSD)						
		Sam	ple Spiked:	05030	531-08									
		Run			0314A-2685	5285 U	nits:	mg/L						
			lysis Date:	-	2005 18:1			cv						
	Analyte		Sample	MS	MS	MS 9				D %	RPD	RPD	Low	High
			Result	Spike Added	Result	Recov	ery Spik		it Rec	overy		Limit	Limit	Limit
luoride			1.10	10	1/	0.2	91.4	10	10.3	91.9	0.497	20	80	120
	·		1.10	10		5.2	51.4	10	10.5	91.9	0.497	20	00	120
													·	
														
Qualifiers:			d at the Repo					erference						
	B - Anal	yte detected	I in the assoc	iated Met	thod Blank	D - I	•	Unreportable						
	-							• • • • • • •						
	J - Estim		between MDL d - Sample co				-	Dutside Advi			الاستغبال		- L -	

rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

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					n & Caldw vice/126238.							
Analysis: lethod:	Hardness, To E130.2	otal (Titrimetric, El	D TA)					WorkOrder		5030533 1359964		
		Method Blank				Sample	s in Analytica	Batch:				
RunID:	WET_050317G-	-2686864 Units:	mg/L			Lab Sar	mple ID	Clien	t Sample	ID		
nalysis Date	: 03/17/2005 14	4:00 Analyst	: CV			050305: 050305: 050305:	33-01A 33-02A	MW- MW-	18 15			
Г	Anal		Posult	Rep Limit	I	0503053	33-04A	MW-	19			
Ē	Hardness (As CaCO3)		ND		1							
	· <u></u> _ , ······		La	boratory (Control Sam	ole (LCS	<u>S)</u>	<u></u>				
		RunID:	WET_0503	317G-26868	66 Units:	mg/	Ľ					
		Analysis Date:	03/17/20	05 14:00	Analys	-						
	г 				0.11. D		Descent L La					
		Anal	yte		Spike Re Added			wer Uppe imit Limi				
	Ha	ardness (As CaCO	3)		330	335	102	85 1	15			
		Matrix	Spike (M	S) / Matrix	Spike Dupl	icate (N	ISD)			<u></u>		
		Sample Spiked: RunID:	050305 WET 05	50317G-268	6879 Units	: m	g/L		,			
		Analysis Date:		005 14:00			-					
		raidiyolo Dute.		000 11.00	Лнагу	0						
		/ maryolo Date.			Anai	0. 0						
			T				•	· · · · · · · · · · · · · · · · · · ·				r
	Analyte	Sample	MS Spike	MS	MS % Recovery	MSD	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	
	Analyte	Sample	MS Spike Added	MS	MS %		MSD Result		RPD			
ardness (As		Sample	Spike Added	MS	MS % Recovery	MSD Spike Added	MSD Result	Recovery			Limit	High Limi 12
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
ardness (As		Sample Result	Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	Recovery		Limit	Limit	Limi
	CaCO3)	Sample Result 65	Spike Added 0 1250	MS Result	MS % Recovery	MSD Spike Added	MSD Result 0 1880	Recovery		Limit	Limit	Limi
ardness (As Qualifiers:	CaCO3) ND/U - Not De	Sample Result	Spike Added 0 1250	MS Result	MS % Recovery 0 98.0	MSD Spike Addeo 125	MSD Result 0 1880	Recovery 98.0		Limit	Limit	Limi
	CaCO3) ND/U - Not De B - Analyte de J - Estimated	Sample Result 650 etected at the Report etected in the associated value between MD	Spike Added D 1250 orting Limit ciated Meth L and PQL	MS Result 188	MS % Recovery 0 98.0 MI - Ma D - Rec * - Recc	MSD Spike Added 1250	MSD Result 0 1880	Recovery 98.0 e to Dilution e QC Limits	· · · · · · · · · · · · · · · · · · ·	Limit	Limit 80	Limi
Qualifiers:	ND/U - Not De B - Analyte de J - Estimated N/C - Not Calo	etected at the Report value between MD culated - Sample cu	Spike Added D 1250 D 12	MS Result 188 nod Blank	MS % Recovery 0 98.0 MI - Ma D - Rec * - Recc er than 4 time	MSD Spike Added 1250 rix Inter overy Un very Ou s the an	MSD Result 0 1880	Recovery 98.0 e to Dilution e QC Limits	· · · · · · · · · · · · · · · · · · ·	Limit	Limit 80	Limi
Qualifiers:	CaCO3) ND/U - Not De B - Analyte de J - Estimated	Sample Result 650 etected at the Report etected in the associ- value between MD culated - Sample co- mples are correct a	Spike Added D 1250 ofting Limit biated Meth L and PQL poncentratio as reported	MS Result 188 nod Blank n is greate	MS % Recovery 0 98.0 MI - Ma D - Reco * - Reco er than 4 time gnificant figu	MSD Spike Added 1250 rix Inter overy Ur very Ou s the and res and	MSD Result 0 1880 ference nreportable du utside Advisabl nount of spike	Recovery 98.0 e to Dilution e QC Limits	· · · · · · · · · · · · · · · · · · ·	Limit 0 20	Limit 80	Limi 12

Analysis:									. (713) 660			
nalysis:						& Caldw ce/126238.0							
lethod:	Chloride, T E325.2	ſotal							WorkOr Lab Bate			30533 6348	
		Met	hod Blank				Samples i	in Analytic:	al Batch:				
RunID:	KONELAB_0)50323C-26	6929 Units:	mg/L		l	ab Samp	ole ID	C	ie <u>nt Sar</u>	nple IC)	
nalysis Date:	03/23/2005	10:44	Analyst:	T_H		()5030533)5030533)5030533	-01B -02B	M M	W-18 W-15 W-19		-	
Chi	Ar	nalyte		Result	Rep Limit								
Chi	oride			ND									
				 al	boratory Co	ontrol Same	le (LCS)						
		RunID Analys): sis Date:		_050323C-26		mg/L : T_H						
		Analys		KONELAB 03/23/20	3_050323C-26 05 10:44	929 Units: Analyst pike Re: dded	: T_H sult Pe Re	covery L	imit L	oper imit			
			sis Date: Analy	KONELAB 03/23/200 te	s_050323C-26 05 10:44 S A	9929 Units: Analyst pike Res dded 50 4	: T_H sult Pe Re 7.76	95.52					
		Analys Chloride Sam Runl	sis Date: Analy <u>Matrix</u> ple Spiked:	KONELAB 03/23/200 te <u>Spike (M</u> 050306 KONELA	<u>s_050323C-26</u> 05 10:44 <u>S) / Matrix S</u> 22-10	929 Units: Analyst pike Re: dded	: T_H sult Pe Re 7.76 cate (MS	295.52	imit L	imit			
	Analyte	Analys Chloride Sam Runl	sis Date: Analy <u>Matrix</u> ple Spiked: ID:	KONELAB 03/23/200 te <u>Spike (M</u> 050306 KONELA	s_050323C-26 05 10:44 S A S) / Matrix 9 22-10 NB_050323C-1	5929 Units: Analyst opike Res dded 50 4 Spike Dupli 26929 Units:	: T_H sult Pe Re 7.76 <u>cate (MS</u>	295.52	imit L	imit 120	PD	RPD Limit	High Limit

Qualifiers:

ND/U - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank MI - Matrix Interference

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL * - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

Brown & Caldwell

1		n & Caldwell vice/126238.020
Analysis: Method:	Alkalinity, Bicarbonate M2320 B	WorkOrder: 05030533 Lab Batch ID: R136354
Method:	Method Blank	Samples in Analytical Batch:
RunID: Analysis Date:	WET_050322T-2693047 Units: mg/L 03/22/2005 19:00 Analyst: A_E	Lab Sample ID Client Sample ID 05030533-01B MW-18 05030533-02B MW-15 05030533-03B MW-16
Alka	Analyte Result Rep Limi linity, Bicarbonate ND 2.0	
1	Laboratory	Control Sample (LCS)
	RunID: WET_050322T-26930 Analysis Date: 03/22/2005 19:00	49 Units: mg/L Analyst: A_E
	Analyte	Spike Result Percent Lower Upper Added Recovery Limit Limit
	Alkalinity, Bicarbonate	14.4 14.07 97.71 90 110
	<u>Sai</u>	nple Duplicate
	Original Sample: 05030533-01 RunID: WET_050322T-2 Analysis Date: 03/22/2005 19:	-
•	Analyte	SampleDUPRPDRPDResultResultLimit
	Alkalinity, Bicarbonate	273 273.4 0 20
Qualifiers:	ND/U - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank J - Estimated value between MDL and PQL	MI - Matrix Interference D - Recovery Unreportable due to Dilution * - Recovery Outside Advisable QC Limits
	N/C Net Calculated Sample concentration is great	r than 4 times the amount of spike added. Control limits do not apply.



Quality Control Report

HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

B.I Service/126238.020

nalysis: lethod:	Alkalinity, Carb M2320 B			WorkOrder: Lab Batch ID:	05030533 R136356
		Method Blank	Samples in Ana		
RunID:	WET_050322U-269			-	
		-	<u>Lab Sample ID</u> 05030533-01B	<u>Client Sa</u> MW-18	npie ID
nalysis Date:	03/22/2005 19:00	0 Analyst: A_E	05030533-01B	MW-15	
			05030533-02B	MW-16	·
			05030533-04B	MW-19	
	Analyte		nit		
Alka	linity, Carbonate	ND	2.0		
		Laborator	y Control Sample (LCS)		<u></u>
	Ru	unID: WET_050322U-26	93058 Units: mg/L		
		nalysis Date: 03/22/2005 19:0			
		Analyte	Spike Result Percent	Lower Upper	
			Added Recovery		
	Alkal	inity, Carbonate	14.4 14.07 97.7	1 90 110	
		<u>s</u>	ample Duplicate		
		Original Sample: 05030533-01			
		RunID: WET_050322L	-2693059 Units: mg/L		
		Analysis Date: 03/22/2005 1	-		
		····· ; ·······························			
	•	Analyte	Sample DUP R	PD RPD	
			Result Result	Limit	
		Alkalinity, Carbonate	ND ND	0 20	
Qualifiers:	ND/U - Not Dete	cted at the Reporting Limit	MI - Matrix Interference		
		cted in the associated Method Blar	nk D - Recovery Unreportat	le due to Dilution	
		lue between MDL and PQL	* - Recovery Outside Ad		
	N/C - Not Calcula	ated - Sample concentration is gre	ater than 4 times the amount of	spike added. Control lin	nits do not apply.
The percent rec	overies for QC samp	oles are correct as reported. Due to	significant figures and		
The percent recounding, the rep	overies for QC samp ported RPD may diff	oles are correct as reported. Due to er from the displayed RPD values	 significant figures and but is correct as reported. 		3/24/2005 7:43:08

		B						8880 INTER HOUST	ON, TX 77	DRIVE 054	:	
	Quality	Control Re	port		n & Caldw			(713	660-0901			
Analysis: Method:	Chloride, Total E325.2			BJ Ser	vice/126238.(J20		WorkOrder: Lab Batch I)30533 36361		
RunID: Analysis Date:	<u>Me</u> KONELAB_050323E-2 03/23/2005 12:16	thod Blank 6931 Units: Analyst:	mg/L T_H			Samples i <u>.ab Samr</u>)5030533			<u>t Sample I</u> I6	<u>D</u>		
Chic	Analyte		Result ND	Rep Limit 1.0								
	Runi Analy): sis Date:		3_050323E-2	26931 Units: Analyst	mg/L				<u>_</u>	<u></u>	
	Chloride	Analyt	te		Spike Res Added 50 4			wer Upper mit Limit 80 1	:			
		ple Spiked:	050306	10-02	Spike Dupli				20			
Ą	Run	iple Spiked: ID: lysis Date: Sample	050306 KONELA 03/23/2 MS	10-02 AB_050323E 2005 12:16 MS	-26931 Units: Analy	mg/L st: T_H	D) - MSD	MSD %	RPD	RPD		High
A	Run Ana	iple Spiked: ID: lysis Date:	050306 KONELA 03/23/2 MS Spike Added	10-02 AB_050323E 2005 12:16	Spike Dupli -26931 Units: Analy MS % Recovery	<u>cate (MS</u> mg/l st: T_H	<u>D)</u>	I	,	Limit	Limit	Limit
	Run Ana	iple Spiked: ID: lysis Date: Sample Result	050306 KONELA 03/23/2 MS Spike Added	10-02 AB_050323E 2005 12:16 MS Result	Spike Dupli -26931 Units: Analy MS % Recovery	mg/L mg/L st: T_H MSD Spike Added	D) - MSD Result	MSD % Recovery	RPD	Limit	Limit	Limit
Chloride Qualifiers:	Run Ana	Iple Spiked: ID: IVS Date: Sample Result 4460 d at the Report in the associ- between MDL d - Sample cor	050306 KONELA 03/23/2 MS Spike Added 2500	n is greate	Analy MS % Recovery 88.10 MI - Mate D - Recovery r than 4 times	rix Interfer very Outsis the amo	D) MSD Result 6657 6657	MSD % Recovery 87.89	RPD 0.08149	Limit	Limit	Limit

Sample Receipt Checklist And Chain of Custody

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Sample Receipt Checklist

Correction and the	Da	/orkorder: ate and Time Received: emperature:	05030533 3/12/2005 10:00:00 AM 3.5°C			Received Carrier na Chilled by	ame: Fede	x-Priority er Ice	
	1.	Shipping container/co	ooler in good condition?	Yes		No	Not Present		
1.7.7.	2.	Custody seals intact o	on shippping container/cooler?	Yes	\checkmark	No 🗌	Not Present		
	3.	Custody seals intact of	on sample bottles?	Yes		No 🗌	Not Present	\checkmark	
	4.	Chain of custody pres	sent?	Yes		No 🗌			
	5.	Chain of custody sigr	ned when relinquished and received?	Yes	\checkmark	No 🗌			
	6.	Chain of custody agree	ees with sample labels?	Yes		No 🗌			
	7.	Samples in proper co	ntainer/bottle?	Yes		No 🗌			
1. 244 E 8	8.	Sample containers int	tact?	Yes		No 🗌			
4274	9.	Sufficient sample volu	ume for indicated test?	Yes		No 🗌		·	
	10.	All samples received	within holding time?	Yes		No			
	11.	Container/Temp Blan	k temperature in compliance?	Yes		No 🗌			
	12.	Water - VOA vials hav	e zero headspace?	Yes		No 🗌	Not Applicable		
	13.	Water - pH acceptable	e upon receipt?	Yes		No	Not Applicable		
		SPL Representativ] Conta	act Date & T	īme:			
Â		Non Conformance Issues:			<u>.</u>				
		Client Instructions:					-		
								3/2	24/2005 7:43:09 AN

Matrix Matrix Matrix Matrix Matrix Matrix Solid Solid <th></th> <th>Relinquished by:</th> <th></th> <th>Ber Camacho S. C.</th> <th>Carl Crekhant</th> <th>ements:</th> <th>TAT Special Detection Limits (Specify) 24hr 72hr</th> <th></th> <th></th> <th></th> <th>19 Jules 1</th> <th>1 c 3/11/es</th> <th>15 3/1/05</th> <th>3/11/05 0945</th> <th>Sampled By: Ben Curracho SAMPLE ID DATE TIME COMP</th> <th>Site Address: Hobbs, NM CLP</th> <th>Project No: 126238.020 Std</th> <th>Project Name: BJ Service</th> <th>City: Houston State: 1X, //UUUZ Other</th> <th>WCWas</th> <th>Address: 1415 Louisiana Fax: (713) 308-3886 Other</th> <th>22 Filorie. (113) 138-0888</th>		Relinquished by:		Ber Camacho S. C.	Carl Crekhant	ements:	TAT Special Detection Limits (Specify) 24hr 72hr				19 Jules 1	1 c 3/11/es	15 3/1/05	3/11/05 0945	Sampled By: Ben Curracho SAMPLE ID DATE TIME COMP	Site Address: Hobbs, NM CLP	Project No: 126238.020 Std	Project Name: BJ Service	City: Houston State: 1X, //UUUZ Other	WCWas	Address: 1415 Louisiana Fax: (713) 308-3886 Other	22 Filorie. (113) 138-0888
me Received by: Received by: The Borration of the Source		tate 12/65	• •			if ld t.					X	X	XX	XX	Water	Other			(demoniale below)		(describe below)	
Inicitie Inici		Received by SP				Laborato	Consultant Remarks	1			3, 3, 2	33,1	3,3,1	33.2	Col	nt ai i	ner	Тур		312		
	PLSK	INE: CA	•		in viai/2=1002 plastic s=3202 plastic	ol viologia and a local of the			S.		X				SO4#I NO3 Carb	.1-399	.0 (1	D-325.	,K,Na ,3		= (- ウソクロクノノブ

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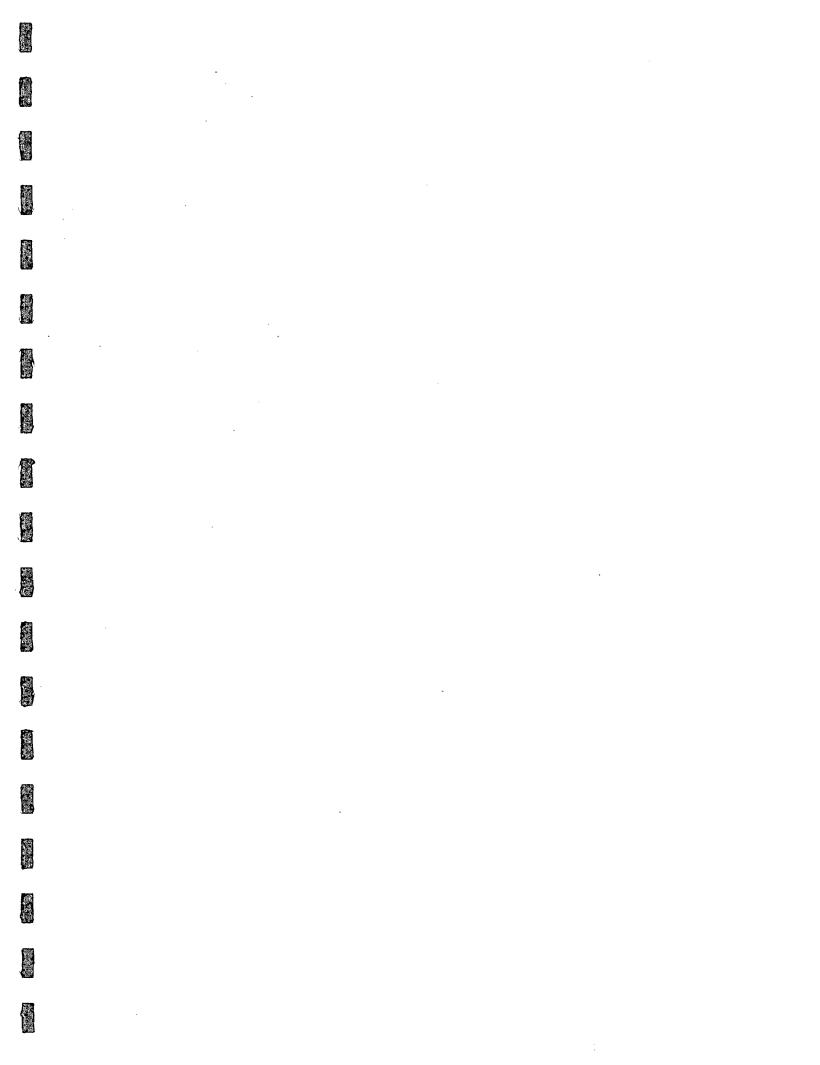
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Brown	& Caldwell	BJ Service/126238.020	20 20
Certificate of	Analysis Number:	AND CAL	
<u>05</u>	<u>5030531</u>	ALDW	
Report To:	Project Name:	BJ Service/126238.020	HOUSTON
Brown & Caldwell	<u>Site:</u>	Hobbs, NM	
Rick Rexroad	Site Address:		
1415 Louisiana			
Suite 2500	PO Number:		
Houston		New Mexico	
тх	<u>State:</u>	New Mexico	
77002-	State Cert. No.:		
ph: (713) 759-0999 fax: (713) 308-3886	Date Reported:	3/24/2005	

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This Report Contains A Total Of 28 Pages

Excluding This Page, Chain Of Custody

And

Attachments



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Case Narrative for: Brown & Caldwell

Certificate of Analysis Number:

05030531

Report To:	Project Name: BJ Service/126238.020
Brown & Caldwell	Site: Hobbs, NM
Rick Rexroad	Site Address:
1415 Louisiana	
Suite 2500 Houston	PO Number:
TX	State: New Mexico
77002-	State Cert. No.:
ph: (713) 759-0999 fax: (713) 308-3886	Date Reported: 3/24/2005

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Pat Lynch Senior Project Manager

3/24/2005



Brown & Caldwell

			DIOWI								
		Cei	rtificate of	f Analysis Number:							
<u>05030531</u>											
Report To:	Brown & Caldwell			Project Na	ime: BJ Service/12623	e: BJ Service/126238.020					
10257	Rick Rexroad			Site:	Hobbs, NM						
	1415 Louisiana			Site Addre	ess:						
	Suite 2500			· · · · · · · ·							
- 1	Houston			DO Numb	~ ~.						
200	TX 77002-			<u>PO Numb</u>							
	ph: (713) 759-0999	fax: (713) 30	2226	<u>State:</u>	New Mexico						
	pn. (715) 759-0999	Tax. (715) 50	-3000	State Cert	<u>. No.:</u>						
<u>Fax To:</u>	Brown & Caldwell			Date Repo	orted: 3/24/2005						
	Rick Rexroad	fax : (713) 3	08-3886								
Clien	t Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD				
W-17-S-9-10		05030531-01	Soil	3/10/2005 8:30:00 AM	3/12/2005 10:00:00 AM						
WW-17-S-19-20	0'	05030531-02	Soil	3/10/2005 8:35:00 AM	3/12/2005 10:00:00 AM						
MW-17-S-29-30	0'	05030531-03	Soil	3/10/2005 8:40:00 AM	3/12/2005 10:00:00 AM						
W-17-S-39-40	0'	05030531-04	Soil	3/10/2005 8:45:00 AM	3/12/2005 10:00:00 AM						
W-17-S-49-50	0'	05030531-05	Soil	3/10/2005 8:50:00 AM	3/12/2005 10:00:00 AM						
MW-17-S-59-60	0'	05030531-06	Soil	3/10/2005 8:55:00 AM	3/12/2005 10:00:00 AM						
WW-11A		05030531-07	Water	3/10/2005 3:45:00 PM	3/12/2005 10:00:00 AM						
1W-12D		05030531-08	Water	3/10/2005 4:30:00 PM	3/12/2005 10:00:00 AM						
MW-14		05030531-09	Water	3/10/2005 5:20:00 PM	3/12/2005 10:00:00 AM						
MW-17		05030531-10	Water	3/11/2005 8:30:00 AM	3/12/2005 10:00:00 AM						
W-12D		05030531-11	Water	3/11/2005 8:00:00 AM	3/12/2005 10:00:00 AM						
W-11A		05030531-12	Water	3/11/2005 8:10:00 AM	3/12/2005 10:00:00 AM		\square				
MW-14		05030531-13	Water	3/11/2005 8:20:00 AM	3/12/2005 10:00:00 AM						

at Lynch Senior Project Manager

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Joel Grice Laboratory Director

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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-17-S-9-10'		Colle	cted: (3/10/2005	8:30	SPL Sample II	D: 0503	0531-01
		Site	: Hol	bbs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	27.3	10		1		03/18/05 11:01	T_H	2687609

Qualifiers:

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- * Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution

MI - Matrix Interference



HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-17-S-	Coll	ected:()3/10/2005	SPL Sample II	D: 0503	0531-02		
		Site	e: Hol	bbs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	186	10		1		03/18/05 11:01	T_H	2687612

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-17-S-29-30'		Colle	SPL Sample II	D: 0503	30531-03			
		Site	: Hot	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	80.5	10	• • • • • • • • • • • • • • • • • • • •	1		03/18/05 11:01	ТН	2687613

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

- * Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-17-S-39-40'		Coll	SPL Sample II	D: 0503	0531-04			
		Site	: Hol	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	40.2	10		1		03/18/05 11:02	T_H	2687614

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-17-S-49-50'	Colle	ected: 0	3/10/2005	SPL Sample II	D: 0503	0531-05		
		Site	: Hob	bs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E	325.2	Units: m	g/kg	
Chloride	39.1	10		1		03/18/05 11:02	T_H	2687615

Qualifiers:

ND/U - Not Detected at the Reporting Limit

- B Analyte detected in the associated Method Blank
- * Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference

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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-17-S-59-60'		Coll	ected: 03/10/2	2005 8:55	SPL Sample II	D : 0503	0531-06
		Site	: Hobbs, N	м			
Analyses/Method	Result	Rep.Limit	Dil. F	actor QUAL	Date Analyzed	Analyst	Seq. #
CHLORIDE, TOTAL			MCL	E325.2	Units: m	g/kg	
Chloride	42.8	10		1	03/18/05 11:02	T_H	2687616

- ND/U Not Detected at the Reporting Limit
- B Analyte detected in the associated Method Blank
- * Surrogate Recovery Outside Advisable QC Limits
- J Estimated Value between MDL and PQL
- >MCL Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-11A		Colle	cted: ()3/10/2005 15:45	SPL Sample ID:	05030531-07
		Site	: Hol	bbs, NM		
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed A	nalyst Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg/L	-
Alkalinity, Bicarbonate	485	2		1	03/21/05 15:30 A	E 2690676
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg/l	
Alkalinity, Carbonate	ND	2		1	03/21/05 15:30 A	E 2690687
CHLORIDE, TOTAL			MCL	E325.2	Units: mg/L	
Chloride	2740	100		100	03/21/05 12:17 T_	
HARDNESS, TOTAL (TITRIMETR	IC, EDTA)	······································	MCL	E130.2	Units: mg/l	
Hardness (As CaCO3)	1300	250		50	03/17/05 14:00 C	
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg/l	
Fluoride	6.3	5		10	03/14/05 19:51 C	V 2685293
Sulfate	370	50		100	03/14/05 14:49 C	V 2685270
METALS BY METHOD 6010B, TO	TAL		MCL	SW6010B	Units: mg/l	•
Calcium	394	0.1		1	03/22/05 12:04 M	
Magnesium	78.7	0.1		1	03/22/05 12:04 M	V 2692398
Potassium	31.9	2		1	03/22/05 12:04 M	W 2692398
Sodium	1590	2.5		5	03/22/05 12:52 M	W 2692409

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/15/2005 9:30	BMB	1.00

Qualifiers:

- : ND/U Not Detected at the Reporting Limit
 - B Analyte detected in the associated Method Blank
 - * Surrogate Recovery Outside Advisable QC Limits J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-12D		Colle	ected: 0	03/10/2005 16:30	SPL Sample ID	0503	0531-08
		Site	: Hot	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg/L		
Alkalinity, Bicarbonate	224	2		1	03/21/05 15:30	A_E	2690678
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg	j/L	
Alkalinity, Carbonate	ND	2		1	03/21/05 15:30	A_E	2690689
CHLORIDE, TOTAL	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	MCL	E325.2	Units: mg	/L	
Chloride	161	5		5	03/18/05 13:18	т_н	2688024
HARDNESS, TOTAL (TITRIMETR	IC, EDTA)		MCL	E130.2	Units: mg	J/L	
Hardness (As CaCO3)	680	125		25	03/17/05 14:00	CV	2686872
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg	j/L	
Fluoride	1.1	0.5		1	03/14/05 17:32	CV	2685282
Sulfate	160	10		20	03/14/05 15:02	CV	268527
METALS BY METHOD 6010B, TO	TAL		MCL	SW6010B	Units: mg	у/L	· · · · · · · · · · · · · · · · · · ·
Calcium	201	0.1		1	03/22/05 12:08	MW	2692399
Magnesium	10.8	0.1		1	03/22/05 12:08	MW	269239
Potassium	42.9	2		1	03/22/05 12:08	MW	269239
Sodium	56	0.5		1	03/22/05 12:08	MW	269239

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/15/2005 9:30	BMB	1.00

Qualifiers:

- ND/U Not Detected at the Reporting Limit
 - B Analyte detected in the associated Method Blank
 - * Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL) D - Surrogate Recovery Unreportable due to Dilution MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-14		Coll	ected: 0)3/10/2005 17:20	SPL Sample ID	: 0503	0531-09
		Site	e: Hol	obs, NM			
Analyses/Method	Result	Rep.Limit		Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY, BICARBONATE			MCL	M2320 B	Units: mg	/L	
Alkalinity, Bicarbonate	448	2		1	03/21/05 15:30	A_E	2690679
ALKALINITY, CARBONATE			MCL	M2320 B	Units: mg	/L	
Alkalinity, Carbonate	ND	2		1	03/21/05 15:30	A_E	2690690
CHLORIDE, TOTAL		· · · · · · · · · · · · · · · · · · ·	MCL	E325.2	Units: mg	/L	
Chloride	303	5		5	03/18/05 13:18	т_н	2688025
HARDNESS, TOTAL (TITRIMETR	IC, EDTA)		MCL	E130.2	Units: mg	/L	
Hardness (As CaCO3)	1000	125		25	03/17/05 14:00	CV	2686875
ION CHROMATOGRAPHY			MCL	E300.0	Units: mg		
Fluoride	2.4	0.5		1	03/14/05 18:35	CV	2685287
Sulfate	130	10		20	03/14/05 15:39	CV	2685274
METALS BY METHOD 6010B, TOTAL		<u></u>	MCL	SW6010B	Units: mg/L		
Calcium	276	0.1		1	03/22/05 12:21	MW	2692402
Magnesium	78.2	0.1		1 .	03/22/05 12:21	MW	2692402
Potassium	4.36	2	·	1	03/22/05 12:21	MW	2692402
Sodium	92.2	0.5		1	03/22/05 12:21	MW	2692402

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3010A	03/15/2005 9:30	BMB	1.00

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

>MCL - Result Over Maximum Contamination Limit(MCL)
 D - Surrogate Recovery Unreportable due to Dilution
 MI - Matrix Interference



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-	17	C	ollected: ()3/11/2005 8:30	SPL Sample I	D: 0503	30531-10
		5	Site: Hol	obs, NM			
Analyses/Method	Result	Rep.Limit	:	Dil. Factor QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY, BICARBO	NATE		MCL	M2320 B	Units: m	ig/L	
Alkalinity, Bicarbonate	251	2		1	03/21/05 15:30	A_E	2690680
ALKALINITY, CARBON	ATE		MCL	M2320 B	Units: m	ig/L	
Alkalinity, Carbonate	ND	2		1	03/21/05 15:30	A_E	2690691
CHLORIDE, TOTAL			MCL	E325.2	Units: m	ig/L	
Chloride	167	5		5	03/18/05 13:18	T_H	2688026
HARDNESS, TOTAL (T	TRIMETRIC, EDTA)	······································	MCL	E130.2	Units: m	ig/L	
Hardness (As CaCO3)	540	50		10	03/17/05 14:00	CV	2686877
ION CHROMATOGRAP	HY		MCL	E300.0	Units: m	ng/L	
Fluoride	3.7	0.5	·····	1	03/14/05 18:48	CV	2685288
Nitrogen, Nitrate (As N)	3.8	0.5		1	03/12/05 13:54	CV	2681636
Sulfate	150	10		20	03/14/05 15:52	CV	2685275
METALS BY METHOD	5010B, TOTAL		MCL	SW6010B	Units: m	ig/L	
Calcium	169	0.1		1	03/22/05 12:25	MW	2692403
Magnesium	41.3	0.1		1	03/22/05 12:25	MW	2692403
Potassium	17.8	2		1	03/22/05 12:25	MW	2692403
Sodium	99.2	0.5		1	03/22/05 12:25	MW	2692403
Prep Method	Prep Date	Prep Initials Pr	ep Factor				
SW3010A	03/15/2005 9:30	BMB 1.0					

Qualifiers:

- ND/U Not Detected at the Reporting Limit
 - B Analyte detected in the associated Method Blank
 - * Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-12D		Coll	ected: 0	3/11/2005	8:00	SPL Sample II	D: 0503	0531-11
		Site	e: Hob	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ION CHROMATOGRAPHY			MCL	E	300.0	Units: m	g/L	
Nitrogen,Nitrate (As N)	ND	0.5		1		03/12/05 13:04	CV	2681632

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-11A		Coll	ected: C	3/11/2005	8:10	SPL Sample I	D: 0503	0531-12
		Site	e: Hot	obs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ION CHROMATOGRAPHY			MCL	E	300.0	Units: m	g/L	
Nitrogen, Nitrate (As N)	ND	0.5		1		03/12/05 12:51	CV	2681631

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL



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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

Client Sample ID MW-14		Coll	ected: 0	3/11/2005	8:20	SPL Sample II	D: 0503	30531-13
		Site	e: Hob	bs, NM				
Analyses/Method	Result	Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ION CHROMATOGRAPHY			MCL	E	300.0	Units: m	g/L	
Nitrogen, Nitrate (As N)	5	0.5		1		03/12/05 13:42	CV	2681635

Qualifiers:

ND/U - Not Detected at the Reporting Limit

B - Analyte detected in the associated Method Blank

* - Surrogate Recovery Outside Advisable QC Limits

J - Estimated Value between MDL and PQL

Quality Control Documentation

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell

			M. ()			00 001	/ice/1262				· • • • • • • • • • • • • • • • • • • •		20524		
Analysis: Method:		Metals by SW6010B	Method 601	IUB, Total							Order: Batch ID				
			Metho	d Blank				Samp	les in Analy	tical Batc	h:				
RunID:		TJA_05032	2A-2692390	Units:	mg/L			Lab S	ample ID		Client	Sample II	2		
Analysis Da	te:	03/22/200	5 11:27	Analyst:	MW				531-07A		MW-1		5030531 5287 ID		
Preparation		03/15/200	5 9:30	Prep By:	BMB N	Nethod SW	3010A	05030)531-08A		MW-12	2D			
_								05030)531-09A		MW-14	4			
			Analyte		Result	Rep Limit		05030)531-10A		MW-17	7			
l	Calciur				ND										
	Magne	sium			ND	0.1									
	Potass				ND ND	and the second se									
	Sodium	<u> </u>		l	IND.	0.5									
<u> </u>				· · · · · · · · · · · · · · · · · · ·	La	boratory C	ontrol Sa	imple (L	CS)						
			RunID:		TJA_0503	322A-269239	1 Uni	s: m	ig/L						
}			Analysis	Date:	03/22/20	05 11:35	Ana	lyst: M	W						
			Preparat	ion Date:	03/15/20	05 9:30	Pre	b By: B	MB Method	SW3010A					
			[Analyt	e		Spike	Result	Percent	Lower	Upper				
							Added		Recovery	Limit	Limit				
			Calcium				1	1.094	109.4	80	12	0			
			Magnesium	۱ <u>.</u>			1	1.001	100.1	80	12	_			
			Potassium				10	10.23	102.3		12				
1			Sodium				1	0.9629	96.29	80	12	:0]			
										1					
										1					
		<u></u>		Matrix	Spike (M	S) / Matrix	Spike D	uplicate	(MSD)	· · · · · · · · · · · · · · · · · · ·					
						S) / Matrix	Spike D	uplicate	(MSD)						<u>-</u>
				e Spiked:	050304	195-24									
			RunID:	e Spiked:	050304 TJA_05	195-24 0322A-26923	393 U	nits:	mg/L						
		<u> </u>	RunID: Analys	e Spiked: is Date:	050304 TJA_05 03/22/2	195-24 0322A-26923 2005 11:44	393 U Ai	nits: nalyst:	mg/L MW						
			RunID: Analys	e Spiked:	050304 TJA_05 03/22/2	195-24 0322A-26923	393 U Ai	nits: nalyst:	mg/L	d SW3010)A				
	Ans		RunID: Analysi Prepara	e Spiked: is Date: ation Date:	050304 TJA_05 03/22/2 03/15/2	195-24 0322A-26923 2005 11:44 2005 9:30	393 U Ai Pi	nits: nalyst: ep By:	mg/L MW BMB Metho	·		RPD	RPD		High
	Ana	alyte	RunID: Analysi Prepara	e Spiked: is Date:	050304 TJA_050 03/22/2 03/15/2 MS	195-24 0322A-26923 2005 11:44	393 U Ai Pi MS %	nits: nalyst: ep By:	mg/L MW BMB Metho) MS	0 %	RPD	RPD	Low Limit	High Limit
, , ,	Ana	alyte	RunID: Analysi Prepara	e Spiked: is Date: ation Date: Sample	050304 TJA_05 03/22/2 03/15/2	495-24 0322A-26923 2005 11:44 2005 9:30 MS	393 U Ai Pi	nits: nalyst: ep By:	mg/L MW BMB Metho D MSE se Resu) MS		RPD	RPD Limit	Low Limit	High Limi
	Ana	alyte	RunID: Analysi Prepara	e Spiked: is Date: ation Date: Sample	050304 TJA_050 03/22/2 03/15/2 MS Spike	495-24 0322A-26923 2005 11:44 2005 9:30 MS	393 U Ai Pi MS % Recovi	nits: nalyst: ep By: o MS ery Spil-	mg/L MW BMB Metho D MSE ce Resu ed) MS	0 %	 RPD 1.381	RPD Limit	Low Limit 75	Limi
Calcium	Ana	alyte	RunID: Analysi Prepara	e Spiked: is Date: ation Date: Sample Result	050304 TJA_050 03/22/2 03/15/2 MS Spike	195-24 0322A-26923 2005 11:44 2005 9:30 MS Result	393 U Ai Pi MS 9 Recove	nits: nalyst: ep By: MS ery Spik Add	mg/L MW BMB Metho D MSE ce Resu ed 1 1) MS It Rec	D % overy		Limit 20	Limit	Limi 12
Calcium Magnesium Potassium	Ana	alyte	RunID: Analysi Prepara	e Spiked: is Date: ation Date: Sample Result 0.1918	050304 TJA_05 03/22/2 03/15/2 MS Spike Added	195-24 0322A-26923 2005 11:44 2005 9:30 MS Result 1.25	393 U Ai Pi MS % Recov 0 10 6 95	hits: ep By: ep Sy: ery Spik Add 5.8	mg/L MW BMB Metho D MSE ke Resu ed 1 1 1) MSi It Rec .267) % overy 107.5	1.381	Limit 20 20	Limit 75	Limit 12 12

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

	Quality	® Control Re	eport							RCHAN TON, TX 3) 660-0	K 77054	′Ε	
					n & Ca /ice/1262								
nalysis: ethod:	Ion Chromatograp E300.0	bhy							WorkOrder Lab Batch		0503053 R135694		
	Me	thod Blank	a analah			Sa	mples i	in Analytica	l Batch:				
inID: alysis Date:	IC1_050312A-268162 03/12/2005 12:01	7 Units: Analyst:	mg/L CV			050 050 050	b Samp 030531- 030531- 030531- 030531-	-10C -11A -12A	<u>Clier</u> MW- MW- MW-	12D 11A	<u>ple ID</u>		
Nitro	Analyte ogen,Nitrate (As N)		Result ND			05	030331-	-154	10100-	14			
				aboratory C	ontrol S	ample	(LCS)						
	Runi Anal	D: ysis Date:	IC1_0503	312A-2681628 005 12:14	ß Un	its: alyst:	mg/L CV						
		Analy			Spike Added	Resu	Red		wer Uppe imit Lim	it			
	Nitroge	n,Nitrate (As N	l)		10	9.	78	97.8	85	115			
		Matrix	Spike (N	IS) / Matrix	Spike D	uplica	ate (MSI	D)					
	Ru	nple Spiked: nID: alysis Date:		531-11 0312A-26816 2005 13:17		Inits: .nalyst:	mg/L : CV	-			,		
Δ	nalyte	Sample Result	MS Spike Added	MS Result	MS ^o Recov	/ery S	MSD Spike Added	MSD Result	MSD % Recovery	RPI	D RP		High Limit
trogen,Nitrate (As N)	ND	10	9.5	7	95.7	10	9.39	93.9		1.88	20 80	120
				t									

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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HOUSTON LABORATORY

8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell BJ Service/126238.020

				BJ Se	ervice/1262	238.020							
Analysis:	Ion Chromatogr	aphy							Order:				
Method:	E300.0								Batch ID:	R1	RPD RPD		
	<u> </u>	Method Blank				Sam	oles in Analy	tical Batc	h:				
RunID:	IC1_050314A-2685	258 Units:	mg/L			Lab S	Sample ID		Client \$	Sample I	<u>D</u>		
Analysis Date:	03/14/2005 12:18	8 Analyst:	: CV			0503	0531-07C		MW-11				
						0503	0531-08C		MW-12	D	R135910A mple ID		
						0503	0531-09C		MW-14				
Flu	Analyte		Result	Rep Lim	it	0503	0531-10C		MW-17				
Flu	loride		ND		_								
Su	lfate		ND	0.5	0								
				boratony	Control S	ample (I	(2)						
				JUIALUIY	Control 3		.03)						
		ınlD:	IC1_05031				ng/L						
	An	alysis Date:	03/14/20	05 12:31	An	alyst: C	SV .						
										7			
2	-	Analy	<u>/te</u>		Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit				
regeler and a second	[]					0.94	98.1						
_	Fluor Sulfa				10 10	9.81		85 85	115	-			
	Sulla				10	10.1	101	00		<u>'</u>			
							· ,						
	A .	Analysis Date:	03/14/2	2005 16:1	7 A	nalyst:	CV						
	Analyte	Sample	MS	MS			D MSD	MS	- % C		000	Low	High
						% I MS							
	Analyte	Result	Spike	Result	MS 9 Recov				overy	RED			сиш
	Analyte						ke Resul			KPD			LITT
Sulfate			Spike Added	Result	Recov	very Spi Ado	ke Resul led				Limit		Limi 12
Sulfate		Result	Spike Added	Result	Recov	very Spi Ado	ke Resul led	t Rec	overy		Limit	Limit	
Sulfate	ND/U - Not Dete	Result 224	Spike Added	Result	741 Recov	rery Spi Adc 103	ke Resul led	t Rec	overy		Limit	Limit	
Sulfate		Result 224	Spike Added	Result 7	741 MI -	Matrix In	ke Resul led 500	t Rec.	101		Limit	Limit	
Sulfate	ND/U - Not Dete	Cted at the Repo	Spike Added 500	Result 7	MI - K D - 1	Matrix In Recovery	ke Resul 1ed 500 terference	t Reci	101 ilution		Limit	Limit	

rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.



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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell BJ Service/126238.020

					BJ Se	rvice/126	238.020								
Analysis: Method:	lon Chr E300.0	romatography	,								Order: Batch ID:		30531 5910B		
Method:	1	Meth	od Blank				San	ples	in Analyt	ical Batcl	า:				
RunID:	IC1_0503	314A-2685258	Units:	mg/L		·	Lab	Sam	ple ID		Client S	Sample IC	<u>)</u>		
Analysis Da	te: 03/14/2	005 12:18	Analyst:	CV				30531			MW-11/		-		
								30531			MW-12	D			
								30531			MW-14				
		Analyte			Rep Limi	it	050	30531	-100		MW-17				
	Fluoride Sulfate			ND ND											
	Sullate						·								
				La	boratory	Control S	ample ((LCS)							
		RunID:		—	14A-26852			mg/L							
		Analysis	s Date:	03/14/20	05 12:31	An	alyst:	CV							
-		[Analy	te		Spike	Result	Pe	ercent	Lower	Upper].			
			,			Added			covery	Limit	Limit				
		Fluoride				10	9.8		98.1	85	115	-			
		Sulfate				10	10.	1	101	85	115	i			
			Matrix	Spike (M	S) / Matri	ix Spike [Duplicat	e (MS	5D)			ιι			
		Sampl RunID	le Spiked:	050305			la ita i		л						
			sis Date:)314A-2685 2005 18:1		Jnits: Analyst:	mg/ CV	ι.						•
		Analys	bis Dale.	00/14/2		0 7	anary 5t.	0.							
	Analyte		Sample	MS	MS	MS		SD	MSD	MSE		RPD	RPD	Low	High
			Result	Spike	Result	Reco		bike Ided	Result	Reco	overy		Limit	Limit	Limi
1															
Fluoride			1.10	Added 10		0.2	91.4	10		0.3	91.9	0.497	20	80	12

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

	Quality	⁷ Control Re	port .		e & Caldweice/126238.0			(713	8) 660-0901	E DRIVE 7054 01 5030531 8135996		
nalysis: lethod:	Hardness, Total (E130.2	Titrimetric, ED	TA)					WorkOrder Lab Batch I				
	<u>M</u>	ethod Blank				Samples	in Analytical	Batch:		05030531 R135996 le ID		
tunID: .nalysis Date:	WET_050317G-2686 03/17/2005 14:00 Analyte	864 Units: Analyst:		Rep Limit		<u>ab Samp</u> 5030531 5030531 5030531 5030531	-07A -08A -09A	<u>Clien</u> MW- ⁻ MW- ⁻ MW- ⁻	12D 14			
Hardr	ess (As CaCO3)		ND	5.0								
	Anal	ysis Date: Analy	03/17/200		Analyst Spike Res	sult Pe		wer Uppe mit Limit				
	Hardne	ss (As CaCO3))		330	335	102		15			
		<u>Matrix</u>	Spike (MS	S) / Matrix	Spike Dupli	cate (MS	<u>D)</u>					
	Ru	mple Spiked: nID: alysis Date:	_	31-08 0317G-2686 005 14:00	873 Units: Analy	•	L .		L			
An	alyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD		Low Limit	High Limit
	03)	675	1250	1950	102	1250	1920	100	1.29	20	80	12
ardness (As CaC												

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					-			но	USTON		TORY		
	Quality	® Control Re	eport					888		RCHANGE ON, TX 770) 660-0901	DRIVE		
	·			Brow	n & Cald	well							
				BJ Ser	vice/126238	3.020							
Analysis:	Chloride, Total								(Order:		30531		
ethod:	E325.2	thed Disply			, <u> </u>	Complex	s in Analy		Batch II	D: R1:	86042		
RuniD:	KONELAB_050318C-	26876 Units	mg/kg			•	-				_		
nalysis Date:	03/18/2005 11:01	Analyst:				Lab San 0503053				t Sample II 7-S-9-10'	2		
	00/10/2000 11:01	, alayot.	· · _··			0503053				7-S-19-20'			
						0503053				7-S-29-30'			
	Analyte		Result	Rep Limit]	0503053 0503053				7-S-39-40' 7-S-49-50'			
Chl	oride		NE	0 10		0503053				7-S-59-60'			
		<u>_</u>		aboratory (Control San	nle (I CS	<u>.</u>						
	Runi	D .			26876 Units:								
0.		vsis Date:		D05 11:01	Analy	-	-						
		-			-	_							
	·····				<u> </u>		<u> </u>						
		Analy	te		Spike R Added	- 1	Percent lecovery	Lower Limit	Upper Limit				
ξί.	Chlorid	e			500	479.4	95.89	80	12	20			
		Matrix	Spike (N	IS) / Matrix	c Spike Dur	olicate (M	SD)	·			·		. <u></u>
	Sa	mple Spiked:	05030	531-01									
		nID:			C-26876 Unit	s: mg	g/kg						
	An	alysis Date:	03/18/	2005 11:01	Ana	lyst: T_	н						
/	Analyte	Sample	MS	MS	MS %	MSD	MSD		D %	RPD	RPD	Low	High
		Result	Spike Added	Result	Recover	y Spike Added	Result	Rec	overy		Limit	Limit	Limit
hloride	<u> </u>	27.33	500	581	.1 110	7 500	58	2.9	111.1	0.3219	20	76	5 131
			<u> </u>										
de j													
67 12 m							1						
_													
ten Bel Se													
	ND/U - Not Detecte	d at the Pene	rting Limi	+	ML _ M	atrix Inter	ference						
Qualifiers:	B - Analyte detecte						rerence reportable	due to D	ilution				
	J - Estimated value					-	tside Advis						
the percent rec	b Ecamacod valas	, between mot		L	- Rec	Jovery Ou	ISIDE AUVIS		LIIIIII				

rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

A AN LON

	Qua	® lity Control Re	eport						DRIVE	'	
			Broy	wn & Caldw	ell						
			BJ Se	ervice/126238.0	020						
alysis:	Chloride, Tota	l .					WorkOrder: Lab Batch II		30531 36067		
hod:	E325.2				0						
		Method Blank		;	Samples	in Analytica	il Batch:				
D:		18E-26880 Units:	mg/L	-	Lab Sam			t Sample II	2		
lysis Date:	03/18/2005 13:	15 Analyst:	T_H		05030531		MW-1				
					05030531 05030531		MW-1 MW-1				
Chl	Analy		Result Rep Lim	.0							
			Laboratory	Control Samp	ole (LCS)	<u> </u>					
		RunID:	KONELAB_050318	E-26880 Units:	mg/L		_,				
		RunID: Analysis Date: Analy	KONELAB_050318 03/18/2005 13:15	E-26880 Units: 6 Analysi Spike Re	mg/L t: T_H sult Pe		wer Upper				
		Analysis Date: Analy	KONELAB_050318 03/18/2005 13:15	E-26880 Units: 5 Analyst 5 Spike Re Added	mg/L t: T_H sult Pe Re	covery L	imit Limit				
		Analysis Date:	KONELAB_050318 03/18/2005 13:15	E-26880 Units: 5 Analyst 5 Spike Re Added	mg/L t: T_H sult Pe				· · · · · · · · · · · · · · · · · · ·		
		Analysis Date: Analy loride	KONELAB_050318 03/18/2005 13:15	E-26880 Units: Analyst Spike Re Added 50 4	mg/L t: T_H sult Pe Re 17.57	95.14	imit Limit				
		Analysis Date: Analy loride <u>Matrix</u>	KONELAB_0503180 03/18/2005 13:15 te Spike (MS) / Mate	E-26880 Units: Analysi Spike Re Added 50 4	mg/L t: T_H sult Pe Re 17.57	95.14	imit Limit				
		Analysis Date: Analy loride	KONELAB_050318 03/18/2005 13:15 te	E-26880 Units: Analyst Spike Re Added 50 4 rix Spike Dupli	mg/L t: T_H sult Pe Re 17.57	2000 COVERY L 95.14 D)	imit Limit				
		Analysis Date: Analy loride <u>Matrix</u> Sample Spiked:	KONELAB_0503180 03/18/2005 13:15 te <u>Spike (MS) / Mat</u> 05030473-01	E-26880 Units: 5 Analyst Spike Re Added 50 4 rix Spike Dupli 8E-26880 Units:	mg/L t: T_H sult Pe Re 17.57 icate (MS	Covery L 95.14 D)	imit Limit				
	Chi	Analysis Date: Analy loride <u>Matrix</u> Sample Spiked: RunID: Analysis Date:	KONELAB_0503180 03/18/2005 13:15 te <u>Spike (MS) / Matr</u> 05030473-01 KONELAB_05031 03/18/2005 13: ²	E-26880 Units: Analyst Spike Re Added 50 4 rix Spike Dupli 8E-26880 Units: 15 Analy	mg/L. t: T_H sult Pe Re 17.57 icate (MS : mg/l /st: T_H	Covery L 95.14 D)	imit Limit 80 12	20			
pride		Analysis Date: Analy loride <u>Matrix</u> Sample Spiked: RunID:	KONELAB_0503180 03/18/2005 13:15 te <u>Spike (MS) / Mat</u> 05030473-01 KONELAB_05031	E-26880 Units: 5 Analyst Added Re Added 750 4 711 Spike Dupli 8E-26880 Units: 15 Analy MS %	mg/L t: T_H sult Pe Re 17.57 icate (MS	Covery L 95.14 D)	imit Limit		RPD Limit	Low Limit	Hig

Qualifiers: ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference

B - Analyte detected in the associated Method Blank

D - Recovery Unreportable due to Dilution

J - Estimated value between MDL and PQL

* - Recovery Outside Advisable QC Limits

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

N/C - Not Calculated - Sample concentration is greater than 4 times the amount of the percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

	Q	Reality Control	Report					8880	JSTON LA INTERCH OUSTON, (713) 66	ANGE TX 770	DRIVE		
				Brown	n & Caldw	ell							
				BJ Serv	vice/126238.0	020					05030531 R136161		
nalysis: ethod:	Chloride, To E325.2	otal							Order: atch ID:	R136161			
<u></u>	<u></u>	Method Blan	<u>k</u>	<u> </u>		Samples	in Analytic	al Batch				<u></u>	<u> </u>
unID: nalysis Date:	KONELAB_05	50321C-26896 Units 12:15 Analy	-			Lab Samj 05030531			<u>Client Sa</u> MW-11A	<u>mple II</u>	<u>D</u>		
Chi	An oride	alyte	Result NI										
	[.]			aboratory C	ontrol Samp	ole (LCS)	·			<u> </u>			
		RunID: Analysis Date:		.B_050321C-2 005 12:15	8896 Units: Analyst	mg/L I:: T_H							
	ſ	Ar	alyte		· 1			ower	Upper				
		Chloride			Added 50 4	7.13	covery 94.25	Limit 80	Limit 120				
		Sample Spike RunID: Analysis Date:	KONEL	760-01 _AB_050321C /2005 12:15	-26896 Units Analy	•							
			MS	MS	MS %	MSD	MSD Result	MSD Reco		RPD	RPD	Low	High Limit
<i>F</i>	Analyte	Sample Result		Result	Recovery	Spike Added	Result	I Neco	voly			Limit	
Anloride	Analyte	Result	Spike			Added	73.7			0.1350			
	Analyte	Result	Spike Added			Added				0.1350			13

3/24/2005 9:36:48 AM

	Quality Control	ol Report		HOUSTON LAE 8880 INTERCHA HOUSTON, 1 (713) 660	NGE DRIVE TX 77054
		Brown	& Caldwell		
		BJ Servic	ce/126238.020		
nalysis: lethod:	Alkalinity, Bicarbonate M2320 B			WorkOrder: Lab Batch ID:	05030531 R136234
	Method Bla		Samples in Analyti	cal Batch:	
unID: nalysis Date:	WET_050321K-2690673 Un 03/21/2005 15:30 An:	its: mg/L alyst: A_E	Lab Sample ID 05030531-07B 05030531-08B 05030531-09B	<u>Client Sarr</u> MW-11A MW-12D MW-14	nple ID
Alka	Analyte inity, Bicarbonate	Result Rep Limit	05030531-10B	MW-17	
		Laboratory Co	ntrol Sample (LCS)		•
	RunID: Analysis Date	WET_050321K-2690675 03/21/2005 15:30	⁵ Units: mg/L Analyst: A_E		
	Alkalinity, Bicarb	Ac	pike Result Percent dded Recovery 14.4 14.07 97.71	Lower Upper Limit Limit 90 110	
<u></u>		Samp	le Duplicate		
	Original Sa RunID: Analysis D	WET_050321K-2690	•		ι
		Analyte	Sample DUP RPD Result Result	Limit	
	Alkalinity, E	Bicarbonate	485 485.4	0 20	
		· ·			
Qualifiers:	ND/U - Not Detected at the I B - Analyte detected in the a		MI - Matrix Interference D - Recovery Unreportable	due to Dilution	

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Brown & Caldwell BJ Service/126238.020

lethod:	Alkalinity, Carb M2320 B							kOrder: Batch ID:	05030531 R136236	
		Method Blani			Sami	oles in Analy				
RunID:	WET_050321L-26		_							
nalysis Date:	03/21/2005 15:3		-			<u>Sample ID</u> 0531-07B		<u>Client Sa</u> MW-11A	imple ID	
indiysis Date.	03/21/2003 10.0					0531-08B		MW-12D		
						0531-09B		MW-14		
	Analyte		Result Rep Lin	ait	0503	0531-10B		MW-17		
Alka	alinity, Carbonate	<u> </u>	and the second sec	2.0						
					Samula (I	(6)	<u> </u>	= =		
	D		Laborator							
-		unID: nalysis Date:	WET_050321L-269 03/21/2005 15:30			ng/L ∖_E				
a, o		narysis bate.	00/21/2000 10.00		naryot. 7	·				
0										
		An	alyte	Spike	Result	Percent	Lower	Upper		
				Added		Recovery	Limit	Limit		
	Alka	linity, Carbona		14.4		97.71	90	110		
-			2	ample Du	plicate					
		Original Sam	ple: 05030531-07							
		RunID;	WET_050321L-	2690687	Units:	mg/L				
_		Analysis Date	e: 03/21/2005 1	5:30	Analyst:	A_E				
4 										
		[·····	Analita	10	mala					
a			Analyte			UP RF esult		PD mit		
e		Alkalinity, Ca	rbonate		ND	ND	0	20		
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-	ND/U - Not Dete	ected at the Re				terference				
	B - Analyte dete	ected at the Re	ociated Method Blan	k D	Recovery	Unreportabl				
Qualifiers:	B - Analyte dete J - Estimated va	ected at the Re cted in the ass	ociated Method Blan	k D- *-	Recovery	Unreportabl Outside Advi	sable QC	Limits		
Qualifiers:	B - Analyte dete J - Estimated va N/C - Not Calcul	ected at the Re cted in the ass liue between M lated - Sample	ociated Method Blan	k D *- ater than 4	Recovery Recovery times the	Unreportabl Outside Advi amount of s	sable QC	Limits	mits do not appl	У.

Sample Receipt Checklist And Chain of Custody

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HOUSTON LABORATORY 8880 INTERCHANGE DRIVE HOUSTON, TX 77054 (713) 660-0901

Sample Receipt Checklist

Vorkorder: 0503053	T .		Receiv	ed By:	RE
Date and Time Received: 3/12/200	5 10:00:00 AM		Carrier	name:	Fedex-Priority
Temperature: 4.0°C			Chilled	by:	Water Ice
1. Shipping container/cooler in go	od condition?	Yes 🗹	No 🗔	Not Pres	ent
2. Custody seals intact on shipppi	ng container/cooler?	Yes 🖌	No 🗌	Not Pres	ent
3. Custody seals intact on sample	bottles?	Yes 🗍	No 🗌	Not Pres	ent 🔽
4. Chain of custody present?		Yes 🖌	No 🗌		
5. Chain of custody signed when r	elinquished and received?	Yes 🖌	No		
6. Chain of custody agrees with sa	mple labels?	Yes 🗹	No 🗌		
7. Samples in proper container/bo	itle?	Yes 🗹	No 🗌		
8. Sample containers intact?		Yes 🗹	No 🗌		ι
9. Sufficient sample volume for inc	licated test?	Yes 🗹	No 🗌		
0. All samples received within hold	ling time?	Yes 🗹	No 🗌		
1. Container/Temp Blank temperat	ure in compliance?	Yes 🗹	No 🗌		
2. Water - VOA vials have zero hea	dspace?	Yes 🗌	No 🗌	Not Appl	icable 🗹
3. Water - pH acceptable upon reco	vipt?	Yes 🗹	No 🗌	Not App	licable 🗌
SPL Representative:		Contact Date	& Time:		
Client Name Contacted:					

Non Conformance Issues:

Client Instructions:

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Contact: Rick Kex Force		Phone: (713) 759-0999	MW-Monitoring Wells SEP	aring Wells	ų	s X	SPL Workorder		Number:	•	_	С Ц	アトレンシント	. لز		
	Fax: (713) 308-3886		Other (d	(describe below)	3					22	_) ((
Suite 2500			WC-Waste Char.	Char.					0H	QN C		REQUE	REQUESTED ANALYSIS	NAL YS	S	
City: Houston	State: TX,	770002	Other (a	(describe below)	ð		ner			i, Na (-)			55 <u>30, 1</u>	L 	*****	
Project Name: BJ Service			Ð	QAUQC Level	e .		nta	(yp	e	,Mg	-325.		·Ŋ	2 :		
Project No: 126238.020			Std	N	Lvi 3		Co	er٦	ativ	s,C a	CLD			32(
Site Address: Hobbs, NM			ę		Other		ber	ain	erv		399.0		·C			
Sampled By: Ben Car	Camacho				Matrix		um	ont	res	M I 20/	AFLI-		00			
6	DATE	TIME	COMP	GRAB V	Water	ŝ	N	c	Pi		504	HO 3	45			
MW-17-5-9-10'	3/10/05	0830		X		\times	-	402	1							
mw-17-5-19-20'	3/10/05	0835		X		×.		402	Ì							
Mw-17-5-29-36	3/10/65	0840		X		\times	<u> </u>	Hez	ł					<u>л</u>		
MW-17-5-39-40'	3/10/05	0845		×		X		402	١					X		
mw-17-5-49-50	3/10/05	0850		X	h	X		402	1							
MW-17-5-59-60'	3/10/05	0855			Q	X		402	İ					\cap		
Mw-11A	10/05	1545		X	×		يع	33	HN03	X	X		X			
Mw - I2D	3/10/05 00	° ∕5 /630		X	X		2	3	HN63	X	X		<u>Х.</u>			
MW = /4	3/10/05	1720					2	3.3	HINO3	X	\geq		X			
112	3/11/05	00800			×			نلا				X	-			
MW-IIH	3/11/05	0180		X				نح	1							
-14		0520			X				1			X	 			
	al Detection 1	mits (Specify)		× -	7	-	Son Sultant Roma		AL HIVO'S	X	X	X	P	-		•
					-											204
	Special Reporting Requirements:	_		analyzes	e C For		aboratory	/ Remark	Laboratory Remarks (U) R & KA meltile with	5	H m	lala	12	でれ		A L
uished by Sampler	Nitiste Ans	stypis has	454	1 iten	R -+-	ine lo	Container Type:	Type:	: 1=40ml vial/2=16oz plastic 3=32oz plastic	I vial/2	-16oz	plastic	3=320	z plas	[詩] [f	1411
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Relinquished by	1 SA	itte		711	S S	64	0		-							
-			. <u> </u>		<u></u>			Indiana (ed by:							
Relinquished by:				date 3/12/05	35	time (000)		Received	By BPL. Inc	nc:	\mathbb{R}	V				
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APPENDIX C

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Groundwater Sampling Forms

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APPENDIX C

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Groundwater Sampling Forms



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GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: Mw-5

1 PRO	ECT INFO	RMAT	ION						·····
	umber: 1262	-		ber: 019		Date: 3/	8/14		
	Os -se					Personnel	Bica	macho	ime: 1620 1 Smph East
	ocation: 140					Weather	75°F		1 Smph Eas
								1	
2. WELL	DATA								
Casing D	liameter:	inche	es	·····				🛛 🖸 Other:	······································
·····)iameter:	inch						O Other:	
	pth of Well:64							ective Casing 🔲 C	
Depth to	Static Water:	21. 80	eet	t				ective Casing 🔲 C	
	Product:		,	· · · · · · · · · · · · · · · · · · ·			Top of Prote	ective Casing 🛛 (Other:
Length o	f Water Column	2.18	feet	Well Volume	<u>46</u> - 12	gal gallon	Screened Inf	terval (from GS):_ ch well = 0.167 gal/	
	SE DATA			<u> </u>		ga / low			
	ethod:	r, Size: 🤰	_ O Blade	ler Pump 🔲 2	" Submersible	ePump ⊡i4"	Submersible F	oump	
Purge M	ethod: Cent					mp 🖸 Other: _			Equipment Model(s)
Materials	: Pump Bailer			C D Teflon@ pared Off-Site	· · · · · · · · · · · · · · · · · · ·	aned Disp	osable	1 Dis	osable baile
Materials	RoperTubing			Polypropylene epared Off-Site					I-600 XL
Was wel	l purged dry?					gal/			
	Cum, Gallons			Spec.		Dissolved		3 Other:	ch turb.
Time	Removed	рН	Temp	Cond.	Eh	Oxygen	Turbidity	,	Comments
1630		6.84	16.18	0 994	161.2	7.90	13.0		
			16.33		•				
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				Pump 🗀 2" Si	ubmersible Du				nemical Analyses
Method(:	s): Deristaltio	c Pump	nertial Lift F	Pump D Other	·			Ferro	us Iron: mg/L
Materials	: Pump Baile	Stainle Dedication	ess ⊡PV ated ⊡Pre	C VI Teflono	₿ ロ Other:_ . ロ Field Cle	aned Dis	osable	DO:	mg/L
Materials		🔏 Polye	thylene 🖸	Polypropylene	e 🗅 Teflon®	0 D Other:		— Nitrat	
				epared Off-Sit			•	INNER	e: _/mg/L
•	Water at Time D: Mu 5	or Sampiin		ime: 164		ed? 🗅 Yes # of Contain	(A	Sulfat	ie: /mg/L
•						# of Contail	ners:	Alkali	nity: mg/L
Duplicate	e Sample Collec			_No ID:					
5. COM	MENTS	Λ.	trat	c San	no les	an	3/10/0	50074	0
				••••••••••				-(' ' - <i>I</i> /	
								· ·	
Note: Include	comments such a	as well cond	lition, odor,	presence of N	APL, or other	items not on t	he field data si	heet.	
							R	1.	1
)RM GW-	1 (Rev 6/8/99 - w	ah)					Signature	min	

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GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-10

Project L	ocation: <u>Ma</u>	66s, 1	NM	·	·	Weather:	Sumay	75-8	<u>'5°F</u>	o o uni	Smp
2. WELL	DATA										1
Casing D	iameter: 2	inche	25		C 🛛 Stainles	ss 🖸 Galv. S	teel 🗆 Teflon@	0 🖬 Other:			
Screen D	Diameter:2	inche	es	Туре: 🙀 ру	C 🗆 Stainle:	ss 🖸 Galv, S	teel 🖸 Teflon@	0 🗅 Other:			
Total De	oth of Well:	8.43 fee	t	From: 🗙 To	p of Well Casi	ing (TOC)	Top of Protect	tive Casing 🔟	Other:		
Depth to	Static Water:	60.9/ f	eet	From: K To	op of Well Cas	ing (TOC)	Top of Prote	tive Casing 🔲	Other:		1
	Product:							ctive Casing 🛛			
Length o	f Water Column	n: <u>2,5</u>	feet					erval (from GS): well = 0.167 gal		well = 0.667 gal/f	ť
3. PURC	SE DATA								<u></u>		1
Purge M	ethod: Baile	er, Size:	_ O Bladd	er Pump 🖸 2	"Submersible	Pump 🖸 4"	Submersible P	ump	٠	· ·	
	· •									ent Model(s)	
Materials	: Pump/Bailer			Teflon®			osable	1. 15	I 60	OXL	
Materials	: Rope/Tubing	CPolyet	nylene 🗆 I ated 🗇 Pre	Polypropylene pared Off-Site	□ Teflon® □ Field Cle	u Other: aned Ja rDis	posable	2. Ha	ch f	urb.	1
. Was wel	purged dry?	YC Yes	D No	Pumpin	g Rate:	gei/	min	3. Ba	·ler		
Time	Cum. Gallons Removed	рН	Temp	Spec. Cond.	Eh	Dissolved Oxygen	Turbidity	Other:		omments	1
1715	₽₽ 69	6.70	16.95	3,295	-41.7	5.07	19.2	· · · · · · · · · · · · · · · · · · ·	- wa	ter purg	e
1720	-	6.66	16.86	3.355	- 54.5	3.36	15.7		by t	6/tz pum	1
1725		6.65	17.07	3.357	- 55.8	3.11	-		- wer	+ Bry	1
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							<u> </u>				4
	PLING DA		🗅 Bladder P	umn 🗍 2" Si	thmersible Du	mo [1] /" Su	bmersible Pum	:	hemical An	<u>alyses</u> /	
Method(s): D Peristalti		Inertial Lift P	ump 🖸 Other	:			Ferro	ous Iron:	/mg/L	
Material	s: Pump/Railer		ess ⊡ PV0 ated ⊡ Prej	pared Off-Site	Other: Field Clear	aned C Dis	posable	DO:		/ mg/L	
Material		Polye	thylene 🖸	Polypropylene epared Off-Site	E Teflon®	Other:		Nitra	te:	/ mg/L	
Depth to	Water at Time		-	, ,		eaned you bl	· •		<u></u>	7	1
•	D MW-	•	-	ime: 173		# of Contail	· ~	Sulfa	ite:	/ mg/L	1
Sample	e Sample Colle			No ID:	-			Alkal	inity: 🔶	mg/L	1
			<u> </u>			-			· · · · ·		4
Duplicat		R	· la d	Nitcal	S. and	3/10	105	a) 07	55		ł
	MENTS		1162	/ / / / / / / /			/ 20	<u> </u>	• -		1

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GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-1/A

3. PURGE DATA Purge Method: Bailer, Size: Bladder Pump 22" Submersible Pump 4" Submersible Pump Centrifugal Pump Peristatic Pump Inential Lift Pump Other: Equipment M Materials: Pump Bailer Batintess DVC & Teflon® Other: Dedicated Drepared Off-Site Field Cleaned Disposable Materials: Prose/Tubing Was well purged dry? Yes No Pumping Rate: gal/min 3. Hach Turk Time Cum. Gallons pH Temp Spec. Eh Dissolved Other: Communication State Sec. So 20.44 8.471 - 61.6 5.20 76.2 dry at remember of the state	
Casing Diameter: A Inches Type: OPVC Stainless Galv. Steel Totel On the	
Screen Diameter: inches Type: QPVC Stainless Galv. Stell Tellon@ Other: Total Depth of Well: Galv. Stainless Galv. Stell Top of Protective Casing Other: Depth to Static Water 6/1.4/5 feet From: Y top of Well Casing (TOC) Top of Protective Casing Other: Depth to Static Water 6/1.4/5 feet From: Top of Well Casing (TOC) Top of Protective Casing Other: Depth to Static Water Column: 3.3/5 feet Well Volume: Screened Interval (from GS): Length of Water Column: 3.3/5 feet Well Volume: Screened Interval (from GS): 3. PURGE DATA Stainless Disol/K = 1/r Note: 2-inch well = 0.167 gal/R 4-inch well Materials: Purge Method: Balader Pump Deristatic Pump Disol/B = 0 fold: Cleaned Materials Pump Equipment M Materials: Stainless DVC Materials Disolved Other: 2 YSI Coox Water Callons pH Temp Spec. Eh Disolved Turbidity Other: Comm 164	
Depth to Static Water 6/.45 teat From: 1 Top of Well Casing (TOC) Top of Protective Casing Other Depth to Static Water 6/.45 feet From: 1 Top of Well Casing (TOC) Top of Protective Casing Other Length of Water Column: 3.34 feet Well Volume: 58 gal Screened Interval (from GS) Note: 2-inch well = 0.167 galt 4-inch well 3. PURGE DATA Dispatch Size: 0 Bladder Pump Distatic Pump A' Submersible Pump A' Submersible Pump Purge Method: Caentrifugal Pump Deristatic Pump D' Submersible Pump Bailer, Size: 0 Disposable Bailer, Size: 0 Disposable Bailer, Size: 0 Pick datter Pump Bailer, Size: 0 Pick datter Pump Caentrifugal Pump Deristatic Pump Caentrifugal Pump Deristatic Pump Caentrifugal Pump Bailer, Size: 0 Pick datter Bailer, Size: 0 Pick datter Bailer, Size: 0 Pick datter Caentrifugal Pump Deristatic Pump Caentrifugal Pump Deristatic Pump Caentrifugal Pump Bailer, Size: 0 Pick datter Caentrifugal Pump Deristatic Pump Caentrifugal Pump Caentrifugal Pump Caentrifugal Pump Caentrifugal Pump Disposable Caentrifugal Pump Caentrifugal Pump Caentrifugal Pump Caentrifugal Pump Caentrifugal Pump Caentrifugal Pump Caentrifugal Pu	
Depth to Static Water 6/1.4/5 Feet From: 1/2 Top of Well Casing (TOC) □ Top of Protective Casing □ Other	
Length of Water Column: 3.34/ teet Well Volume: 58 gal Screened Interval (from GS):	
Note: 2-inch well = 0.167 gal/t 4-inch well 3. PURGE DATA Purge Method: Chailer, Size: Image: Chailer Pump Image: Chailer Pump 2" Submersible Pump Image: Chailer Pump	
Purge Method: Bladder Pump 2" Submersible Pump 4" Submersible Pump Equipment M Materials: Pump Bladder Pump Inertial Lift Pump Other:	<i>≈ 0.667 gal/f</i> t
Materials: Pump Bare Distainless D PVC ½ Terlon® O ther: 1 bai./cr Materials: Roper Tubing Dedicated D Propared Off-Site D Field Cleaned & Disposable 2 YSI C eock Was well purged dry? Yes No Pumping Rate: gal/min 3 Hach Turk Time Cum. Gallons pH Temp Cond. Eh Dissolved Oxygen Turbidity Other: Commun. 1540 1.6 6.50 Jo.458 8.493 -63.9 3.94/ Jointon J	
Materials: Pump Bile Stainless D PVC L Teflon® O ther: 1 ba./cr Materials: RoperTubing Cond D Prepared OF:Site D Field Cleaned & Disposable 1 ba./cr Was well purged dry? X Yes No Pumping Rate: gal/min 3 Hach Turk Time Cum. Gallons pH Temp Cond. Eh Dissolved Turbidity Other: Commun. 1540 1.6 6.50 Jo./cg 8/492 -63.9 3.94/ Jiiio Commun. 1545 - 6.30 20.44 8/471 -(1.6 3.20 76.2 dr.y att 1545 - 6.30 20.44 8/471 -(1.6 3.20 76.2 dr.y att 1545 - 6.30 20.44 8/471 -(1.6 3.20 76.2 dr.y att 1545 - 6.30 20.44 8/471 -(1.6 3.20 76.2 dr.y att 1545 - 6.30 20.44 8/471 -(1.6 3.20 76.2 dr.y att	
Materials Report Tubing Modelicated Prepared Off-Site Tertlon® D Other: 2 YSI 6 eex Was well purged dry? Y es No Pumping Rate: gal/min 3 Hach Turk Time Cum. Gallons pH Ternp Spec: Eh Dissolved Turbidity Other: Comming 1540 1.6 6.50 Jo,452 8.493 -63.9 3.94 Jet of July and Jul	<u>oucitor</u>
Was well purged dry? Yes No Pumping Rate:	
Time Cum. Gallons Removed pH Temp Spec. Cond. Dissolved Oxygen Turbidity Other: Common Common 1540 1.6 6.50 20.448 8.442 -63.9 3.947 4.50 well 0 1545 - 6.30 20.448 8.471 -61.6 3.20 76.2 dry at 1545 - 6.30 20.448 8.471 -61.6 3.20 76.2 dry at 1545 - 6.30 20.448 8.471 -61.6 3.20 76.2 dry at 1545 - 6.30 20.448 8.471 -61.6 3.20 76.2 dry at 1545 - 6.30 20.448 8.471 -61.6 3.20 76.2 dry at 1545 - 6.30 20.448 5.400 - - water 1545 - - - - - water - water 1545 - - - - - - - water - wat	
Ime Removed PH Temp Cond. En Oxygen Turbidity Common 1540 1.6 6.50 20.44 8.492 -63.9 3.94 20.44 2.94<	neter
1545 - 6.30 20.44 8.471 -61.6 3.20 76.2 dry at 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 <td>ents:</td>	ents:
1545 - 6.30 20.44 8.471 - 61.6 3.20 76.2 dry at reman Whiti 	oursed
4. SAMPLING DATA	Cter 1.7
4. SAMPLING DATA - Water Geochemical Analyse	J.
4. SAMPLING DATA - Water Geochemical Analyse	
4. SAMPLING DATA Geochemical Analyse	
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4. SAMPLING DATA Geochemical Analyse	14.
4. SAMPLING DATA Geochemical Analyse	
4. SAMPLING DATA Geochemical Analyse	
	<u>s</u>
	mg/L
Materials: Pump Bailer Distainless DiPVC Crefton® Di Other: Di Dedicated Di Prepared Off-Site Di Field Cleaned Crepton Disposable DO;	mg/L
Materials: Tubing Rope Dedicated Prepared Off-Site Defield Cleaned Disposable Nitrate:	mg/L
Depth to Water at Time of Sampling:	///g/L
Sample ID: <u>MW-1</u> /A Sample Time: <u>1545</u> # of Containers: 2	mg/L
Duplicate Sample Collected? Yes X No ID: Alkalinity:	mg/L
	L L
5 COMMENTS Sampled for Nitrate on 3/11/05 @	
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GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: MW-120

		6				٦. ٦/	10/05	,	- /555
-	lumber: <u>126</u> 85 - 5e			ber: 0/ 7	_	Date:	Res	A A A A	Time: 15 55
	ocation:					Personnel:	<u>12 • C A M</u> 4 • E ,	NHCHO	mph east
						vveather.			my c cas F
2. WELL	DATA						· · · · · · · · · · · · · · · · · · ·		
Casing D	Diameter: 2	inche		Туре: 🗶 Ру					· · · · · · · · · · · · · · · · · · ·
	Diameter: 2	inche		Туре: уз Ру	C 🗆 Stainle	ss 🖸 Galv. S	leel 🛛 Teflon	O Other:	
	pth of Well:			From: 💋 To	op of Well Cas	sing (TOC)	Top of Prote	ctive Casing 🔲 (Other:
Depth to	Static Water:	1.56 f	eet					ctive Casing 🔲 🤅	
Depth to	Product:	feet		From: DT	op of Well Ca	sing (TOC)	Top of Prote	ective Casing	Other:
•	f Water Column	-		Well Volume	:	gal		erval (from GS): h well = 0.167 gab	
	<u>e intek</u> Ge data	<u>e</u>	13.0						
Materials	ethod: □ Cent s. Pump/Bailer s: Rope(Tuking)	trifugal Pum Stainle Dedica Polyet Dedica	p D Perista ess D PV(ated D Prej hylene D ated D Prej	ler Pump 242 altic Pump 11 C 11 Teflon@ pared Off-Site Polypropylene epared Off-Site	nertial Lift Pur D D Other: Field Clea D Teflon® Field Clea	mp D Other: aned D Disp D Other: saned D Dis	osable posable	1 2	Equipment Model(s) SI 600 XL CH Jurbi Jity
Was wel	I purged dry?	- 🗆 Yes	¥ №	Pumpin	g Rate:	یکے	min	3. fv	Itz Pump
Time	Cum. Gellene Removed	pH	Temp	Spec. Cond.	Eh	Dissolved Oxygen	Turbidity	Other:	Comments
1610		6.23	19.96	1.073	9.3	2.00	35.7	61.78	
1614	. 6	6.07	19.25	1.039	-56./	ا۲. 🗘	78.0	61.78	
1618	1.2			1.047	-62.7	,53		61.79	
1622	1.8			1.048	-639		19.7	61.79	
1626	2.4			1.050			21.5	61.79	
/640	~ • • 7	6.70	20.01	11000	0	, , , , , ,	x/. J	61,17	
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		L							
	1								
		1							
4 SVM	PLING DA				i			Coord	hemical Analyses
	D Bailer S		🛛 Bladder F	ump 💆 2'' Si	ıbmersible Pu	mp 🛛 4" Sul	mersible Pum	 a	
Method(s). 🗆 Peristalti	c Pump 🛛 I	nertial Lift F	ump 🖸 Other				Ferro	ous fron: mg/L
Materials	s: Cump/Bailer		ess DPV ated DPre	pared Off-Site	B ⊡ Other: Strield Cle		osable	DO:	mg/L
Materials	s Tobing/Rope	Polyet	hylene 🛛 ated 🔾 Pr	Polypropylene epared Off-Site	e 🖸 Teflon® e 🗇 Field Cl	Other: Deaned	sposable	Nitra	te: mg/L
Depth to	Water at Time					ed? 🖸 Yes		C -14	
Sample	ID: <u>Mw-</u>	(ZA	Sample T	ime: /63		# of Contain	·	Sulfa	
	e Sample Collec					<u>, rite</u>	Res-5	Alkal	inity: mg/L
	MENTS				11	=7	1/25		
J. J. J. WI		pitt	no	Samuel	n en	ノ <u>る/ </u>	1/03	- 0800)
									· · · ·
Note: Include	comments such	as well cond	lition, odor,	presence of N	APL, or other	items not on t	he field data st	neet	
							P		1
FORM GW-	•1 (Rev 6/8/99 - w	rah)					Signature	<u>t</u>	nu



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GROUNDWATER SAMPLING FIELD DATA SHEET

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WELL ID: MW-14

1. PROJECT INFO	RMATION					
Project Number: 1262	38 Task N	lumber: 011	Date: 3/	10/05	T	ime: 1655
Client: BJ-Ser			Personnel:	B.CAM	AcHo	
Project Location:	665 NM	<u> </u>	Weather:7	5-80.	F wind	ime: 1655
2. WELL DATA						- <u></u>
Casing Diameter:	inches	Type: 52/PVC	Stainless 🖸 Galv. S	teel 🗆 Teflon®	0 🛛 Other:	
Screen Diameter:	inches	Туре: 🙇 РУС 🗆	Stainless 🛛 Galv. S	teel 🛛 Teflon®	O D Other:	
Total Depth of Well: 67	. St feet	From: 🗴 Top of W	ell Casing (TOC)	Top of Protec	tive Casing 🔲 O	ther:
Depth to Static Water.	2.18 feet	From: 💆 Top of W	ell Casing (TOC)	Top of Protec	tive Casing 🔲 O	ther:
Depth to Product:		From: D Top of W			tive Casing 🛛 🗘)ther:
Length of Water Column	: 7.20 feet	Well Volume:	$\frac{1}{3 = 7.6}$		erval (from GS):_ well = 0.167 gal/f	
3. PURGE DATA			5 - 0. 0			1 44/10/14/2010 9
Purge Method:	r, Size: <u>2</u> D B rifugal Pump D Pe	Bladder Pump 🖸 2" Subm eristaltic Pump 🖸 Inertial I	ersible Pump 🔲 4" Lift Pump 🗇 Other: _	Submersible Pu	lmb	Equipment Model(s)
Materials: Pump/Bailer)	🗆 Stainless 🖸	PVC Attellon® 0 0	ther:			
	-	Prepared Off-Site D Fie		osadie	1. 0.154	sosoble Baile -600×C
Materials: Rope/Tubing	Dedicated C	Prepared Off-Site D Fi		posable		
Was well purged dry?	Yes D N	Pumping Rate	e: gal/i	min	3. HAL	H Turbidity
Time Cum. Gallons Removed	pH Terr	np Spec. E Cond. E	h Dissolved Oxygen	Turbidity	Other:	Comments
1700 3.6	6.86 18.	311.484 132	.97.30	325		
		261.486 /3.				· .
			ervar			
				er 3.0		
					Salla	
		-			- Mary	Cemore .
						- Morez
	ze: O Blado Pump O Inertial I	ter Pump (2) 2" Submersi Lift Pump (2) Other: PVC () 20 Teflon® (2) O		bmersible Pump	Ferrol	us Iron:mg/L
Wateriala: 1 drip	Polyethylene	Prepared Off-Site	eflon® 🗆 Other:	<u> </u>	– DO: Nitrate	
Materials: Tubing/Rope		•	Filtered?	•		
Ú	of Sampling:				Sulfat	e:
Depth to Water at Time			_ # of Contair	ners: 🗩 🖌		
Depth to Water at Time Sample ID: <u>MW- / 4</u>	Samp	le Time: /720		ners:	Alkalin	
Depth to Water at Time Sample ID: <u>MW- / 1</u> Duplicate Sample Collec	Sampleties	le Time:_/ 720				nity: mg/L
Depth to Water at Time Sample ID: <u>Mw- / 4</u>	Sampleties	le Time: /720				nity: mg/L
Depth to Water at Time Sample ID: <u>MW- / 4</u> Duplicate Sample Collec	Sampleties	le Time:_/ 720				
Depth to Water at Time Sample ID: <u>MW- / 4</u> Duplicate Sample Collec	Samp sted? I Yes Nitrat	le Time: 1720 SX No ID:	n 3/11/e	>5 ∂	0820	

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DWNAN DWEL	5 C	GRU					ELD DAT	
					WELL II	D: // w	1-15	. <u></u>	
. PRO	JECT INFO	ORMA	FION				. /		
Project	Number: /26	138	Task Nur	mber:	<u>; </u>	Date: 3/	11/05		Time: 0955
	BJ-Ser				-	Personnel:_	B.CAN	1040	
	Location:					Weather:	80°F	1 15 mp	A NE SUMMY
	L DATA								
Casing	Diameter: 2	inc	hes	Туре: 💓 Р	VC 🖸 Stainle	ess 🛛 Galv. S	teel D Teflor	® 🛛 Other:	·
Screen	Diameter: 2	inc	hes	Type: 💆 P	VC 🗆 Stainle	ess 🛛 Galv. S	teel 🛛 Teflor	® 🛛 Other:	
Total D	epth of Well:	6.21_fe	et	From: 🙀	Top of Well Ca	sing (TOC)	Top of Prote	ective Casing 🛛 C)ther:
	o Static Water:_		feet	From: 💋	Top of Well Ca	sing (TOC)	Top of Prote	ective Casing 🔲 C)ther:
Depth to	o Product:	feet		From:	Top of Well Ca	sing (TOC)	Top of Prote	ective Casing 🛛 C	Other:
Length	of Water Colum	n: 5.09	3 feet	Well Volum	ne:_ .\$5	gal	Screened Ir	nterval (from GS)	:
Pump ir	ntake depth	(fro	om GS)	3	well =	= 2.6	Note: 2	2-inch well = 0.16 g	al/ft 4-inch well = 0.65 ga
PUR	GE DATA								
	ls: Pump/Báiler	Dedica	ated 🗆 Pre hylene 🛛	pared Off-Site Polypropylene	e 🛛 Teflon®	aned Disp		•	posabk Barlet : 600 x C
Was we	ell purged dry?	Yes	XÍ No	Pumpi	ing Rate:	ga	l/min	3 HA	of Tush. meter
Time	Cum. Gallons Removed	pН	Temp	Spec. Cond.	Eh	Dissolved Oxygen	Turbidity	Depth to Water (TOC)	
		2.	100			1	1		
000	2.6	7.01	18,43	1.462	131,5	6.66	41.4	ļ	
	4.6		18,41	1.462		6.66		 	- fultz pamp
010	d . 6 	6.61	· ·			E. 5.40			- fultz pamp pulged lagla
010	d . 6	6.61	19.30	1.473	151.9	E. 5.40	·		- fultz pamp pulged Igala before wat
010	. 6	6.61	19.30	1.473	151.90 162.3	5.40	37.2		- Fultz pamp pulged I galo before wat was before D
010		6.61	19.30	1.473	151.90 162.3	5.40	37.2		purged Igala before wat
010	<u><u> </u></u>	6.61	19.30	1.473	151.90 162.3	5.40	37.2		purged Igala before wat
010		6.61	19.30	1.473	151.90 162.3	E. 5.40	37.2		pulged Igalo before wat
010	4 .6	6.61	19.30	1.473	151.90 162.3	5.40	37.2		pulged Igalo before wat
010		6.81	19.30	1.473	151.90 162.3	5.40	37.2	Geoc	purged I gala before wat
010 015 SAMI	PLING DAT	6.81 6.70	19.30 18.20	<i>1.473</i> <i>1.473</i> <i>2.</i> ump □ 2" Su	151.9 ⁽ 162.3 6 <u>9</u> .//	9 5. 90 5. 90	37.2		pulged I gale before wat was below p hemical Analyses
OIO DIS SAMI Method(PLING DA s): Deristaltic	6.81 6.70	J Bladder Pr hertial Lift Pr	/. 473 1. 473 2. 2. ump □ 2" Su ump □ Other:	151.9 162.3 691/6	9 5. 90 5. 90	37.2		puised I gala befor a wat was below p
OIO D;5 SAMI Method(PLING DAT	6. 61 6. 70 6. 70	18.20 18.20 D Bladder Protection Inertial Lift Protection	/, 473 1, 473 1, 473 2, 4, 473 2, 473 2, 473 1, 473 2, 473 1, 473 2, 473 1, 473 2, 473 2	151.9 162.3 691/6	9 5. 90 5. 90	37.2		pulged I gale befor a wat was below po hemical Analyses us Iron: mg/L
OIO DIS SAMI Method(Material	PLING DA s): Deristaltic	6. 61 6. 70 6. 70 70 70 70 70 70 70 70 70 70 70 70 70 7	D Bladder Per hertial Lift Pro- tited D Prep hylene D F	ump 2" Su ump 0 Cher Cared Off-Site Polypropylene	(51.9 ⁽ 162.3 69.// 69.// 69.// 69.// 69.// 69.// 60.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0	\$ \$	37.2	Ferro	hemical Analyses us Iron: mg/L
OIO DIS SAMI Method(Material Material	PLING DA s): Deristalier s: Fump Bailer s: Tubing Rope	6.61 6.70 6.70 6.70 1 6 7 1 1 1 1 1 1 1 1 1 1	D Bladder Pro Destance	UMP 2" Su UMP 0 Other C Teflond Dared Off-Site Polypropylene epared Off-Site	brmersible Pun G G J// D Other: D Field Clea Field Clea		37.2	D Ferro DO: - Nitrat	pulged I gale befor a wat was below po hemical Analyses us Iron: mg/L mg/L e: mg/L
OIO SIS SAMI Method(Material Depth to	PLING DA s): Deristattic s: Fumpfealler s: Tubing Rope	L. & I L. & I L. & Z L. Pump II Dedica M Polyett Dedica of Samplir	J Bladder Pri bertial Lift Pri ted D Prep nylene D Pre ng:	ump 2" Su ump 0 2ther 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	bmersible Pun Generations Field Clea Field Clea Field Filterer	np 4" Subr A Cher: aned Disputer Other: aned Disputer Other: aned Disputer Other: aned Disputer Other: aned Disputer	37.2	D Ferro DO:	hemical Analyses us Iron: mg/L e: mg/L
Method(Material: Material: Depth to Sample	PLING DA S): Deristaltic S: Pump Baller s: Tubing Rope Water at Time of D: <u>Mw-15</u>	L. GI L. GI L. 70 L. 70	D Bladder Pre- nertial Lift Pro- ted D Pre- nylene D Pre- ng: Sample Ti	/. 473 1. 473 1. 473 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	brersible Pun G G J// O Cher: G Field Clea D Teflon® Field Clea Field Clea Field Clea	be 5. 90 5.	37.2	D Ferro DO: - Nitrat	hemical Analyses us Iron: mg/L te: mg/L
OIO DIS SAMI Method(Material Depth to Sample	PLING DA s): Deristattic s: Fumpfealler s: Tubing Rope	L. GI L. GI L. 70 L. 70	D Bladder Pre- nertial Lift Pro- ted D Pre- nylene D Pre- ng: Sample Ti	/. 473 1. 473 1. 473 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	bmersible Pun Generations Field Clea Field Clea Field Filterer	be 5. 90 5.	37.2	D Ferro DO: Nitrat Sulfar	hemical Analyses us Iron: mg/L te: mg/L

Note: Include comments such as well condition, odor, pre	sence of NAPL, or other items	not on the field data sheet.

Gen\non-proj\forms\Field Data Sheet.xls\BC-gallons FORM GW-1 (Rev 2/26/02 - dg)

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1 . An al 3840	W:N A N		GRO					LD DAT	\ SHEET
C A L	DWEL			V	VELL I): <u>/hh</u>	1-16		
1. PROJ	ECT INF	ORMA ⁻	TION			•			
	lumber: /26 2			nber: 019		Date: 3/	11/05		Time: 1025 Yong ling ISmph NE
Client:	BJ- Sel	vices				Personnel:	B.CAN	MACHO,	Yong Ping
Project L	ocation:	0665,	<u>NW</u>			Weather:	Sunny	, wind	15mph NE
2. WELL		2 inc	······································	T					
		IIIC	hes	/ /	VC Stainle			······	
	Diameter:		hes		VC Stainle				
	pth of Well:							ctive Casing C	
								ective Casing	
	Product: f Water Colum	feet					·····		
-	ake depth				e:	Yai		terval (from GS) -inch well = 0.16 g	
		())						<u> </u>	
Purge M		er, Size:	_ 🛛 Bladd	er Pump 🎽 2	" Submersible nertial Lift Purr	Pump 🗆 4" 🕄	Submersible P	ump	
	_	-		altic Pump 🗆 I		p 🗆 Other:	<u></u>		Equipment Model(s)
Materials	: Fum)/Bailer	Dedic	ated 🛛 Prep	oared Off-Site	Field Clea		osable	1. 1/a	ch Turbidity
Materials	: Rope/Tabing	Polye	thylene 🛛 🕅 ated 🖵 Pre	Polypropylene epared Off-Site	Teflon® (Field Cle	□ Other: aned ⊈ Dis	posable	2. F	<u>ch Turbidity</u> ulte pump
Was well	purged dry?		No No		ng Rate:	•	•		SI-600XL
Time	Cum. Gallons. Removed	рН	Temp	Spec. Cond.	Eh	Dissolved Oxygen	Turbidity	Depth to Water (TOC)	
·	Liters	-	20	M3/cm	hv	mg/L	MU	-fc	
10:30	••••	6.94	17.90	3 404	162.8	7.94	247	65.92	
10:34	.6	6.84	18.18	3.443	156.1	7.94	182	65.39	-Turbidity
10.37	1.2	6.74	18.27	3.455	149.7	7.85	155	6:89	very High
10:00	1.5-	6.70		3.45	157.4	2.86	154	65.89	
10:43	2.4	6.67	18.64	3.446	147.8	7.82	160	61:89	
10:46	3.0	6.66	18.77	3.443	1 - .	7.82	150	61.89	
10:47	3.6	6.67	19.03	3 439	145.1	>.79	18-98	65.89	
10:57	4.2						F	61.89	<u>6</u> c)
4. SAMF	PLING DA								hemical Analyses
Method(s	s): D Bailer, Siz	ze:C Pump DI	Bladder Pr nertial Lift Pr	ump 💆 2" Sul ump 🖸 Other:	bmersible Pun	ıp 🗖 4" Subi	mersible Pump	Ferro	ous Iron:/ mg/L
Materials	Pump/Bailer			C Teflon® ared Off-Site	Other: Strict Clear	ned 🖸 Disp	osable	DO:	mg/l
Material	. Tubing/Rope				□ Teflon® 1 □ Field Cle		posable	Nitrat	te: mg/L
Depth to	Water at Time	of Sampli	ng:_ 65 •	89	Field Filtere	d? 🗆 Yes	No No	Sulfa	ite: /mg/L
Sample I	D: <u>MW-1</u>	6	Sample Ti	me:_/ 0:	50	# of Contair	ners: <u>3</u>	- Alkol	
Duplicate	Sample Collec	cted?	⊐ Yes 🎾	No ID:		-		Alkal	inity:ng/L
5. COM	MENTS	Sam		for	A	e cat	inter (OZ NA	03, Hardness
		Jany	101	(01)	THI ONA	s, car	ens, c		
<u> </u>				<u>.,.</u>					

Note: Include comments such as well condition, odor, presence of NAPL, or other items not on the field data sheet.

Signature

Gen\non-proj\forms\Field Data Sheet.xIs\BC-gallons FORM GW-1 (Rev 2/26/02 - dg)

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	3.	0.2	Kal	J. V	19 .	Paris	A N.	υ.
CALDWELL	8							
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GROUNDWATER SAMPLING FIELD DATA SHEET

WELL ID: <u>MW-17</u>

1. PROJ	ECT INFO	RMAT	ION			<u> </u>			
Project N	lumber 126.	238	Task Num	ber: <u>0/9</u>	_	Date: 3/	11/05		Time: 0735
Client:	15-Ser	vices	· 			Personnel:	B.CAM	Actio,	Is mph NE
Project L	ocation: //a	465, 1	VM_			Weather: <u>5</u>	may _	80 °f	15 mph NE
2. WELL									
Casing D	Diameter: 2	inche		Туре: 🖉 РУ	/C 🗆 Stainle	ss 🖸 Galv. S	teel 🛛 Teflon	8 🛛 Other:	
Screen D	Diameter: 2	inche	95	Type: 🖓 🏎	/C 🖸 Stainle	ss 🛛 Galv. S	teel 🛛 Teflon	O D Other:	
Total De	pth of Well:	3.98 fee	t		· · · · · · · · · · · · · · · · · · ·			ctive Casing 🔲 (
	Static Water:		eet	· · · ·				ctive Casing 🔲	
	Product:							ective Casing	
	f Water Column				201	gal		terval (from GS): th well = 0.167 gal	
	GE DATA					.			
Purge M		r, Size:	Blado	ler Pump 😡 2 altic Pump 🔾 I	"Submersible	Pump 🛛 4"	Submersible F	oump	
Matoriale	Fump/Bailer	Stainle	ess 🖸 PV(C D Teflon	0 D Other:			,	Equipment Model(s)
	\smile			pared Off-Site Polypropylene	•	,	osable	1. Hac	h Jurbidity
Materials	: Rope/Pubing			epared Off-Site	Field Cle	aned 🗴 Dis	posable	- 2. <u><u><u> </u></u></u>	GOOXL
Was wel	I purged dry?	🗅 Yes	× №	Pumpir	ng Rate:	للقو 2	min	3. <u>fu</u>	It's pump
Time	Cum. Onlions Removed	рН	Temp	Spec. Cond.	Eh	Dissolved Oxygen	Turbidity	Other:	Comments
	Liters	-	• c	NS/cm	mv	myle	NTU	F+	
0753		7,79	16.13	1,180	176.0		71000	61.79	
0756	. 6	7.65	16.36	1.164	153.6	8.67	>1000	61.78	
0800	1.2	7.51	16.41	1.134	171.9	8.64	>1000	61.78	
0803	1.8	7.46	17.45	1.121	113.2	8.56	705	61.78	- Turbidity ve
0806	7.U	>.44	17.29	1.12/	105.7	8.17	577	61.78	High.
0809	3.0	7.41	17.17	1.113	107.6	8.18	5 57	61.78	
08-12	3.6	7.38	16.93	1.108	104.6	8.62	257	61.78	
2180	4.2	>.36	16.45	1.116	105.1	8.58	190	61.78	
0818	4.8	2.35	16.60	1.11	103.4	8.54	136	61.78	
4. SAMF	PLING DA	TA	······································					Geod	hemical Analyses
Method(Pump 12 2" St Pump 12 Other		mp 🛛 4" Su	bmersible Pur	P Ferro	ous Iron: mg/L
Materials	s Pump/Bailer		ess DPV ated DPre	C Teflon pared Off-Site	Other:	aned C Dis	posable	DO:	mg/
Materia	s. Tubig/Rope			Polypropylene epared Off-Sit			isposable	— Nitra	te:mg/l
Depth to	Water at Time		1 1 1			ed? 🗆 Yes	•	Sulfa	
-	ID: MW-1	-	-	ime: 8:3	0	# of Contai	ners: <u>3</u>	- Julia	ite: mg/L
Duplicate	e Sample Collec	ted?	□ Yes≯	- No ID:		_		Alkal	inity: mg/L
5. COM	MENTS	Samo	ed fo	Ani	ms r	atime	5 (1)	2 Hrnz	, Hardness
							-,	<u></u>	1-11-01-0-2
			dition = 1		ADI	aile		- · ·	· · · · ·
ivote: include	comments such	as well con	uuun, 000r,	presence of N	Mr'L, or other	items not on t	ne lield data s.	neet.	
FORM GW-	1 (Rev 6/8/99 - w	ah)					Su	ul	es_
	. (NEV 0/0/33 · W						Signature		

BROWN AND CALDWELL

GROUNDWATER SAMPLING FIELD DATA SHEET

WFILID: MW-18

1. PRO.	JECT INFO		ΓΙΟΝ		<u> </u>				
	Number: 126	_		nber: 019		Date: 3/	11/05		Time: 0900
	65-Ser				·				ang Ping
	Location:		NM			Weather:	vind 15	mph NE	, 80=+ SUANY
	L DATA								
Casing	Diameter: 2	incl	hes	Type:	VC 🛛 Stainle	ess 🛛 Galv, S	iteel 🛛 Teflon	B 🛛 Other:	
Screen	Diameter:	2 inc	hes	Туре: 🗜 Р	VC 🛛 Stainle	ess 🖸 Galv, S	iteel 🖸 Teflon	B 🛛 Other:	
Total De	epth of Well:	3.90 fe	et	From: 🗴 T	op of Well Ca	sing (TOC)	Top of Prote	ctive Casing 🛛 🔾	ther:
Depth to	o Static Water:_	61.76	feet	From: 🛃 T	op of Well Ca	sing (TOC)	Top of Prote	ctive Casing 🛛 C	ther:
Depth to	Product:	feet		From:	op of Well Ca	sing (TOC)	Top of Prote	ctive Casing	0ther:
Length o	of Water Colum	n:	feet	Well Volum	e:	gal		terval (from GS)	
Pump ir	take depth 6	<u>/(fro</u>	om 🥌 🔗	Toc			Note: 2	-inch well = 0.16 ga	al/ft 4-inch well = 0.65 gal/l
	GE DATA					,			
Purge M	Nethod: D Baile	r, Size:	D Bladd	ler Pump 🔏	" Submersible	Pump 🖬 4" :	Submersible P	ump	Equipment Model(a)
	s (Pump/Bailer	🔏 Stainle	ess 🖸 PV(C 🛛 Tefion@	0 🛛 Other:				Equipment Model(s)
	-	to Deliver		bared Off-Site			osable	1. <u>15</u> .	I-600×1
Material	s: Rope/Tubing	Dedica	ated D Pre	Polypropylene epared Off-Site	E Field Cle	aned Nois	posable	2. HA	CH Turbisity
Was we	II purged dry?	🛛 Yes	X No	Pumpi	ng Rate: 0,	2 4	/min		tz pump
Time	Cum. Gallons Removed	рН	Temp	Spec. Cond.	Eh	Dissolved Oxygen	Turbidity	Depth to Water (TOC)	Comments
	Liters	-	10	ms/cm	Inv	more	NTU	-/t	- Turbidity v
9:10		7.15	17.66	1.375	102.3	7.73	484	61.78	High.
9:13	•6	7.03	17.90		106.1	7.91	4.60	61.78	
9:16	1.2	6.92		1.376	1	8.11	371	61.78	
7:19	1.8	6.91	19.19	1.382	93.0	8.16	302	61.78	
9:22	2.4	6.84		1.384		8.13	201	61.78	
9:25	3.0	6.78	19.99	1.389		8.11	156		- water clearing
7:25	26	6.70		1.394	116.1	8.08	118	61.78	
9.21	4.2	6.72	19.74			8.04		61.78	
1. SAMI	PLING DA					<u>, </u>			nemical Analyses
Method(Bailer, Siz	:e: C	Bladder Pi	ump 🔀 2" Sul	omersible Pun	np 🛛 4" Subi	mersible Pump	Ferro	us Iron:
				ump 🖨 Other: C 🔲 Teflon®	D Other			reno	
Material	s. Pump/Bailer	Dedica	ited 🖸 Prep	ared Off-Site	Field Clea		osable	DO:	mg/L
Material	s: (Tubing/Rope	Dedica	ited 🖸 Pre	Olypropylene pared Off-Site	□ Field Cle	aned States	posable	Nitrat	e: mg/L
Depth to	Water at Time	of Samplir	ng: 61,	18	Field Filtere	ed? 🗆 Yes	🗅 No	Sulfat	le: mg/L
Sample	10: <u>Mw-1</u>	8	Sample Ti	me: <u>?:4</u>	45	# of Contair	ners: <u>3</u>	A 11. – 11	
Dunlicat	e Sample Collec	ted?	Yes 🛣	No ID:	~	-		Alkali	nity:mg/L
Dupnout	c dumple conce								
				······································			······		
5. COM	MENTS	5.	moles	for	Anian	s, cat	ions. a	LO3 HC	3, Hardness
	-			¥.1			_ 		
· · · · · · · · · · · · · · · · · · ·									
lato: Includo	comments such as	well condit	ion ndor nr	esence of NAL	DI or other ite	me not on the	field data she	st	

Gen\non-proj\forms\Field Data Sheet.xls\BC-gallons FORM GW-1 (Rev 2/26/02 - dg)

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	ECT INFC								
	iumber: / 26 2		Task Num	ber: 0/9		Date: 3	11/05		Time: 1115 Young Ping win 15mph
Client:	B5-Serv	ices	1 44		<u> </u>	Personnel:	B. CAM	ACHO,	Young Ping
Project L	ocation: //-	645 , N				Weather:	80 4	, SUNNY	win Smph
	~			Turner Mai					
	<u> </u>							B 🖸 Other:	
	Diameter:	inch		<u>_</u>			teel Teflon		
	pth of Well:					······································		ctive Casing 🔲 (
								ctive Casing	
	Product:	feet		Well Volum					
•	take depth		-		o	yai		terval (from GS -inch well = 0.16 g	
		(110							
		r, Size:	_ 🛛 Bladd	er Pump 😥	" Submersible	Pump 🖸 4" :	Submersible Pu	ımp	
	Centi	rifugal Pump	D Perista	ltic Pump 🗖 🗆 I	nertial Lift Pur	np 🗅 Other:	<u></u>		Equipment Model(s)
Material	Pump/Bailer	Dedica	ated D Prep	C D Teflon@ pared Off-Site	Uner: Set ield Clea	aned 🖸 Disp	osable	1. <u>15</u>	5-600 ×L
Material	s: Rope Tubing		hylene	^D olypropylene		Other:	nosable		He pump
Was we	I purged dry?					لام aned 26			
	Cum. Gollons			Spec.	ng Rate:	Dissolved		3. <u>Ha.</u> Depth to Water	hTurh.
Time	Removed	рН	Temp	Cond.	Eh	Oxygen	Turbidity	(TOC)	Comments
.	Liters	-	PC	Ms/cm	MV	m8/L	NTU	tt.	
11:16	6	7.01	19.04	1-611	115:8	7.67	> / • • • •	70.02	
11:19	.6	6.72	19.11	1:592	113.2	7.64	71000	69.18	
11:22	1.2	6.66	19.79	1.584	95.6	7.39	> 1000	69.53	
11:25	1.8	6.66	20.16	1.592	92.5	7.26	681	69.53	
11:28	2.4	6.64	20.21	1.601	95.3	7.17	312	(9.13	
11:31	20	6.58	19.78	1.598	107.5	7.40	510	69.5]	
11:24	3.6	6.58	12,88		109.0	1.	325	69.53	
11:37	4.2	6.60	19.8	1.604	110.5	>.50	127	69.52 .	
4. SAM	PLING DA	TA	1						nemical Analyses
Method				ump 🎉2" Si ump 🖬 Other		mp 🗖 4" Sub	mersible Pump	Ferro	us Iron:/mg/L
Material	s/Pump/Bailer	Stainle	ess 🖸 PV	C 🗆 Teflon	® 🖬 Other:				$\overline{\sqrt{7}}$
	C			pared Off-Site Polypropylene		aned Disp	osable	DO:	mg/L
	s Tubing/Rope	🗖 🖵 Dedica	ated 🛛 Pr	epared Off-Site	e 🛛 Field Cl	eaned 🗡 Dis		Nitrat	e: mg/L
	Water at Time					ed? 🗆 Yes	· ~	Sulfat	e: mg/L
Sample	ID: <u>Mw-1</u>	9	Sample T	`ime: //∶	45	# of Contai	ners:	Alkali	nity:ng/L
Duplica	e Sample Colle	ected?	U Yes	No ID:					·
- <u></u>					, 				
5. COM	MENTS		Sau	pled	for	cation	-s, and	ons, CE	3, Heoz,
			Har	Jaes	5		·····		
Vote: Include	comments such a	as well cond	ition, odor	presence of N/	PL, or other in	ems not on the	field data shee	t	

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