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2004 SUMMARY REPORT

GROUNDWATER CONDITIONS AT THE SODA SPRINGS PLANT SODA SPRINGS, IDAHO

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1.0 INTRODUCTION

The Monsanto Soda Springs Plant is located approximately one mile north of the City of Soda Springs, Caribou County, Idaho (Figure 1). Monsanto conducted a Remedial Investigation / Feasibility Study (RI/FS) under an Administrative Order on Consent (AOC) with the U.S. Environmental Protection Agency (USEPA). The purpose of the RI/FS (which began in 1991) was to determine the nature and extent of constituents at and near the Plant. The investigation included evaluations of soil, sediments, air emissions, surface water and groundwater.

A Record of Decision (ROD) was agreed upon by Monsanto and USEPA (USEPA 1997) that prescribes selected remedies for the affected environmental media at the site. For groundwater, the selected remedy is monitored natural attenuation with institutional controls. This remedy was selected based on groundwater modeling results, as described in Section 1.1.4, that predict restoration of groundwater to concentrations below the remediation goals.

Annual groundwater and effluent discharge monitoring is conducted at and near the Plant in order to ensure that natural attenuation is proceeding per modeled predictions, and to monitor the attenuation process. This report summarizes the results of the 2004 annual groundwater monitoring at the Soda Springs Plant site. This summary is based on the groundwater quality data collected up to and including the June 2004 sampling round, conducted from June 21 through 25, 2004.

1.1 Background

The Monsanto Soda Springs Plant is located one mile north of the City of Soda Springs, Caribou County, Idaho (Figure 1). The site covers an area of approximately 800 acres, with the plant accounting for 540 acres. Wells and springs at and in the vicinity of the Plant are outlined on Figures 2 and 3 for the UBZ and LBZ, respectively. Operational facilities are shown on Figure 4. Well completion information is summarized in Table 1 for monitoring and plant production wells at and in the vicinity of the Plant.

1.1.1 Hydrogeology

The hydrogeology at the Monsanto Plant is presented in detail in Golder 1995. The primary hydrostratigraphic zones underlying the Monsanto Plant include the Upper Basalt Zone (UBZ) and the Lower Basalt Zone (LBZ). The principle aquifer is the UBZ which extends to a depth of 100 feet bgs below the plant. Depth to the water table ranges from 20 feet bgs in the northeast corner to 100 feet bgs in the center of the plant. Groundwater flow in the UBZ and LBZ is a function of faulting, regional hydrogeologic conditions, and pumping of the plant production wells. The UBZ and LBZ are broken into smaller regions (UBZ-1 through UBZ-4 and LBZ-1 through LBZ-4), based on hydrogeological controls and groundwater quality (Figures 2 and 3). Details pertaining to the breakdown of UBZ and LBZ regions are provided in Golder 1992.

1.1.2 History of Groundwater Effects

Table 2 presents a history of groundwater investigations at the Monsanto site. Golder was initially employed to assess the impact of operations on groundwater and surface water quality at the Monsanto Plant in 1984. The 1984 study found elevated concentrations of cadmium, selenium, fluoride and sulfate in groundwater beneath the plant.

In 1992, a RI/FS was conducted by Golder and submitted to EPA. A Phase II RI/FS was conducted and submitted to EPA in 1995. Bi-annual groundwater monitoring occurred from 1991 to 1998, and annual groundwater monitoring has occurred since 1998.

Groundwater affected by Monsanto activities is mainly confined to the UBZ within the plant, with groundwater flow toward the south plant fenceline. The migration of plumes originating within plant boundaries is monitored by wells located at the south fenceline and at the southern boundary.

There are two constituent plumes on the site originating from Monsanto operations. Affected groundwater originates from three principal source areas within the Monsanto Plant (Figure 4):

- Old UFS ponds (UBZ-2);
- Northwest pond (UBZ-4); and
- Old hydroclarifier (UBZ-4).

The plume from the old UFS ponds occurs in the UBZ-2 groundwater zone and flows within the groundwater system toward the south. The plumes from the northwest pond and the old hydroclarifier occur in the UBZ-4 zone and flow southward toward the plant production wells used for non-contact cooling water supply. Pumping from the production wells PW-01, PW-02, and PW-03 from UBZ-4 contains the plumes originating from the northwest pond and the old hydroclarifier areas to prevent offsite migration. There are other minor source areas on the site such as the former sewage lagoon, the unlined non-contact cooling water ponds, and the old coke and quartz ponds.

A fourth plume originates on Kerr McGee's plant site, and has spread onto the southeastern portion of the Monsanto Plant site in the UBZ-3 area. Groundwater under the southeastern portion of the plant had elevated concentrations of vanadium, chloride and sulfate attributed to the Kerr-McGee Chemical Corporation (Figure 1).

A groundwater solute transport model was developed as part of the Phase II RI for the Monsanto plant to predict the fate and transport of constituents in groundwater in the vicinity of the plant (Golder, 1995). The solute transport model was developed for the portion of the plant where there is potential for off-site transport of constituents in groundwater (the UBZ-2 zone). The model projected concentrations to three endpoints south of the plant (the southern plant boundary, the estimated discharge point of the plume into Soda Creek, and the estimated discharge point of the plume into Bear River), as shown in Figure 2. Projections were calculated for constituent transport for a period of over 100 years.

In 2002, Golder conducted a Five-Year Review of the groundwater remedy employed at the Plant, per conditions set in the Record of Decision (ROD). This Five-Year Review is the first of a series required to determine whether the remedy remains protective, to confirm that constituent concentration trends in groundwater are declining as predicted, and, eventually, confirm the achievement of MCLs.

The Five-Year Review report included trend analyses and comparisons of groundwater and outfall quality to regulatory levels, remediation goals, and groundwater modeling projections to determine if/when remediation goals have been achieved, and if not, that institutional controls are still in place and effectively preventing human exposure.

As part of the Five-year Review, a revised groundwater model was developed to provide a more accurate projection of groundwater concentrations in the UBZ-2 zone south of the Monsanto plant. The model was revised to account for observed changes in groundwater quality since the contaminant transport model was developed in 1993, and re-interpretation of the source area history and groundwater quality data from monitoring wells. The revised model used Goldsim (2002), a graphical, probabilistic modeling tool.

1.2 Record of Decision

The United States Environmental Protection Agency (USEPA) submitted a Record of Decision (ROD) in 1997 for the Monsanto site that presented the selected remedy for environmental media affected by plant operations (EPA 1997). The selected remedy for groundwater is monitored natural attenuation with institutional controls to prevent human exposure to groundwater until groundwater quality recovers to background conditions.

The ROD established groundwater remediation goals for the constituents of concern: cadmium, fluoride, nitrate, selenium, and manganese. The remediation goals are the Maximum Contaminant Levels (MCLs) under the Safe Drinking Water Act for cadmium, fluoride, nitrate, and selenium, and a risk-based concentration for manganese, as shown in Table 3.

TABLE 3

Groundwater Remediation Goals for the Monsanto Plant

Parameter	Remediation Goal (mg/L)	Regulatory Source
Cadmium	0.005	Maximum Contaminant Level
Fluoride	4	Maximum Contaminant Level
Nitrate as NO_3/ Nitrate as N	44 / 10	Maximum Contaminant Level
Selenium	0.05	Maximum Contaminant Level
Manganese	0.18	Risk-Based Concentration

The remediation goal for nitrate (44 mg/L) is the MCL for nitrate as NO_3. However, the analytical data presented in this report are in the form of nitrate as N. When converting from nitrate as NO_3 to nitrate as N, the remediation goal for nitrate as N is 10 mg/L.

The ROD established the points of compliance for remediation goal monitoring. Several modifications were made to the list of point of compliance wells, as described in Golder 1998, based on availability and accessibility of some wells. Based on the ROD and modifications to the ROD, the point of compliance wells are listed below:

- Production Wells - Wells PW-01, PW-02, and PW-03;
- Plant Fence Line - Wells TW-20, TW-34, TW-35, and TW-39;
- Southern Boundary - Wells TW-53, TW-54, TW-55, and Harris well; and,
- Soda Creek.

The Plant Fence Line wells are located inside the southern Plant fence line near Hooper Springs Road. The Southern Boundary wells are located within the Monsanto property boundary near its southern margin (about 1,200 ft south of the fence line).

Several sample locations have been established to monitor and evaluate discharges to surface water, and effects of discharges on surface water quality. These sample locations are not point of compliance locations, but are used to evaluate water quality at the Soda Creek point of compliance location. The sample locations for surface water quality are listed below:

- Mormon Creek – Mormon Creek at its confluence with Soda Creek (sampled since 2002);
- Pond Inlet – Effluent inlet to the non-contact cooling water pond upgradient of the effluent discharge into Soda Creek (sampling initiated in 2004);
- Soda Upstream – Soda Creek upstream of the effluent discharge pipe (sampled since 2001);
- Soda Downstream – Soda Creek downstream of the effluent discharge pipe (sampled since 2001); and
- Effluent Discharge – Effluent released into Soda Creek at the effluent discharge pipe (sampled in triplicate since 2000).

The data from the surface water stations will be compared to effluent discharged into the pond and effluent discharged into Soda Creek to evaluate the effects of effluent discharge on surface water. Trend analyses will be performed for these stations to evaluate groundwater quality conditions in surface water once sufficient data are available.

1.3 Report Organization

Sample collection activities carried out in June 2004 are summarized in Section 2. Groundwater elevations are evaluated in Section 3 using measurements collected during the June 2004 sampling round. These elevations are evaluated to determine the groundwater flow directions underlying the plant.

Section 4 contains a discussion of analytical results. Constituent concentration trends are evaluated for the point of compliance wells and Soda Creek in Section 4.1. In addition, Section 4.2 includes evaluations of constituent concentration trends at several different areas around the plant. These areas include:

- Northwest Pond Area – Wells TW-16, TW-17, and TW-18;
- Old UFS Ponds Area – Wells TW-22, TW-24, TW-37, and TW-45;
- UFS Piles Area – Wells TW-48, TW-49, and TW-50;

- Hydroclarifier Area – Wells TW-43, and TW-44; and
- South of the Plant Springs – Homestead and Mormon Springs, and Mormon Creek.

The constituents evaluated in Section 4 include the constituents of concern as well as several other indicator constituents. The indicator constituents are included to evaluate the changes in groundwater quality in response to Monsanto's remedial actions.

Section 5 provides a summary of the findings of these evaluations.

Appendices A through H present time-history graphs for selected constituents. Appendix I presents the data validation report for the analytical data from the 2004 sampling round.

2.0 SAMPLE COLLECTION AND ANALYTICAL ACTIVITIES

In June 2004, Golder collected groundwater measurements and samples per the annual sample collection requirements of the ROD. Sample collection occurred from June 21 to June 25, 2004. Groundwater samples were collected from 37 wells and 13 surface water locations during this period, as listed in Table 4. The thirteen surface water locations include springs to the south of the Plant, the mouth of Mormon Spring, the effluent discharge pipe over Soda Creek (Effluent 1 through 3), the inlet to the effluent discharge pond (Pond Inlet) and Soda Creek upstream and downstream of the effluent discharge pipe. Groundwater elevations were measured at all accessible monitoring wells during this period, as described in Section 3.

Quality control samples were collected throughout the sampling event, and include the following:

- Duplicate Samples – Field duplicate samples were collected at three locations, representing at least 5% of all monitoring samples collected;
- Equipment Blank Samples – Equipment blank samples were collected from distilled water rinsate poured over decontaminated equipment. An equipment blank sample was collected from the Grundfos pump and from the bailer; and
- Split Samples – Split samples were collected at four monitoring well locations, representing at least 5% of all monitoring samples collected. These samples were shipped to an alternate laboratory for the same analyses as the other samples.

Groundwater samples were collected using the general procedures described in Section 2.1. All springs were collected as grab samples, as described in Section 2.2. All water samples were analyzed for constituents listed in Table 5, per the requirements of the Quality Assurance Plan for the project.

2.1 General Procedures for Well Sampling

At each well, the groundwater elevation was measured and the well volume calculated using the well completion information for that well (Table 1). All equipment used in the course of sample collection (i.e., water level tape, water quality meter probes, down-hole pumps) was decontaminated prior to use at each well with distilled water at a minimum, and Alconox detergent, if necessary.

2.1.1 Well Purging

To ensure sampling of fresh groundwater rather than water that had been stagnant in the well, groundwater was pumped at each sampled well until at least three well volumes were purged. Groundwater was purged either onto the ground or into a tank (to be disposed into the seal water pond), as designated in Table 4. The purge water was monitored for dissolved oxygen, pH, conductivity, temperature, and turbidity until these parameters stabilized. Samples were collected once three well volumes were purged, the water quality parameters had stabilized, and the turbidity of the groundwater was less than five NTU. Filtering of samples was not necessary in the June 2004 sampling round.

2.1.2 Sample Collection

Samples were collected as grab samples into the appropriate sample containers. Some sample containers contained preservative, as appropriate for the intended analyses. Once the samples were collected, they were labeled and stored in a cooler at 4 degrees C. Samples were shipped daily via

overnight delivery to the laboratory for the analyses listed in Table5. All samples were kept under chain of custody through shipment to the laboratory.

There are four methods used to collect groundwater samples from wells, as shown in Table 4. The well sample collection methods are dedicated pump, Grundfos (non-dedicated) pump, hand-bailed, production well, and Lewis well, as described below.

Dedicated Pump

Monsanto keeps a dedicated well riser for each monitoring well containing a dedicated pump. For sample collection, the corresponding well riser was attached to the well top, and the pump's electrical connection was attached to a generator with the appropriate plug and starter box. Groundwater purging and sample collection proceeded as described in the general procedures.

Non-Dedicated Pump

A non-dedicated Grundfos pump was used in wells that do not contain dedicated pumps (Harris well, TW-08, TW-24, and TW-43). The Grundfos pump was decontaminated inside and out prior to use at each well, and was lowered to a depth below the top of the water table. Groundwater purging and sample collection proceeded as described in the general procedures.

Hand-Bailed Well

In the event that there is insufficient water in a well to pump three well volumes, a hand-bailer was used to purge groundwater. This occurred typically occurs at TW-40, however there was insufficient water in TW-40 to sample the well this year.

Production Well

Plant production wells are plumbed directly into the plant water supply and are operated by automatic switches. The actual well casings for the production wells are inaccessible for groundwater level measurement and direct purging as in the other monitoring wells. Groundwater was collected as grab samples from the ports within the well houses for each production well. If a production well was not in operation at the time of sample collection, then a manual override of the automatic switch was used to start the well. In the case of manual operation, the production well was run for at least five minutes prior to sample collection in order to purge the plumbing lines of stagnant water.

Lewis Well

The Lewis well is a private residential well located to the southeast of the Plant. The actual well casing for the Lewis well is inaccessible for groundwater level measurement and direct purging as in the monitoring wells. Groundwater was collected as a grab sample from an outside hydrant. The pump was turned on and ran for at least five minutes prior to sample collection in order to purge the plumbing lines of stagnant water.

2.2 General Procedures for Spring and Surface Water Sampling

The springs, surface water, and inlet, and effluent discharge samples were collected as grab samples at all listed locations using the same general procedures as for wells. Water quality parameters were collected at each of these locations, but were not required to stabilize prior to sample collection. Spring, surface water, and inlet, and effluent samples were never filtered regardless of turbidity.

2.3 Sample Analyses

The samples collected in June 2004 were shipped to a primary laboratory (SVL in Kellogg, Idaho) for the analyses listed in Table 5. In addition, four samples from wells PW-04, TW-11, TW-18, and TW-39 were shipped to a split laboratory (ARI in Seattle, Washington) for the same analyses. Data validation was conducted on the data received from the laboratories to review and evaluate the procedures and methods used by the laboratories. Data validation evaluates the quality and quantity of the data received from the laboratories, and provides qualification of data that are outside of prescribed limitations. The data validation report for the 2004 sampling round is presented in Appendix I.

3.0 GROUNDWATER ELEVATIONS

The depth-to-groundwater measurements collected during the June 2004 sampling round were converted to groundwater elevations based on surveyed measurement point information collected during the RI/FS. The groundwater elevations are presented in Table 6. Figures 5 and 6 provide groundwater contour maps showing the interpreted directions of groundwater flow underlying the plant for the UBZ and the LBZ, respectively.

In the UBZ, groundwater flow is predominantly from north to south. In the northeast corner of the plant, groundwater also flows into the plant area from the northeast. The four production wells (PW-01, PW-02, PW-03, and PW-04) create two areas of depressed groundwater levels. One area of depressed water levels occurs surrounding PW-04 at the north end of the plant, and a second area occurs surrounding PW-01, PW-02, and PW-03 located in the center of the plant. Groundwater flow at the southern boundary is in a southerly direction. Groundwater eventually begins to flow southwest toward Soda Creek.

In the LBZ, groundwater flow follows a pattern similar to that observed in the UBZ. The groundwater flow pattern observed for June 2004 is similar to the flow patterns previously observed in the RI/FS.

4.0 ANALYTICAL RESULTS

Constituent concentration trends for point of compliance locations are presented in Section 4.1. The constituent concentration trends for other wells and springs are presented in Section 4-2. Time history charts for each location reviewed in this section are presented in Appendices A through H.

4.1 Constituent Concentration Trends in Point of Compliance Wells and Spring/Creek

The results of the analyses at the 2004 sample locations are presented in Table 7. This section summarizes the results for the point of compliance locations (PW-01, PW-02, PW-03, TW-20, TW-34, TW-35, TW-39, TW-53, TW-54, TW-55, Harris well, and Soda Creek). Mormon A Spring and Mormon Creek are included for comparison against southern boundary wells and Soda Creek. Table 8 summarizes the constituent trends at these locations.

4.1.1 Cadmium

The remediation goal for cadmium is 0.005 mg/L.

- **Production Wells** - Cadmium has decreased and stabilized, and is below the remediation goal in PW-03. In PW-01 and PW-02, cadmium has decreased since 1998, but is above the remediation goal at 0.029 mg/L (PW-01) and 0.0053 mg/L (PW-02) in 2004.
- **South Fence Line Wells** – In TW-20, cadmium decreased and stabilized to below the remediation goal from 1998 to 2001, but has increased to slightly above the remediation goal from 2001 to 2004. The concentration of cadmium in TW-20 in 2004 was 0.01 mg/L. Cadmium is stable in TW-34 and TW-35 with non-detected concentrations (less than 0.002 mg/L) in 2004 in both wells. Cadmium is stable in TW-39; however it is above the remediation goal with a concentration of 0.012 mg/L in 2004.
- **Southern Boundary Wells** – Cadmium is below the remediation goal in wells TW-53 and TW-55 and has been stable since 1995. In TW-54, cadmium is below the remediation goal at 0.0023 mg/L in 2004.
- **Mormon Spring and Harris Wells** – Cadmium is stable at these two locations, and is below the remediation goal in Harris well (less than 0.002 mg/L). However, cadmium is above the remediation goal at Mormon Spring with a 2004 concentration of 0.012 mg/L. Cadmium is below the remediation goal in Mormon Creek at its confluence with Soda Creek (0.0034 mg/L).
- **Soda Creek**—Cadmium upstream and downstream of the effluent pipe on Soda Creek has been stable since measurements began in 2001. Cadmium concentrations in locations upstream and downstream of the discharge pipe are undetected at less than 0.002 mg/L.
- **Pond Inlet and Effluent Discharge** – The 2004 average cadmium concentrations in the effluent discharge (sampled in triplicate) is 0.006 mg/L, and concentrations have been decreasing since 2000. The cadmium concentration in the Pond Inlet is 0.007 mg/L.

4.1.2 Fluoride

The remediation goal for fluoride is 4 mg/L.

- **Production Wells** - Fluoride is below the remediation goal, and has remained stable at less than 2 mg/L in all three point of compliance production wells (PW-01, PW-02, and PW-03).
- **South Fence Line Wells** – Fluoride has decreased since 1987 in TW-20, and has been stable and below the remediation goal since 1998. Fluoride is stable and below the remediation goal in TW-34 and TW-35. In TW-39, fluoride is decreasing and has been below the remediation goal since 2001.
- **Southern Boundary Wells** – Fluoride is decreasing and below the remediation goal in TW-53 and TW-54, and is stable and below the remediation goal in TW-55.
- **Mormon Spring and Harris Wells** – Fluoride has been decreasing and below the remediation goal at the Harris well since 2001. Fluoride has been decreasing at Mormon spring since 1996, with a 2004 concentration of 1.9 mg/L. In Mormon Creek, fluoride decreased from 1.96 mg/L in 2002 to 1 mg/L in 2004.
- **Soda Creek** - Fluoride upstream and downstream of the effluent pipe are stable and below the remediation goal. The 2004 concentrations are 0.28 mg/L (upstream) and 0.47 mg/L (downstream).
- **Pond Inlet and Effluent Discharge** – The 2004 average fluoride concentration in the effluent discharge (sampled in triplicate) is 0.36 mg/L. The fluoride concentration in the Pond Inlet is 0.33 mg/L.

4.1.3 Manganese

The remediation goal for manganese is 0.18 mg/L. As described in Golder 2003b, a temporary increase in manganese concentrations occurs in 2002 because of an increase of the detection limit from 0.01 to 0.06 mg/L for the 2002 sampling round. In all cases where manganese was not detected in 2002, 2003 manganese returned to levels similar to 2001 manganese levels.

- **Production Wells** – In 2004, manganese was not detected (less than 0.002 mg/L) in all production wells.
- **South Fence Line Wells** – Manganese had decreased since the mid 1980's in TW-20 and TW-39, and has stabilized at or below the detection level (less than 0.01 mg/L) since 1995. Manganese is stable in TW-35, and the 2004 concentration (0.14 mg/L) is below the remediation goal. The 2004 concentration of manganese in TW-34 (0.24 mg/L) exceeds the remediation goal. It should be noted that TW-34 and TW-35 are completed in the transition zone between UBZ-2 and LBZ-2. Some sodic groundwater which naturally contains elevated manganese concentrations occurs in these wells due to the upward hydraulic gradient from LBZ-2.
- **Southern Boundary Wells** – Manganese has been stable in the southern boundary wells since the mid 1990's, and is below the remediation goal in all wells.
- **Mormon Spring and Harris Wells** – Manganese has been stable at Mormon Spring and the Harris well, and is below the remediation goal at these locations. The manganese concentration at Mormon Creek is stable, with a 2004 concentration of 0.024 mg/L.

- **Soda Creek**— Manganese concentrations in the both upstream and downstream of the effluent discharge pipe in Soda Creek are below the remediation goal.

- **Pond Inlet and Effluent Discharge** – Manganese concentrations are non-detected (less than 0.01 mg/L) in the pond inlet and effluent discharge from the treatment plant.

4.1.4 Nitrate

The remediation goal for nitrate as N is 10 mg/L.

- **Production Wells** - Nitrate as N concentrations have stabilized at or below 4 mg/L and are below the remediation goal.

- **South Fence Line Wells** – The 2004 nitrate as N concentration is 7.4 mg/L (8.5 mg/L in a duplicate sample) in TW-20. Nitrate as N is stable in TW-34 and TW-35 at concentrations below the remediation goal. Nitrate as N is stable in TW-39 since 2002, with the 2004 concentration at 4.2 mg/L. All south fenceline wells are below the remediation goal.

- **Southern Boundary Wells** – Overall, nitrate as N has decreased in TW-53 and TW-54 since the mid 1990's, but appears to be increasing slightly since 2000. The 2004 nitrate as N concentrations in TW-53 and TW-54 remain below the remediation goal at 5.4 mg/L and 7.5 mg/L, respectively. Nitrate as N is stable and below the remediation goal in TW-55 with a 2004 concentration of 2.7 mg/L.

- **Mormon Spring and Harris Wells** – Nitrate as N concentrations have stabilized at Mormon Spring. At the Harris well, nitrate as N concentrations have increased from 4.9 mg/L in 1999 to 6.9 mg/L in 2004. Concentrations of nitrate as N are below the remediation goal at both locations. The nitrate as N concentration in Mormon Creek has decreased from 2.8 mg/L in 2002 to 1.5 mg/L in 2004.

- **Soda Creek**—Nitrate as N concentrations are decreasing and below the remediation goal both upstream and downstream of the effluent discharge pipe with concentrations of 0.09 mg/L and 0.42 mg/L, respectively.

- **Pond Inlet and Effluent Discharge** – The nitrate as N concentration in the effluent discharge has decreased from 4.3 mg/L in 2000 to 3.3 mg/L in 2004. The nitrate as N concentration in the pond inlet is 3.5 mg/L in 2004.

4.1.5 Selenium

The remediation goal for selenium is 0.05 mg/L.

- **Production Wells** - Selenium has been stable in all three production wells since the early to mid 1990's. Selenium concentrations are below the remediation goal in PW-01, PW-02 and PW-03.

- **South Fence Line Wells** – Selenium has increased from 0.03 mg/L in 2000 to 0.39 mg/L in 2004. Selenium is stable in TW-34 and TW-35, with all observed selenium measurements less than the remediation goal. Selenium has been decreasing in TW-39 since 2000 with a 2004 concentration of 0.11 mg/L.

- **Southern Boundary Wells** – Selenium concentrations in TW-53 and TW-54 appear to be increasing with 2004 concentrations of 0.22 mg/L and 0.37 mg/L, respectively. Concentrations are stable in TW-55 with a 2004 concentration of 0.06 mg/L.
- **Mormon Spring and Harris Wells** – Selenium is relatively stable at Mormon Spring, but is above the remediation goal with a 2004 concentration of 0.23 mg/L. Selenium at the Harris well has been increasing since 2000 with a 2004 selenium concentration of 0.27 mg/L. The selenium concentration in Mormon Creek has increased from 0.07 mg/L (2002) to 0.12 mg/L (2004).
- **Soda Creek**—Since 2001, selenium concentrations the upstream of the effluent pipe have been non-detected at less than 0.01 mg/L. Downstream of the pipe, selenium has been stable since 2001, with a 2004 concentration of 0.04 mg/L. Though selenium is greater in the downstream location, it is still below the remediation goal.
- **Pond Inlet and Effluent Discharge** – Selenium concentration in the effluent discharge has been stable since 2000, with a 2004 concentration of 0.017 mg/L (0.019 mg/L in a duplicate sample). The 2004 concentration of selenium at the effluent inlet is 0.017 mg/L.

4.1.6 Chloride

There is no remediation goal for chloride at this site.

- **Production Wells** - Chloride has decreased overall since the mid 1980's and has been relatively stable since 2002 in PW-01. Chloride is relatively stable in PW-02 and PW-03 at less than 50 mg/L.
- **South Fence Line Wells** – Chloride has increased in TW-20 from 55 mg/L in 2000 to 140 mg/L in 2004. Chloride concentration is stable in TW-34, and TW-35, with 2004 concentrations at 44.6 mg/L, and 38.6 mg/L. Chloride has decreased in TW-39 since the early 1990's, with a 2004 concentration of 95 mg/L.
- **Southern Boundary Wells** –Chloride has been relatively stable in all southern boundary wells, but appears to be increasing in TW-53 and TW-54 since 1999.
- **Mormon Spring and Harris Wells** – Chloride concentration at Harris well has increased from 56 mg/L in 1999 to 98 mg/L in 2004. Chloride at Mormon Spring appears to be stable since the early 1990's. Chloride at Mormon Creek has ranged between 261 mg/L and 358 mg/L since 2002.
- **Soda Creek**—Chloride has remained stable since 2001 at both the upstream and downstream Soda Creek locations.
- **Pond Inlet and Effluent Discharge** – Chloride in the effluent discharge has decreased from around 300 mg/L in 2001 to 117 mg/L in 2004. The concentration of chloride at the pond inlet is considerably lower than the discharge, at 61 mg/L in 2004.

4.1.7 Molybdenum

There is no remediation goal for molybdenum at this site.

- **Production Wells** - Molybdenum is stable in all production wells except for PW-03 at concentrations less than 0.05 mg/L. In PW-03, the molybdenum concentration has been increasing since 2001. The current molybdenum concentration in PW-03 is 0.049 mg/L.
- **South Fence Line Wells** – Molybdenum has increased since 2001 at TW-20; the 2004 concentration is 0.06 mg/L. Molybdenum has been stable at 0.01 mg//L or less in TW-34 and TW-35 since 1994. In TW-39, molybdenum has decreased since 1999 with a 2004 concentration of 0.046 mg/L (duplicate value of 0.049 mg/L).
- **Southern Boundary Wells** – Molybdenum was increasing in TW-53 from 1992 to 2000, but has been decreasing since 2000. Molybdenum is stable since 2001 in TW-53 with a 2004 value of 0.049 mg/L. Molybdenum has decreased in TW-54 and is stable in TW-55 since 1999. Molybdenum concentrations are all less than 0.1 mg/L in the southern boundary wells.
- **Mormon Spring and Harris Wells** – Molybdenum has decreased since the late 1990s in Mormon Spring and the Harris Well, and is currently stable with concentrations below 0.1 mg/L. The 2004 molybdenum concentration in Mormon Creek is 0.03 mg/L.
- **Soda Creek**—Molybdenum has remained stable at the upstream and downstream locations on Soda Creek with 2004 concentrations of 0.008 mg/L and 0.02 mg/L, respectively.
- **Pond Inlet and Effluent Discharge** – Molybdenum concentrations in the effluent discharge are less than 0.05 mg/L, and have been increasing since 2000. The molybdenum concentration at the effluent inlet is 0.036 mg/L.

4.1.8 Sulfate

There is no remediation goal for sulfate at this site.

- **Production Wells** - Sulfate is stable in all production wells at concentrations less than 250 mg/L.
- **South Fence Line Wells** – The sulfate concentration in TW-20 increased from 206 mg/L in 1999 to 640 mg/L in 2004 (duplicate values of 644 and 622 mg/L). Sulfate has been stable at less than 250 mg/L in TW-34 and TW-35. Sulfate at TW-39 has been decreasing since 2000, with 2004 concentration at 321 mg/L.
- **Southern Boundary Wells** – Sulfate at TW-53 and TW-54 has increased since 2000, with 2004 concentrations of 388 mg/L and 508 mg/L, respectively. Sulfate concentrations in TW-54 have been stable since 2001. Sulfate has remained relatively stable in TW-55.
- **Mormon Spring and Harris Wells** – Sulfate has decreased in Mormon Spring since 1996 (420 mg/L) to 2004 (285 mg/L). Sulfate has increased slightly in the Harris Well with a 2004 concentration of 437 mg/L. In Mormon Creek, sulfate has decreased from 2002 (236 mg/L) to 2004 (147 mg/L).
- **Soda Creek**—Since 2001, sulfate has remained stable both upstream and downstream of the effluent pipe at concentrations of 38 mg/L and 70 mg/L, respectively.

- **Pond Inlet and Effluent Discharge** – The sulfate concentration in the effluent discharge has been stable since 2000. The 2004 concentration ranges between 88 and 94 mg/L. The sulfate concentration at the pond inlet is 88 mg/L.

4.2 Constituent Concentration Trends in Other Wells and Springs

This section summarizes water quality monitoring at four locations on the site. They are the NW pond (TW-16, TW-17, and TW-18), the UFS ponds area (TW-22, TW-24, TW-37, and TW-45), the UFS piles area (TW-48, TW-49, and TW-50), the old hydroclarifier area (TW-43 and TW-44), and springs to the southwest of the Plant (Homestead and Mormon springs). TW-40 (old hydroclarifier area) was not sampled due to inadequate water levels. Table 9 summarizes the constituent trends at these wells and springs.

4.2.1 Cadmium

- **Northwest Pond Area** - Cadmium has stabilized at wells TW-16, TW-17, and TW-18 with 2004 concentrations of 0.45 mg/L, 0.0045 mg/L, and non-detected (less than 0.002 mg/L), respectively.
- **Old Underflow Solids Ponds Area** – Cadmium in the wells near the old UFS ponds have remained stable. The 2004 concentrations in the UBZ wells in this area (TW-22, TW-24, and TW-37) are 0.024 mg/L, 0.32 mg/L, and 0.40 mg/L, respectively. In TW-45, which is completed in the LBZ, cadmium concentrations appear to be relatively stable with a concentration of 0.0043 mg/L in 2004.
- **Underflow Solids Piles Area** – Cadmium in TW-48 decreased from a 2003 concentration of 0.019 mg/L to 0.0021 mg/L (an order of magnitude decline), however cadmium is relatively stable since 1989, indicating that the 2003 concentration may be anomalous. Cadmium decreased in TW-50 from 0.022 mg/L in 2003 to 0.014 mg/L in 2004, but shows an overall increase from the 2000 concentration. Cadmium is stable in TW-49, with concentrations below the detection limit (0.002 mg/L).
- **Hydroclarifier Area** - Cadmium is relatively stable at TW-43 with a 2004 concentration of 1.99 mg/L. Cadmium concentration is relatively stable at TW-44, with a 2004 concentration of 0.0045 mg/L.
- **South of the Plant Springs** –Cadmium in Homestead Spring was stable and not detected at 0.002 mg/L. Cadmium concentration at Mormon Spring was stable in 2004 at 0.012 mg/L.

4.2.2 Fluoride

- **Northwest Pond Area** - Fluoride has stabilized in TW-16 and TW-17 since the early 1990's, with 2004 concentrations of 2.1 mg/L and 1.6 mg/L, respectively. In TW-18, fluoride has been stable with all concentrations at 0.5 mg/L or less.
- **Old Underflow Solids Ponds Area** – Over the past five years, concentrations have been decreasing in TW-22 and TW-24, with 2004 concentrations at 3.4 mg/L and 5.0 mg/L, respectively. Fluoride is stable in TW-37 and TW-45 at concentrations of 11.8 mg/L and 0.33 mg/L, respectively, in 2004.
- **Underflow Solids Piles Area** – Fluoride is stable in TW-48, TW-49, and TW-50 with concentrations less than 1 mg/L.

- **Hydroclarifier Area** – Fluoride at TW-43 appears to be stable with concentrations slightly above 4 mg/L. Fluoride concentrations are stable at TW-44 at less than 1.0 mg/L through 2003, with the single exception of the 2000 fluoride concentration (1.4 mg/L).
- **South of the Plant Springs** - Fluoride concentrations are stable at Homestead Spring, with concentrations below 1.0 mg/L. Fluoride has decreased at Mormon Spring, and is currently below 4 mg/L.

4.2.3 Manganese

- **Northwest Pond Area** - Manganese is stable at TW-16 at non-detected concentrations (less than 0.01 mg/L). Manganese is increasing at TW-17 with a 2004 concentration of 2.35 mg/L. In TW-18, manganese is stable with a 2004 concentration of 0.41 mg/L. Well TW-17 is completed in the transition zone between the UBZ and the LBZ, and some sodic groundwater leakage may occur in this well due to the upward hydraulic gradient from the LBZ.
- **Old Underflow Solids Ponds Area** – Manganese is stable in TW-22 at 0.93 mg/L. Manganese is stable at TW-24 and TW-37 with 2004 concentrations of 0.33 mg/L and 0.77 mg/L, respectively. In TW-45, manganese is stable with a 2004 concentration of 0.47 mg/L.
- **Underflow Solids Piles Area** – In TW-48, manganese concentrations increased from 0.021 mg/L in 2003 to 0.11mg/L in 2004. The 2004 concentration is an apparent outlier, as TW-48 is a background well, and concentrations are typically an order of magnitude lower. Further annual sampling and analyses will indicate whether the 2004 concentration is anomalous. Manganese is stable in TW-49, and TW-50 with 2004 concentrations non-detected (less than 0.002 mg/L) and 0.49 mg/L, respectively.
- **Hydroclarifier Area** - Manganese appears stable in TW-43, with 2004 concentrations at 0.0069 mg/L. Manganese concentration is stable at TW-44 with a 2004 concentration of 0.47 mg/L.
- **South of the Plant Springs** - Manganese concentrations are stable at Homestead and Mormon Springs with 2004 concentrations of 0.006 mg/L and non-detected (less than 0.002 mg/L), respectively.

4.2.4 Nitrate

- **Northwest Pond Area** - Nitrate as N has been decreasing at TW-16 since 1997, with a 2004 concentration of 4.4 mg/L. Nitrate as N is stable in TW-17 and TW-18 with 2004 concentrations at non-detected levels (less than 0.02 mg/L).
- **Old Underflow Solids Ponds Area** – At TW-22, TW-24, and TW-37, nitrate as N concentrations are less than 10 mg/L. Nitrate as N concentration in TW-22 has decreased since 1999, with a 2004 concentration of 3.8 mg/L. In TW-24, the nitrate as N concentration has decreased since 2000, with a 2004 concentration of 4.3 mg/L. Nitrate as N is stable in TW-37, with a 2004 concentration of 8.9 mg/L. The nitrate as N concentrations in TW-45 are currently stable with a 2004 concentration of non-detected (less than 0.02 mg/L).
- **Underflow Solids Piles Area** – Nitrate as N is stable in TW-48, TW-49, and TW-50 with 2003 concentrations all less than 4 mg/L.

- **Hydroclarifier Area** – Nitrate as N concentration in TW-43 has increased since the mid-1990's to a 2004 value of 16 mg/L. In TW-44, nitrate as N currently appears relatively stable with a 2004 concentration of non-detect (less than 0.02 mg/L).
- **South of the Plant Springs** – Nitrate as N concentrations has increased since 2001 in Homestead spring, with a 2004 concentration of 7.3 mg/L. Nitrate as N in Mormon spring is stable, with a 2004 concentration of 6.7 mg/L.

4.2.5 Selenium

- **Northwest Pond Area** - Selenium is stable at TW-16, TW-17 and TW-18 at 2004 concentrations of 0.24 mg/L in TW-16, and non-detected (less than 0.003 mg/L) in TW-17 and TW-18.
- **Old Underflow Solids Ponds Area** – Selenium is stable at TW-22 and TW-24 with 2004 concentrations of 0.24 mg/L and 0.35 mg/L, respectively. Selenium has been stable since 1996 in TW-37 with a 2004 concentration of 0.45 mg/L. In TW-45, selenium is stable with non-detected concentrations (less than 0.003 mg/L).
- **Underflow Solids Piles Area** – Selenium is stable at TW-48 and TW-49 with 2004 concentrations of non-detected (less than 0.003 mg/L). The 2004 selenium concentration in TW-50 increased from 0.029 mg/L in 2003 to 0.33 mg/L in 2004. This order of magnitude increase in one year may indicate that the 2004 value is anomalous.
- **Hydroclarifier Area** – Selenium has increased in TW-43 since the mid 1990's, with a 2004 concentration of 1.13 mg/L. Selenium appears relatively stable in TW-44 with concentrations of mostly non-detects (less than 0.003 mg/L) throughout the monitoring period.
- **South of the Plant Springs** - Selenium concentrations are stable at Homestead and Mormon Springs with 2004 concentrations of 0.023 mg/L, and 0.23 mg/L, respectively.

4.2.6 Chloride

- **Northwest Pond Area** - Chloride is stable at TW-16 and TW-18 with concentrations less than 50 mg/L. Chloride is stable at TW-17 with concentrations less than 200 mg/L since 1995.
- **Old Underflow Solids Ponds Area** – Chloride is stable at TW-22, TW-24, TW-37 and TW-45 with 2004 concentrations at these three wells less than 50 mg/L.
- **Underflow Solids Piles Area** – Chloride is stable in TW-48 and TW-49 with concentrations less than 50 mg/L. Chloride is stable in TW-50 with concentrations less than 200 mg/L.
- **Hydroclarifier Area** –Chloride is stable in TW-43 with a 2004 concentration of 360 mg/L. Chloride has been stable in TW-44 throughout the monitoring period with a 2004 concentration of 27 mg/L.
- **South of the Plant Springs** - Chloride is stable in Mormon Spring and Homestead Spring, with a 2004 concentrations of 96 mg/L and 27 mg/L, respectively.

4.2.7 Molybdenum

- **Northwest Pond Area** - Molybdenum is stable at TW-16 and TW-17 at concentrations less than 0.05 mg/L. At TW-18, molybdenum concentration was 0.02 mg/L in 2004.
- **Old Underflow Solids Ponds Area** – Molybdenum concentration is decreasing in TW-22 and TW-24 with 2004 concentrations of 0.33 mg/L and 0.28 mg/L, respectively. . Molybdenum is stable in TW-37 with concentrations less than 0.5 mg/L since 1997. Molybdenum is stable at TW-45 with concentrations below 0.05 mg/L since 1992.
- **Underflow Solids Piles Area** – Molybdenum is stable and has remained less than 0.05 mg/L since 1992 in TW-48 and TW-49. At TW-50, Molybdenum has increased since 2001 to a 2004 concentration of 0.053 mg/L.
- **Hydroclarifier Area** – Molybdenum is stable at TW-43 with concentrations less than 0.20 mg/L since 1993. Molybdenum is stable at TW-44 at less than 0.05 mg/L.
- **South of the Plant Springs** - Molybdenum is stable at Homestead Spring with a concentration less than 0.1 mg/L. Mormon Spring has stable molybdenum concentrations, with a 2004 concentration of 0.05 mg/L.

4.2.8 Sulfate

- **Northwest Pond Area** - Sulfate is stable at TW-16, TW-17, and TW-18 at concentrations less than 250 mg/L.
- **Old Underflow Solids Ponds Area** – Sulfate has been decreasing since 1998 at TW-22 and TW-24 with 2004 concentrations of 127 mg/L and 156 mg/L, respectively. Sulfate appears stable since 1999 in well TW-37, with a 2004 concentration of 307 mg/L. In TW-45, sulfate is stable with a concentration of 132 mg/L in 2004.
- **Underflow Solids Piles Area** – Sulfate is stable and typically below 100 mg/L in TW-48 and TW-49. Sulfate is stable and just above 250 mg/L in TW-50.
- **Hydroclarifier Area** – Sulfate was decreasing through 1993 in TW-43, and was not measured again until 2002. Sulfate increased from 1993 (261 mg/L) to 2003 (639 mg/L) and 2004 (760 mg/L). Sulfate is stable at TW-44 with a 2004 concentration of 85 mg/L.
- **South of the Plant Springs** – Sulfate concentration at Mormon Spring currently appears to be decreasing with a concentration of 285 mg/L in 2004. Sulfate is stable at Homestead Spring with a 2003 concentration of 98 mg/L.

5.0 OVERALL ASSESSMENT

This section summarizes the remediation goals at the Monsanto Plant site and trends in constituent concentrations.

5.1 Remediation Goals

The following is a summary of the remediation goals for the point of compliance locations and wells located at the southern boundary or south of the Monsanto Plant. Table 10 provides a summary of the results from all point of compliance wells compared to corresponding remediation goals.

- Cadmium is below the remediation goal of 0.005 mg/L in the point of compliance wells except PW-01, TW-20, TW-39 and TW-54. The 2004 cadmium concentrations in PW-01, TW-20, TW-39 and TW-54 are 0.029 mg/L, 0.0095 mg/L (duplicate value of 0.0014 mg/L and split value of 0.01 mg/L), 0.012 mg/L and 0.0023 mg/L, respectively.
- Fluoride is below the remediation goal of 4 mg/L in all point of compliance wells.
- Manganese is at or below the remediation goal of 0.18 mg/L in all point of compliance wells except for TW-34 (0.24 mg/L). Well TW-34 is a sodic water well that has naturally-occurring high manganese concentrations.
- Nitrate as N is below the remediation goal of 10 mg/L in all point of compliance wells.
- Selenium is below the remediation goal of 0.05 mg/L in all point of compliance wells except TW-20, TW-39, TW-53, TW-54, TW-55, and the Harris Well, with 2004 selenium concentrations of 0.37 mg/L (duplicate value of 0.39 mg/L and split value of 0.38 mg/L), 0.11 mg/L, 0.22 mg/L, 0.37 mg/L, 0.06, and 0.27 mg/L respectively at these wells.

5.2 Constituent Trends

Constituents of concern are stable or decreasing at point of compliance locations with the following exceptions:

- Cadmium has increased in TW-20 at the southern fenceline from 0.0024 mg/L in 2000 to 0.01 in 2004. Cadmium was below the remediation goal from 1998 to 2002.
- Nitrate as N has increased in TW-20 at the southern fenceline from 4.4 mg/L in 2000 to 8.5 mg/L (7.4 mg/L split, and 8.2 mg/L duplicate) in 2004. Nitrate as N has remained below the remediation goal in TW-20 since 1984. Nitrate as N also increased in southern boundary wells TW-53 and TW-54. Nitrate as N increased from 4.5 mg/L in 2001 to 5.4 mg/L in 2004 at TW-53, and increased from 1.0 mg/L in 2002 to 7.5 mg/L in 2004 at TW-54. In the Harris well, nitrate increased from 4.9 mg/L in 1999 to 6.9 mg/L in 2004.
- Selenium has shown recent increases at TW-20, TW-53, TW-54 and the Harris wells to levels above the remediation goal. In TW-20, selenium increased from below the remediation goal (0.03 mg/L in 2000 to 0.39 mg/L in 2004. In TW-53, selenium increased from 0.080 mg/L in 2001 to 0.22 mg/L in 2004. In TW-54, selenium increased from at the remediation goal of 0.05 mg/L in 2000 to 0.27 mg/L in 2004.

Other constituents are stable or decreasing at the point of compliance wells with the following exceptions:

- In TW-20, chloride increased from 55 mg/L in 2000 to 140 mg/L in 2004. In TW-53, chloride increased from 22 mg/L in 1999 to 84.3 mg/L in 2004. Similarly, in TW-54, chloride increased from 45 mg/L in 1999 to 109 in 2004. Chloride concentration in the Harris well increased from 56 mg/L in 1999 to 98 mg/L in 2004.
- In PW-03, molybdenum increased from not detected (less than 0.01 mg/L) in 2001 to 0.49 mg/L in 2004.
- Sulfate increased in TW-20, TW-53, TW-54, and the Harris well. In all cases, sulfate reached a low concentration of less than 250 mg/L in 1999 or 2000, and increased to between 388 mg/L and 640 mg/L in 2004.

Constituents of concern are stable or decreasing at the other wells with the following exceptions:

- Cadmium increased at TW-50 from less than 0.005 mg/L to at or about 0.014 mg/L in 2003.
- Manganese increased at TW-17 (near the northwest pond) from 0.24 mg/L in 1984 to 2.4 mg/L in 2003.
- In the vicinity of the old hydroclarifier (TW-43), nitrate as N increased from approximately 8 mg/L in the mid 1990's to 16 mg/L in 2004.
- Selenium increased at TW-43 (near the old hydroclarifier). Selenium has been increasing since the early 1990's at this location to a concentration of 1.1 mg/L in 2004.

Other constituents are stable or decreasing at all of the other wells with the following exceptions:

- Molybdenum increased from 0.03 mg/L in 2001 to 0.053 mg/L in 2004 in well TW-50. However, molybdenum has decreased from the 2003 concentration (0.062 mg/L), and is relatively stable at this location.
- Sulfate was not measured at TW-43 between 1993 and 2000. Sulfate increased from 261 mg/L in 1993 to 738 mg/L in 2002 and 760 mg/L in 2004.

Pumping at the plant production wells has contained the plume from the northwest pond and the old hydroclarifier. Sulfate concentrations were increasing in the old UFS ponds and the old hydroclarifier areas, but are currently stable or decreasing. The concentrations of "mobile" constituents such as chloride, fluoride, and nitrate are stable or decreasing, as expected, in the wells at the plant fence line, the southern boundary, and the springs. Concentrations of metals are more difficult to predict due to retardation factors such as adsorption and complexation, but, in general, a stable or downward trend is exhibited in molybdenum and selenium.

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TABLES

TABLE 1

Well Completion Summary

Well	Formation	Measuring Point (MP) (per RI Report)	MP Elevation	Top of Monitored Interval (feet bgs)	Bottom of Monitored Interval (feet bgs)	Hole Diameter (inches)	Casing Diameter (inches)	SP Northing	SP Easting	Comment
HARRIS	UBZ	Top of steel 1" pipe	5877.56	58.0	62.0	6	6	368317.9	654651.32	MP = 4.05' above well-house floor
TW-08	UBZ	Top of PVC well cap	5884.88	76.24	91.2	8	4	369003.99	654360.29	Top of PVC well cap
TW-10	UBZ	Top of seal	5885.53	19.56	25.6	8	4	368989.7407	654367.0958	Top of seal = 0.05' above TOC
TW-11	LBZ	Top of coupling	5938.03	129.12	138.5	8	4	368986.0821	656682.0791	Top of coupling = 0.25' above TOC
TW-12	UBZ	Top of seal	5939.23	88.55	103.8	8	4	369017.3721	656681.3515	Top of seal = 0.07' above TOC
TW-15	UBZ	Top of seal	5988.27	50.39	62.4	8	4	374947.5982	658454.4257	Top of seal = 0.04' above TOC
TW-16	UBZ	Top of seal	5998.39	69.13	78.6	8	4	374541.5531	654567.4086	Top of seal = 0.04' above TOC
TW-17	UBZ	Top of seal	5998.33	98.5	117.5	8	4	374539.3716	654587.6105	Top of seal = 0.04' above TOC
TW-18	LBZ	Top of seal	5996.89	221.75	240.8	8	4	374520.8754	654587.131	Top of seal = 0.04' above TOC
TW-20	UBZ	Top of seal	5893.37	38.15	46.4	8	4	368975.4289	655503.645	Top of seal = 0.05' above TOC
TW-22	UBZ	Top of seal	5954.7	106.36	114.3	8	4	371421.1415	654280.6237	Top of seal = 0.05' above TOC
TW-24	UBZ	Top of PVC casing	5954.43	75.3	94.3	8	4	371435.86	654273.24	
TW-26	UBZ	Top of seal	5991.42	138.99	145	8	4	372217.8666	655264.3518	Top of seal = 0.04' above TOC
TW-29	UBZ	Top of coupling	5989.59	42.68	49.7	10	4	375471.8187	654187.3383	Top of coupling = 0.27' above TOC
TW-30	UBZ	Top of coupling	5992.73	64.69	71.7	8	4	373594.4151	655793.9963	Top of coupling = 0.25' above TOC
TW-33	UBZ	Top of coupling	5975.68	69.11	77.1	8	4	372526.9159	657699.4701	Top of seal = 0.07' above TOC
TW-34	UBZ	Top of coupling	5893.43	69.92	76.4	8	4	368993.9148	655496.7351	Top of coupling = 0.27' above TOC
TW-35	UBZ	Top of seal	5897.16	73.53	86	8	4	369036.2895	655076.5579	Top of seal = 0.04' above TOC
TW-37	UBZ	Top of seal	5959.17	96.32	102.9	8	4	372837.1823	654245.6321	Top of seal = 0.03' above TOC
TW-39	UBZ	Top of seal	5897.07	50.57	58.1	8	4	369036.9913	655061.9839	Top of seal = 0.04' above TOC
TW-41	UBZ	Top of coupling	5994.31	57.86	70.9	8	4	373505.5386	655621.7982	Top of coupling = 0.3' above TOC
TW-43	UBZ	Top of PVC casing	5989.08	82.38	91.4	8	4	373141.2249	655697.2755	Pump out of well
TW-44A	LBZ	Top of seal	5989.41	131	150	8	4	373110.0169	655766.6624	Top of seal = 0.04' above TOC
TW-45	LBZ	Top of coupling	5959.17	216.79	230.8	8	4	372827.616	654238.1606	Top of coupling = 0.26' above TOC
TW-48	UBZ	Top of coupling	5989.4	67.31	73.3	8	4	375520.5513	655978.2041	Top of coupling = 0.25' above TOC
TW-49	UBZ	Top of seal	5996.94	75.21	84.2	8	4	374930.7667	656071.5239	Top of seal = 0.04' above TOC
TW-50	UBZ	Top of seal	5992.94	73.78	90.8	8	4	373849.6759	656040.74	Top of seal = 0.04' above TOC
TW-53	UBZ	Top of coupling	5880.65	19.54	34	8	4	368055.2399	654739.8404	Top of coupling = 0.26' above TOC
TW-54	UBZ	Top of coupling	5889.21	39.26	54.3	8	4	368052.39	655240.5318	Top of coupling = 0.25' above TOC
TW-55	UBZ	Top of coupling	5886.58	53.5	69	8	4	368050.2397	655739.7553	Top of coupling = 0.25' above TOC
TW-56	UBZ	Top of coupling	5910.2	86.8	100.3	8	4	367979.0964	656276.0578	Top of coupling = 0.2' above TOC
TW-57	UBZ	Top of coupling	5952.74	23.18	37.3	8	4	374365.9107	654000.196	Top of coupling = 0.2' above TOC

TABLE 2

History of Groundwater Investigations at Monsanto Plant

Date	Activity	Conducted By/For	Description
1978	Monsanto well installation	Monsanto	Installed 5 groundwater monitoring wells
1982	Monsanto well installation	Monsanto	Installed 2 additional wells, initiated spring sampling
1984	Groundwater Investigation	Golder/Monsanto	Installed 31 groundwater monitoring wells, characterized constituent plumes, identified sources of constituents
1988	CERCLA Site Inspection	Ecology & Environment/EPA	Groundwater sampling and analysis
1991 to 1998	Bi-annual groundwater monitoring	Golder/ Monsanto	Monsanto samples between 50 and 60 monitoring wells, offsite wells, and springs every 6 months
1992	Phase I Remedial Investigation	Golder/Monsanto	Remedial Investigation report for Monsanto Plant site
1993	Phase II Remedial Investigation Fate and Transport Model	Golder/Monsanto	Groundwater model to characterize fate and transport of constituents in groundwater
1995	Solute Transport Model	Golder/Monsanto	Solute transport model to predict the fate and transport of constituents in groundwater
1995	Phase II Remedial Investigation	Golder/Monsanto	Phase II Remedial Investigation
1998 to date	Annual groundwater sampling	Golder/Monsanto	Monsanto samples between 50 and 60 monitoring wells, offsite wells, and springs annually
2003	Solute Transport Model	Golder/Monsanto	Updated solute transport model to predict the fate and transport of constituents in groundwater, using additional data and a graphical, probabilistic modeling tool
2003	Five Year Review	Golder/Monsanto	Review of monitoring data and groundwater model predictions to evaluate progress of selected remedial remedy, per the Record of Decision

TABLE 4

Sample Collection Summary
June 2004

Location	Sample ID	Formation Monitored	Sample Date	Sample Time	Method	Purge Method	Filter/ Unfilter	Filter Size	Notes
Lewis	40059	NA	6/25/2004	12:05	Lewis Well	GROUND	U		
PW-01	40015	UBZ,LBZ	6/22/2004	13:12	Production Well	GROUND	U		
PW-02	40014	UBZ,LBZ	6/22/2004	12:41	Production Well	GROUND	U		
PW-03	40013	UBZ,LBZ	6/22/2004	12:25	Production Well	GROUND	U		
PW-04	40005	UBZ,LBZ	6/21/2004	14:01	Production Well	GROUND	U		
TW-10	40021	UBZ	6/22/2004	18:45	Dedicated pump	TANK	U		
TW-11	40028	LBZ	6/23/2004	10:00	Dedicated pump	TANK	U		
TW-11	40029	LBZ	6/23/2004	10:01	Dedicated pump		U		DUPLICATE
TW-12	40031	UBZ	6/23/2004	10:13	Dedicated pump	TANK	U		
TW-12	40032	UBZ	6/23/2004	10:14	Dedicated pump		U		SPLIT
TW-15	40046	UBZ	6/24/2004	17:20	Dedicated pump	GROUND	U		
TW-16	40004	UBZ	6/21/2004	13:40	Dedicated pump	TANK	U		
TW-17	40003	UBZ	6/21/2004	13:13	Dedicated pump	TANK	U		
TW-18	40002	LBZ	6/21/2004	12:48	Dedicated pump	GROUND	U		
TW-20	40025	UBZ	6/23/2004	8:36	Dedicated pump		U		DUPLICATE
TW-20	40026	UBZ	6/23/2004	8:35	Dedicated pump	TANK	U		
TW-20	40027	UBZ	6/23/2004	8:37	Dedicated pump		U		SPLIT
TW-22	40020	UBZ	6/22/2004	18:30	Dedicated pump	TANK	U		
TW-26	40011	UBZ	6/22/2004	15:06	Dedicated pump	TANK	U		
TW-29	40001	UBZ	6/21/2004	11:58	Dedicated pump	GROUND	U		
TW-30	40009	UBZ	6/21/2004	16:25	Dedicated pump	TANK	U		
TW-33	40033	UBZ	6/23/2004	13:06	Dedicated pump	TANK	U		
TW-33	40034	UBZ	6/23/2004	13:07	Dedicated pump		U		DUPLICATE
TW-33	40035	UBZ	6/23/2004	13:08	Dedicated pump		U		SPLIT
TW-34	40024	UBZ	6/24/2004	12:42	Dedicated pump	GROUND	U		
TW-35	40016	UBZ	6/23/2004	8:05	Dedicated pump	GROUND	U		
TW-35	40017	UBZ	6/23/2004	8:06	Dedicated pump		U		SPLIT
TW-37	40019	UBZ	6/22/2004	16:46	Dedicated pump	TANK	U		
TW-39	40018	UBZ	6/23/2004	8:15	Dedicated pump	TANK	U		
TW-41	40008	UBZ	6/21/2004	15:58	Dedicated pump	TANK	U		
TW-44	40012	LBZ	6/22/2004	13:00	Dedicated pump	TANK	U		
TW-45	40045	LBZ	6/24/2004	16:03	Dedicated pump	TANK	U		
TW-48	40006	UBZ	6/21/2004	14:30	Dedicated pump	GROUND	U		
TW-49	40007	UBZ	6/21/2004	15:28	Dedicated pump	GROUND	U		
TW-50	40010	UBZ	6/21/2004	17:17	Dedicated pump	TANK	U		
TW-53	40042	UBZ	6/23/2004	19:06	Dedicated pump	TANK	U		
TW-54	40041	UBZ	6/23/2004	18:20	Dedicated pump	TANK	U		
TW-55	40040	UBZ	6/23/2004	17:37	Dedicated pump	TANK	U		
TW-56	40037	UBZ	6/23/2004	17:10	Dedicated pump	TANK	U		
TW-57	40048	UBZ	6/25/2004	8:25	Dedicated pump	GROUND	U		
Big Spring	40023	NA	6/22/2004	19:38	Grab	NA	U		
City Park Spring	40022	NA	6/22/2004	19:25	Grab	NA	U		
DI BLANK	40036	NA	6/23/2004	12:12	Grab	NA	U		BLANK
Effluent 1	40055	NA	6/25/2004	11:29	Grab	NA	U		
Effluent 2	40056	NA	6/25/2004	11:30	Grab	NA	U		
Effluent 3	40057	NA	6/25/2004	11:31	Grab	NA	U		
Grundfos blank	40053	NA	6/25/2004	10:02	Grab	NA	U		Equip Blk
Homestead Spring	40049	NA	6/25/2004	9:10	Grab	NA	U		
Pond Inlet	40051	NA	6/25/2004	9:45	Grab	NA	U		
Mormon A Spring	40038	NA	6/23/2004	15:19	Grab	NA	U		
Mormon Mouth	40039	NA	6/23/2004	15:30	Grab	NA	U		
Soda Down	40050	NA	6/25/2004	9:25	Grab	NA	U		
Soda Up	40058	NA	6/25/2004	11:40	Grab	NA	U		
SW Spring	40054	NA	6/25/2004	11:16	Grab	NA	U		
Harris	40052	UBZ	6/25/2004	10:58	Non-dedicated pump	GROUND	U		
TW-08	40043	UBZ	6/24/2004	12:20	Non-dedicated pump	TANK	U		
TW-24	40047	UBZ	6/24/2004	18:05	Non-dedicated pump	GROUND	U		
TW-43	40044	UBZ	6/24/2004	13:30	Non-dedicated pump	TANK	U		

F Filtered
LBZ Lower Basalt Zone
NA Not applicable

NOTES:
U Unfiltered
UBZ Upper Basalt Zone

Analytical Methods for Monsanto Groundwater Sampling

Parameters	Analyzed in 2004?	Analytical Method	Reporting Limit (mg/L)
Total Metals			
Aluminum[a]	Y	6010	0.02
Cadmium	Y	6010	0.0002
Iron[a]	Y	6010	0.02
Magnesium	Y	6010	0.02
Manganese	Y	6010	0.001
Molybdenum	Y	6010	0.005
Selenium	Y	7740	0.01
Vanadium[a]	Y	6010	0.003
Zinc	Y	6010	0.006
Other Ions			
Alkalinity (CaCO3)	Y	2320	1
CO3/CaCO3	Y	2320	1
HCO3/CaCO3	Y	2320	1
Ammonia as N[b]	Y	350.1	0.01
Chloride	Y	325.2	1
Fluoride	Y	340.2	0.1
Hardness	Y	6010	
Nitrate and Nitrite As N	Y	353.2	0.01
Total Phosphorus	Y	365.2	0.016
Specific Conductance	Y	120.1	1
Sulfate	Y	375.2	5
TDS	Y	160.1	10
Field Parameters			
Conductivity	Y	NA	NA
Dissolved Oxygen	Y	NA	NA
Eh		NA	NA
pH	Y	NA	NA
Turbidity	Y	NA	NA
Temperature	Y	NA	NA

TABLE 6

Groundwater Elevations
June 2004

LOCATION	DATE	TIME	DEPTH TO WATER (2004)	WELL VOLUME (gal)	PURGE VOLUME (gal)	MEASUREMENT POINT (MP)	MP ELEVATION	WATER ELEVATION 2004	COMMENTS
HARRIS	6/25/2004	10:58	18.14	64.42	193.25	Top of steel 1" pipe	5877.56	5859.42	
TW-08	6/24/2004	12:20	15.33	58.31	174.93	Top of PVC well cap	5884.88	5869.55	
TW-10	6/22/2004	18:45	13.00	11.77	35.32	Top of seal	5885.53	5872.53	
TW-11	6/23/2004	10:00	74.56	47.25	141.74	Top of coupling	5938.03	5863.47	
TW-12	6/23/2004	10:13	75.96	27.13	81.39	Top of seal	5939.23	5863.27	
TW-15	6/24/2004	17:20	15.92	37.39	112.18	Top of seal	5988.27	5972.35	
TW-16	6/21/2004	13:40	23.35	41.63	124.88	Top of seal	5998.39	5975.04	
TW-17	6/21/2004	13:13	18.40	75.85	227.54	Top of seal	5998.33	5979.93	
TW-18	6/21/2004	12:48	63.83	126.70	380.11	Top of seal	5996.89	5933.06	
TW-20	6/23/2004	8:35	36.06	11.60	34.79	Top of seal	5893.37	5857.31	
TW-22	6/22/2004	18:30	66.85	35.64	106.91	Top of seal	5954.70	5887.85	
TW-24	6/24/2004	18:05	72.25	25.55	76.66	Top of PVC casing	5954.43	5882.18	
TW-26	6/22/2004	15:06	84.83	42.80	128.41	Top of seal	5991.42	5906.59	
TW-29	6/21/2004	11:58	44.00	9.58	28.74	Top of coupling	5989.59	5945.59	
TW-30	6/21/2004	16:25	63.46	9.50	28.49	Top of coupling	5992.73	5929.27	
TW-33	6/23/2004	13:06	29.38	35.84	107.53	Top of seal	5975.86	5946.48	
TW-34	6/24/2004	12:42	32.58	32.41	97.23	Top of coupling	5893.43	5860.85	
TW-35	6/23/2004	8:05	36.06	39.92	119.77	Top of seal	5897.16	5861.10	
TW-37	6/22/2004	16:46	68.54	26.29	78.88	Top of seal	5959.17	5890.63	
TW-39	6/23/2004	8:15	36.81	18.32	54.96	Top of seal	5897.07	5860.26	
TW-41	6/21/2004	15:58	63.19	9.56	28.69	Top of coupling	5994.31	5931.12	
TW-43	6/24/2004	13:30	88.33	3.80	11.41	Top of PVC	5989.08	5900.75	
TW-44	6/22/2004	13:00	101.92	42.55	127.64	Top of seal = 0.04' above TOC	5989.41	5887.49	
TW-45	6/24/2004	16:03	72.13	111.80	335.40	Top of coupling = 0.26' above TOC	5959.17	5887.04	
TW-48	6/21/2004	14:30	63.33	10.02	30.07	Top of coupling	5989.40	5926.07	
TW-49	6/21/2004	15:28	74.30	11.74	35.23	Top of seal	5996.94	5922.64	
TW-50	6/21/2004	17:17	61.25	29.29	87.86	Top of seal	5992.94	5931.69	
TW-53	6/23/2004	19:06	23.13	13.48	40.44	Top of coupling	5880.65	5857.52	
TW-54	6/23/2004	18:20	32.80	22.87	68.61	Top of coupling	5888.96	5856.16	
TW-55	6/23/2004	17:37	32.50	32.93	98.79	Top of coupling	5886.33	5853.83	
TW-56	6/23/2004	17:10	61.96	32.96	98.87	Top of coupling	5910.20	5848.24	
TW-57	6/25/2004	8:25	11.27	25.29	75.86	Top of coupling	5952.74	5941.47	

TABLE 7

Analytical Results for 2004 Sample Round

Location	SampleID	SampleDate	Time	Filter	Sample type	Alkalinity (Bicarbonate) mg/L as CaCO3	Q	Alkalinity (Carbonate) (mg/L as CaCO3)	Q	Alkalinity (Total) (mg/L as CaCO3)	Q	Aluminum (mg/L)	Q	Ammonia as N (mg/L)
REMEDIATION GOAL														NA
BIG SPRING	40023	6/22/2004				442		1	U	442		0.02	U	1.9
CITY PARK	40022	6/22/2004				616		1	U	616		0.02	U	1.09
EFFLUENT DISCHARGE 1	40055	6/25/2004				502		1	U	502		0.02	U	0.05
EFFLUENT DISCHARGE 2	40056	6/25/2004				506		7.6		514		0.02	U	0.05
EFFLUENT DISCHARGE 3	40057	6/25/2004				505		1	U	505		0.02	U	0.06
HARRIS WELL	40052	6/25/2004				588		1	U	588		0.02	U	0.02
HOMESTEAD SPRING	40049	6/25/2004				758		1	U	758		0.267		0.02
POND INLET	40051	6/25/2004				500		1	U	500		0.02	U	0.04
LEWIS WELL	40059	6/25/2004				602		1	U	602		0.02	U	0.21
MORMON A	40038	6/23/2004				729		1	U	729		0.02	U	0.01
MORMON CREEK	40039	6/23/2004				702		1	U	702		0.049		0.01
PW-01	40015	6/22/2004				545		1	U	545		0.02	U	0.05
PW-02	40014	6/22/2004				504		1	U	504		0.02	U	0.06
PW-03	40013	6/22/2004				482		1	U	482		0.02	U	0.05
PW-04	40005	6/21/2004				528		1	U	528		0.02	U	0.01
SODA DN	40050	6/25/2004				917		1	U	917		0.02	U	0.05
SODA UP	40058	6/25/2004				530		1	U	530		0.02	U	0.05
SW SPRING	40054	6/25/2004				924		1	U	924		0.023		0.06
TW-08	40043	6/24/2004				1550		1	U	1550		0.448		0.73
TW-10	40021	6/22/2004				785		1	U	785		0.02	U	0.01
TW-11	40028	6/23/2004				441		1	U	441		0.02	U	2.22
TW-11	40028S	6/23/2004										1.1		4.21
TW-12	40031	6/23/2004				429		1	U	429		0.02	U	18.1
TW-15	40046	6/24/2004				436		1	U	436		0.02	U	0.04
TW-16	40004	6/21/2004				633		1	U	633		0.027		0.2
TW-17	40003	6/21/2004				1190		1	U	1190		0.02	U	0.25
TW-18	40002	6/21/2004				970		1	U	970		0.02	U	0.33
TW-20	40026	6/23/2004				502		1	U	502		0.02	U	0.01
TW-22	40020	6/22/2004				865		1	U	865		0.022		1.94
TW-24	40047	6/24/2004				903		1	U	903		0.084		0.98
TW-26	40011	6/22/2004				526		1	U	526		0.02	U	1.18

Analytical Results for 2004 Sample Round

Location	SampleID	SampleDate	Time	Filter	Sample type	Alkalinity (Bicarbonate) mg/L as CaCO3	Q	Alkalinity (Carbonate) (mg/L as CaCO3)	Q	Alkalinity (Total) (mg/L as CaCO3)	Q	Aluminum (mg/L)	Q	Ammonia as N (mg/L)
TW-26	40011MSD	6/22/2004				536		1	U	536		1.09		1.17
TW-26	40011S	6/22/2004										1.1		2.17
TW-29	40001	6/21/2004				709		1	U	709		0.02	U	0.01
TW-30	40009	6/21/2004				497		1	U	497		0.02	U	0.03
TW-33	40033	6/23/2004				445		1	U	445		0.209		0.05
TW-34	40024	6/24/2004				504		1	U	504		0.02	U	0.01
TW-35	40016	6/23/2004				1300		1	U	1300		0.02	U	0.21
TW-37	40019	6/22/2004				391		1	U	391		0.263		1.11
TW-39	40018	6/23/2004				633		1	U	633		0.02	U	0.01
TW-41	40008	6/21/2004				411		1	U	411		0.02		0.01
TW-43	40044	6/24/2004				483		1	U	483		0.02	U	0.01
TW-44	40012	6/22/2004				968		1	U	968		0.036		0.34
TW-45	40045	6/24/2004				1040		1	U	1040		0.02	U	0.78
TW-48	40006	6/21/2004				475		1	U	475		3.8		0.43
TW-49	40007	6/21/2004				582		1	U	582		0.02	U	0.02
TW-50	40010	6/21/2004				543		1	U	543		0.068		0.02
TW-53	40042	6/23/2004				646		1	U	646		0.036		0.01
TW-54	40041	6/23/2004				594		1	U	594		0.02	U	0.01
TW-55	40040	6/23/2004				1720		1	U	1720		0.02	U	0.01
TW-56	40037	6/23/2004				445		1	U	445		0.028		0.05
TW-57	40048	6/25/2004				954		1	U	954		0.02	U	0.01

Analytical Results for 2004 Sample Round

Location	Q	Cadmium mg/L	Q	Calcium mg/L	Q	Chloride mg/L	Q	Conductivity (umhos/cm)	Q	Fluoride (mg/L)	Q	Hardness (mg/L)	Q	Iron (mg/L)	Q	Magnesium (mg/L)	Q	Manganese (mg/L)	Q	Molybdenum (mg/L)	Q
REMEDIATION GOAL		0.0005				NA		NA		4								0.18		NA	
BIG SPRING		0.002	U	109		48.8		1710		0.12		471		0.02	U	48.4		0.002	U	0.284	
CITY PARK		0.002	U	142		47.7		1330		0.37		644		0.269		70.5		0.0748		0.24	
EFFLUENT DISCHARGE 1		0.0062		115		117		1330		0.37		508		0.02	U	53.5		0.002	U	0.0376	
EFFLUENT DISCHARGE 2		0.0063		116		119		1340		0.37		512		0.02	U	54		0.002	U	0.0379	
EFFLUENT DISCHARGE 3		0.0063		116		116		1350		0.35		509		0.02	U	53.6		0.002	U	0.037	
HARRIS WELL		0.002	U	184		98.2		1880		2		937		0.604		116		0.0039		0.0554	
HOMESTEAD SPRING		0.002	U	127		27		1450		0.25		788		0.252		114		0.006		0.0084	
POND INLET		0.0074		121		61		1140		0.33		520		0.02	U	52.8		0.002	U	0.0358	
LEWIS WELL		0.002	U	155		55.7		1480		0.36		761		0.027		91		0.002	U	0.0857	
MORMON A	U	0.0115		149		95.9		1860		1.94		944		0.02	U	139		0.002	U	0.0528	
MORMON CREEK		0.0034		108		358		2360		1		784		0.3		125		0.024		0.03	
PW-01		0.0294		133		52.8		1250		0.44		618		0.02	U	69.8		0.002	U	0.0276	
PW-02		0.0053		131		41.2		1120		0.26		576		0.028		60.4		0.002	U	0.033	
PW-03		0.0025		123		35.3		1030		0.28		530		0.02	U	53.9		0.002	U	0.0492	
PW-04	U	0.002	U	117		12		1030		0.2		531		0.02	U	57.7		0.002	U	0.013	
SODA DN		0.002	U	127		55.4		1670		0.47		857		0.297		131		0.102		0.0198	
SODA UP		0.002	U	71.6		10.2		916		0.28		460		0.554		68.3		0.0677		0.0084	
SW SPRING		0.0036		119		14.2		1540		0.54		829		0.077		129		0.0179		0.0219	
TW-08		0.002	U	54.9		17.4		2290		0.5	U	1400		7.39		307		0.109		0.0143	
TW-10	U	0.002	U	162		132		1930		0.23		985		0.02	U	141		0.002	U	0.0225	
TW-11		0.002	U	90.7		43.3		1110		0.12		368		0.02	U	34.3		0.002	U	0.0123	
TW-11		0.953		114		61.8				1.88		517		9.89		56.5		0.991		1.03	
TW-12		0.002	U	97.3		52.9		1180		0.13		394		0.02		36.7		0.0508		0.729	
TW-15		0.002	U	109		11.7		804		0.24		441		0.038		40.7		0.002	U	0.0097	
TW-16		0.445		138		39.9		1380		2.1		684		0.02	U	82.3		0.002	U	0.0246	
TW-17		0.0045		56.8		143		2380		1.62		1220		0.477		263		2.35		0.0549	
TW-18		0.002	U	104		12.6		1970		0.11		1100		8.59		203		0.402		0.0177	
TW-20	U	0.0095		213		140		2200		1.7		1080		0.02	U	133		0.002	U	0.0564	
TW-22		0.0244		147		24.8		1670		3.37		819				110		0.933		0.328	
TW-24		0.315		160		24.9		1690		4.99		837		0.02	U	106		0.329		0.276	
TW-26		0.002	U	140		368		2410		0.72		892		0.042		132		0.647		0.152	

Analytical Results for 2004 Sample Round

Location	Q	Cadmium mg/L	Q	Calcium mg/L	Q	Chloride mg/L	Q	Conductivity (umhos/cm)	Q	Fluoride (mg/L)	Q	Hardness (mg/L)	Q	Iron (mg/L)	Q	Magnesium (mg/L)	Q	Manganese (mg/L)	Q	Molybdenum (mg/L)	Q
TW-26		0.932		162		368		2400		0.64		1030		9.83		152		1.63		1.18	
TW-26		0.92		158		449				10.4		1010		9.78		151		1.62		1.14	
TW-29	U	0.002	U	154		32.2		1380		0.16		727		0.02	U	83.6		0.002	U	0.0154	
TW-30		0.002	U	203		249		2360		2.27		978		0.02	U	114		0.0387		0.143	
TW-33		0.002	U	115		18.7		876		0.14		453		0.198		40.5		0.0079		0.058	
TW-34	U	0.002	U	118		44.6		1240		0.33		672		0.842		91.8		0.236		0.016	
TW-35		0.002	U	61.8		39.3		2180		0.1	U	1270		5.4		271		0.146		0.0139	
TW-37		0.399		121		35.8		1370		11.8		589		0.233		69.4		0.768		0.412	
TW-39	U	0.0119		117		95.1		1800		1.96		844		0.02	U	134		0.002	U	0.0459	
TW-41	U	0.0032		127		113		1540		3.95		586		0.021		65		0.002	U	0.163	
TW-43	U	1.99		289		360		3120		4.52		1260		0.02	U	132		0.0069		0.194	
TW-44		0.0045		59.8		26.5		1630		0.3		923		5.29		188		0.215		0.0197	
TW-45		0.0043		136		30.9		1850		0.33		1010		12.5		164		0.469		0.0266	
TW-48		0.0021		111		13		953		0.22		500		4.97		53.8		0.11		0.0129	
TW-49		0.002	U	126		16.3		1100		0.19		580		0.035		64.5		0.002	U	0.0162	
TW-50		0.0141		112		186		1890		0.73		915		0.965		155		0.487		0.0527	
TW-53	U	0.002	U	176		84.3		1880		1.74		961		0.046		127		0.0032		0.0487	
TW-54	U	0.0023		193		109		2040		2.23		1020		0.025		131		0.002	U	0.0581	
TW-55	U	0.002	U	189		42.1		1640		0.23		941		0.02	U	114		0.002	U	0.016	
TW-56		0.002	U	115		53.4		1130		0.24		556		0.09		65.4		0.0198		0.102	
TW-57	U	0.002	U	176		14.5		1570		0.15		864		0.023				0.002	U	0.008	U

Analytical Results for 2004 Sample Round

Location	Nitrate and Nitrite as N (mg/L)	Q	Phosphorus (Total) (mg/L)	Q	Selenium (mg/L)	Q	Sulfate (mg/L)	Q	Total Dissolved Solids (mg/L)	Q	Vanadium (mg/L)	Q	Zinc (mg/L)	Q
REMEDIATION GOAL	10		NA		0.05		NA		NA		NA			
BIG SPRING	4.45		0.04		0.003	U	97.7		606		0.005	U	0.005	U
CITY PARK	3.8		0.05		0.003	U	105		756		0.005	U	0.005	U
EFFLUENT DISCHARGE 1	3.27		0.93		0.017		88.2		720		0.0814		0.0148	
EFFLUENT DISCHARGE 2	3.28		0.93		0.017		92.9		764		0.0834		0.0159	
EFFLUENT DISCHARGE 3	3.29		0.93		0.019		93.7		770		0.0829		0.0153	
HARRIS WELL	6.09		0.18		0.273		437		1270		0.005	U	0.005	U
HOMESTEAD SPRING	7.29		0.18		0.023		98.1		900		0.0079		0.005	U
POND INLET	3.46		0.97		0.017		87.8		630		0.0838		0.0148	
LEWIS WELL	5.05		0.11		0.047		227		922		0.005	U	0.324	
MORMON A	6.66		0.33		0.232		285		930		0.0151		0.158	
MORMON CREEK	1.48		0.17		0.124		147		1320		0.0079		0.0344	
PW-01	3.93		0.77		0.018		122		761		0.0108		0.0435	
PW-02	3.31		0.27		0.015	U	98.5		664		0.0465		0.009	
PW-03	3.16		0.28		0.015	U	81.4		595		0.122		0.005	U
PW-04	3.42		0.07		0.003	U	77.7		579		0.005	U	0.005	U
SODA DN	0.42		0.03		0.04		69.8		955		0.005	U	0.0143	
SODA UP	0.09		0.08		0.003	U	38.4		537		0.005	U	0.005	U
SW SPRING	1.46		0.18		0.056		60.5		905		0.0051		0.0694	
TW-08	0.02	U	0.97		0.003	U	76.6		1210		0.005	U	0.005	U
TW-10	6.63		0.52		0.209		210		1180		0.0071		0.0155	
TW-11	3.85		0.06		0.003	U	116		620		0.005	U	0.005	U
TW-11	4.78		0.56		0.045		167				1.05		0.958	
TW-12	7.39		0.76		0.003	U	139		605		0.874		0.005	U
TW-15	1.5		0.05		0.003	U	38		425		0.005	U	0.0121	
TW-16	4.36		1.57		0.241		138		802		0.062		1.66	
TW-17	0.02	U	1.49		0.003	U	180		1340		0.005	U	0.0207	
TW-18	0.02	U	0.47		0.003	U	62		1160		0.005	U	0.005	U
TW-20	8.49		0.26		0.372		644		1530		0.0078		0.122	
TW-22	3.77		0.5		0.245		127		999		0.0061		0.095	
TW-24	4.32		0.36		0.352		156		1020		0.102		2.48	
TW-26	5.93		0.54		0.296		321		1370		0.0059		0.005	U

Analytical Results for 2004 Sample Round

Location	Nitrate and Nitrite as N (mg/L)	Q	Phosphorus (Total) (mg/L)	Q	Selenium (mg/L)	Q	Sulfate (mg/L)	Q	Total Dissolved Solids (mg/L)	Q	Vanadium (mg/L)	Q	Zinc (mg/L)	Q
TW-26	5.64		0.54		0.339		323 (D)		1480 (D)		1.05		0.934	
TW-26	7.5		1.02		0.351		571				1.02		0.904	
TW-29	4.37		0.11		0.018		95.3		795		0.005	U	0.005	U
TW-30	9.63		4.57		0.452		467		1590		0.005	U	0.0068	
TW-33	2.31		0.24		0.003	U	41.4		483		0.645		0.005	U
TW-34	0.1		0.06		0.03	U	206		779		0.005	U	0.005	U
TW-35	0.02	U	0.52		0.003	U	107		1250		0.005	U	0.005	U
TW-37	8.91		1.38		0.445		307		906		0.063		2.87	
TW-39	4.22		0.36		0.105		321		1170		0.0116		0.17	
TW-41	7.46		8.28		0.452		252		981		0.0134		0.005	U
TW-43	15.7		3.89		1.13		760		2010		0.0814		2.33	
TW-44	0.02	U	2.25		0.003	U	84.6		928		0.0069		0.0432	
TW-45	0.02	U	0.4		0.003	U	132		1050		0.005	U	0.053	
TW-48	3.94		0.12		0.003	U	75		512		0.0141		0.0401	
TW-49	3.38		0.12		0.003	U	80.9		573		0.005	U	0.005	U
TW-50	0.65		0.64		0.33		313		1180		0.0081		0.0452	
TW-53	5.35		0.16		0.222		388		1220		0.005	U	0.0235	
TW-54	7.05		0.25		0.374		508		1370		0.0052		0.0891	
TW-55	2.69		0.13		0.06		174		1030		0.005	U	0.005	U
TW-56	6.47		0.08		0.003	U	134		644				0.0148	
TW-57	1.26		0.22		0.003	U	75.8		875				0.005	U

TABLE 8

Constituent Concentration Trends at Point of Compliance Wells and Soda Creek

Location	Formation	Cadmium	Fluoride	Manganese	Nitrate as N	Selenium		Chloride [a]	Molybdenum [a]	Sulfate [a]
Remediation Goal (mg/L)		**0.005**	**4**	**0.18**	**10**	**0.05**		---	---	---
Production Wells										
PW-01	UBZ/LBZ	⇩ N	⇔ Y	⇔ Y	⇔ Y	⇔ Y		⇔	⇔	⇔
PW-02	UBZ/LBZ	⇔ N	⇔ Y	⇔ Y	⇔ Y	⇔ Y		⇔	⇔	⇔
PW-03	UBZ/LBZ	⇔ Y	⇔ Y	⇔ Y	⇔ Y	⇔ Y		⇔	⇧	⇔
Southern Plant Fence Line										
TW-20	UBZ	⇧ N	⇔ Y	⇔ Y	⇧ Y	⇧ N		⇧	⇧	⇧
TW-34	LBZ	⇔ Y	⇔ Y	⇔ N	⇔ Y	⇔ Y		⇔	⇔	⇔
TW-35	LBZ	⇔ Y	⇔ Y	⇔ Y	⇔ Y	⇔ Y		⇔	⇔	⇔
TW-39	UBZ	⇔ N	⇩ Y	⇔ Y	⇩ Y	⇩ N		⇩	⇩	⇩
Southern Boundary										
TW-53	UBZ	⇔ Y	⇩ Y	⇔ Y	⇧ Y	⇧ N		⇧	⇔	⇧
TW-54	UBZ	⇔ Y	⇩ Y	⇔ Y	⇧ Y	⇧ N		⇧	⇩	⇧
TW-55	UBZ	⇔ Y	⇔ Y	⇔ Y	⇔ Y	⇔ N		⇔	⇔	⇔
Mormon A Spring [b]	UBZ	⇔ N	⇩ Y	⇔ Y	⇔ Y	⇔ N		⇔	⇔	⇩
Harris Well	UBZ	⇔ Y	⇩ Y	⇔ Y	⇧ Y	⇧ N		⇧	⇔	⇧
Soda Creek										
Upstream of Pipe	UBZ	⇔ Y	⇔ Y	⇔ Y	⇩ Y	⇔ Y		⇔	⇔	⇔
Downstream of Pipe	UBZ	⇔ Y	⇔ Y	⇔ Y	⇩ Y	⇔ Y		⇔	⇔	⇔
Effluent Discharge	UBZ	⇔ N	⇔ Y	⇔ Y	⇩ Y	⇔ Y		⇩	⇔	⇔

[a] Constituents included for illustrative purposes only, no remedation goal

[b] Proposed alternative point of compliance for Harris well

⇔	Concentrations relatively stable overall in the past 5 years
⇩	Concentrations decreased overall in the past 5 years
⇧	Concentrations increased overall in the past 5 years
Y	Equal to or less than EPA Remediation Goal in June 2004
N	Greater than EPA Remediation Goal in June 2004

TABLE 9

Constituent Concentration Trends at Other Wells and Springs

Location	Cadmium	Fluoride	Manganese	Nitrate as N	Selenium		Chloride	Molybdenum	Sulfate
NW Pond									
TW-16	⇔	⇔	⇔	⇩	⇔		⇔	⇔	⇔
TW-17	⇔	⇔	⇧	⇔	⇔		⇔	⇔	⇔
TW-18	⇔	⇔	⇔	⇔	⇔		⇔	⇔	⇔
UFS Pond Area									
TW-22	⇔	⇩	⇔	⇩	⇔		⇔	⇩	⇩
TW-24	⇔	⇩	⇔	⇩	⇔		⇔	⇩	⇩
TW-37	⇔	⇔	⇔	⇔	⇔		⇔	⇔	⇔
TW-45	⇔	⇔	⇔	⇔	⇔		⇔	⇔	⇔
UFS Piles Area									
TW-48	⇔	⇔	⇔ [b]	⇔	⇔		⇔	⇔	⇔
TW-49	⇔	⇔	⇔	⇔	⇔		⇔	⇔	⇔
TW-50	⇧	⇔	⇔	⇔	⇔ [b]		⇔	⇧	⇔
Old Hydroclarifier									
TW-40 [a]	⇔	⇔	⇔	⇔	⇔		⇔	⇔	⇩
TW-43	⇔	⇔	⇔	⇧	⇧		⇔	⇔	⇧
TW-44	⇔	⇔	⇔	⇔	⇔		⇔	⇔	⇔
Springs									
Homestead Spring	⇔	⇔	⇔	⇔	⇔		⇔	⇔	⇔
Mormon A Spring	⇔ N	⇩ Y	⇔ Y	⇔ Y	⇔ N		⇔	⇔	⇩

⇔	Concentrations relatively stable overall in the past 5 years
⇩	Concentrations decreased overall in the past 5 years
⇧	Concentrations increased overall in the past 5 years
Y	Equal to or less than EPA Remediation Goal in June 2002
N	Greater than EPA Remediation Goal in June 2002
a	Not sampled in 2004 due to lack of water in well
b	Possible anomalous value in 2004

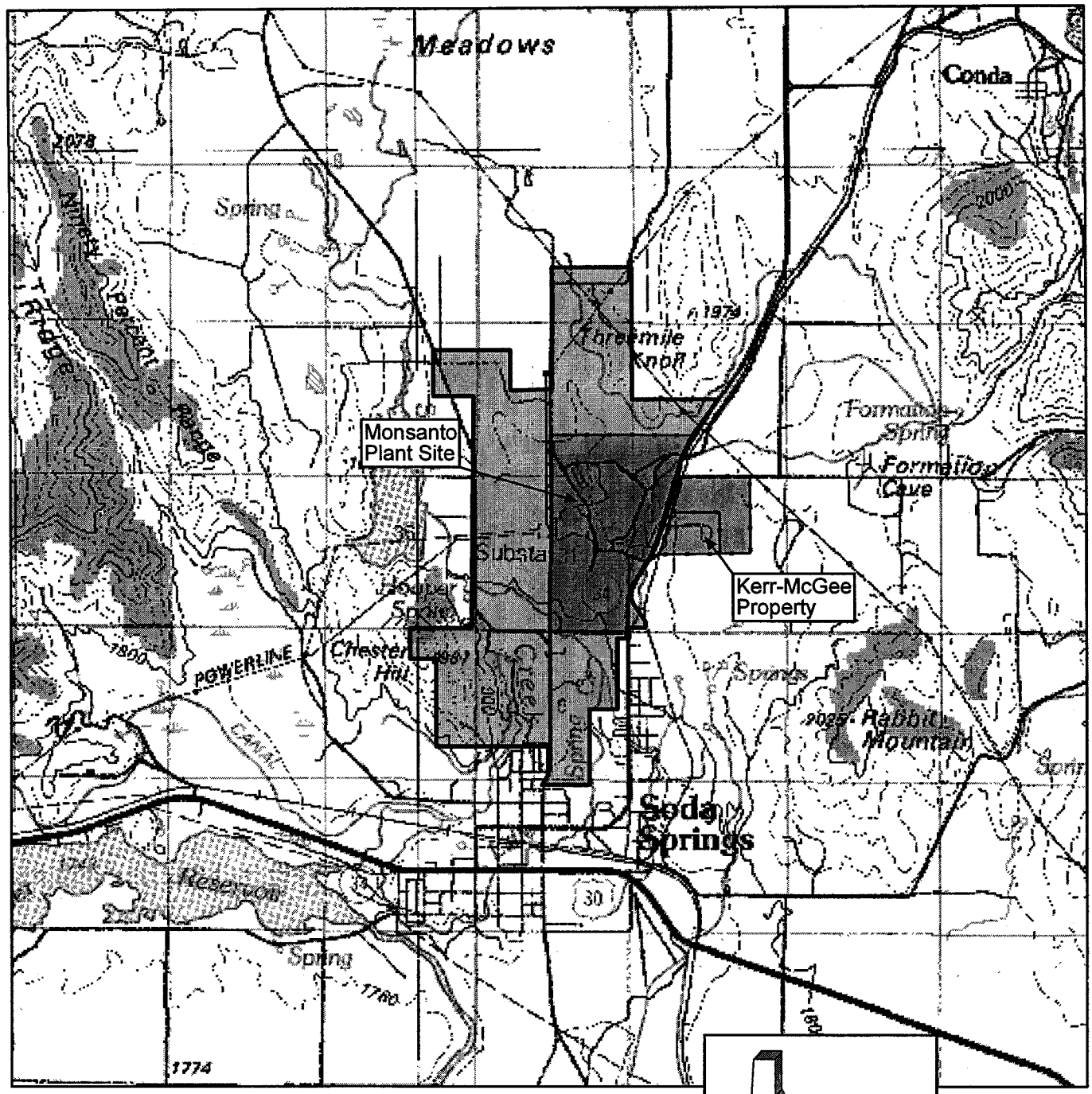
TABLE 10

2004 Results Compared to Remediation Goals

Location	Cadmium (mg/L)	Q	Fluoride (mg/L)	Manganese (mg/L)	Q	Nitrate and Nitrite as N (mg/L)	Q	Selenium (mg/L)	Q
REMEDIATION GOAL	**0.005**		**4**	**0.18**		**10**		**0.05**	
Harris Well	0.002	U	2	0.0039		6.09		**0.273**	
PW-01	**0.0294**		0.44	0.002	U	3.93		0.018	
PW-02	0.0053		0.26	0.002	U	3.31		0.015	
PW-03	0.0025		0.28	0.002	U	3.16		0.015	
PW-04	0.002	U	0.2	0.002	U	3.42		0.003	U
Soda down	0.002	U	0.47	0.102		0.42		0.04	
Soda up	0.002	U	0.28	0.0677		0.09		0.003	U
TW-20	**0.0095**		1.7	0.002	U	8.49		**0.372**	
TW-20 (Duplicate)	0.0014		1.67	0.002	U	8.16		**0.392**	
TW-20 (Split)	**0.01**		2.49	0.001	U	7.41		**0.38**	
TW-34	0.002	U	0.33	**0.236**		0.1		0.03	
TW-35	0.002	U	0.1	0.146		0.02	U	0.003	U
TW-35 (Split)	0.0002	U	0.28	0.137		0.01	U	0.002	U
TW-39	**0.0119**		1.96	0.002	U	4.22		**0.105**	
TW-53	0.002	U	1.74	0.0032		5.35		**0.222**	
TW-54	**0.0023**		2.23	0.002	U	7.05		**0.374**	
TW-55	0.002	U	0.23	0.002	U	2.69		**0.06**	

Note: Results in bold indicate remediation goal is exceeded.

FIGURES



SOURCE: Topographic map of the USGS Soda Springs Quadrangle (1:100,000) 1982.

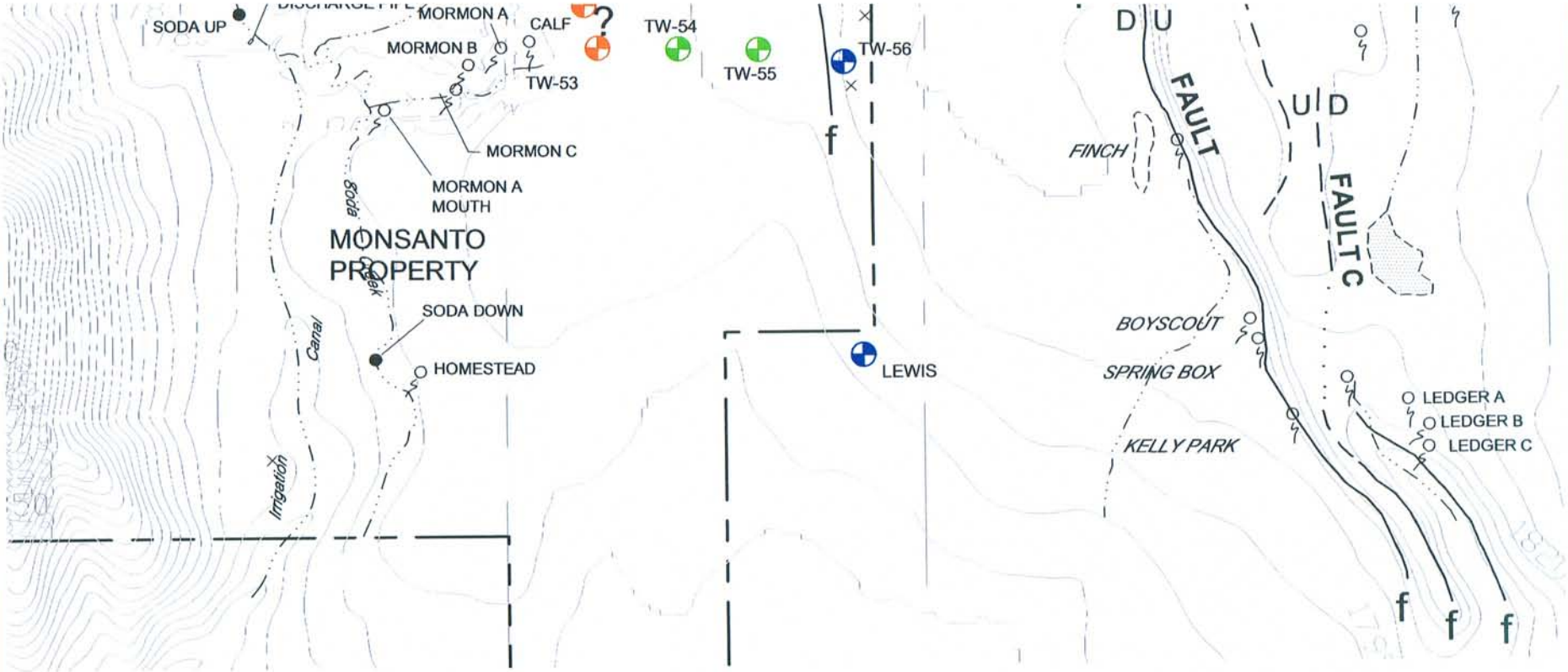
FIGURE 1

MONSANTO PLANT VICINITY MAP

MONSANTO/2004 ANNUAL REPORT/ID

DRAWING NO. 9131101001605fg01.fh11 DATE 01/11/05 DRAWN BY EFS

Golder Associates



LEGEND

TW-07	Monitoring well location and name in Groundwater Zone UBZ 1
TW-35	Monitoring well location and name in Groundwater Zone UBZ 2
TW-35	Monitoring well location and name in Groundwater Zone UBZ 3
TW-38	Monitoring well location and name in Groundwater Zone UBZ 4
SODA UP	Surface water sample location and name
+ PW-1	Production well location and name
	Spring location
f	Fault (dashed where inferred)
UBZ-1	Groundwater Zones
	Property Boundary

N

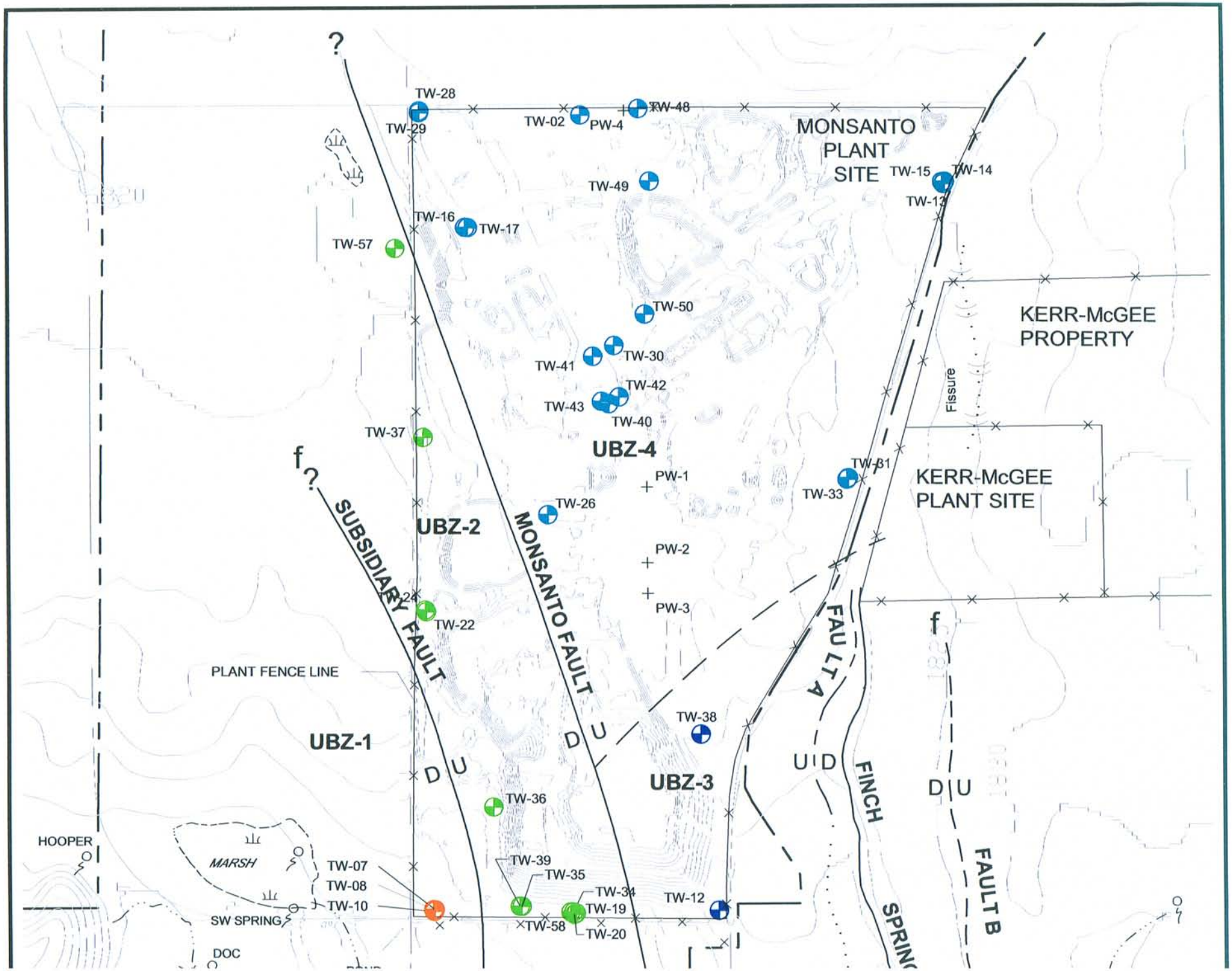
0 300 600 METERS

0 500 1000 FEET

FIGURE 2

LOCATION OF WELLS AND SPRINGS IN THE UPPER BASALT ZONE

MONSANTO/2004 ANNUAL REPORT/ID


MONSANTO PLANT SITE
KERR-McGEE PROPERTY
KERR-McGEE PLANT SITE
Fissure
UBZ-1
UBZ-2
UBZ-3
UBZ-4
SUBSIDIARY FAULT
MONSANTO FAULT
FAULT A
FINCH SPRING
FAULT B
PLANT FENCE LINE
HOOPER
MARSH
SW SPRING
DOC
TW-28
TW-29
TW-02
PW-4
TW-48
TW-49
TW-15
TW-14
TW-13
TW-16
TW-17
TW-57
TW-50
TW-30
TW-41
TW-42
TW-43
TW-40
TW-37
TW-31
TW-33
PW-1
TW-26
PW-2
PW-3
TW-22
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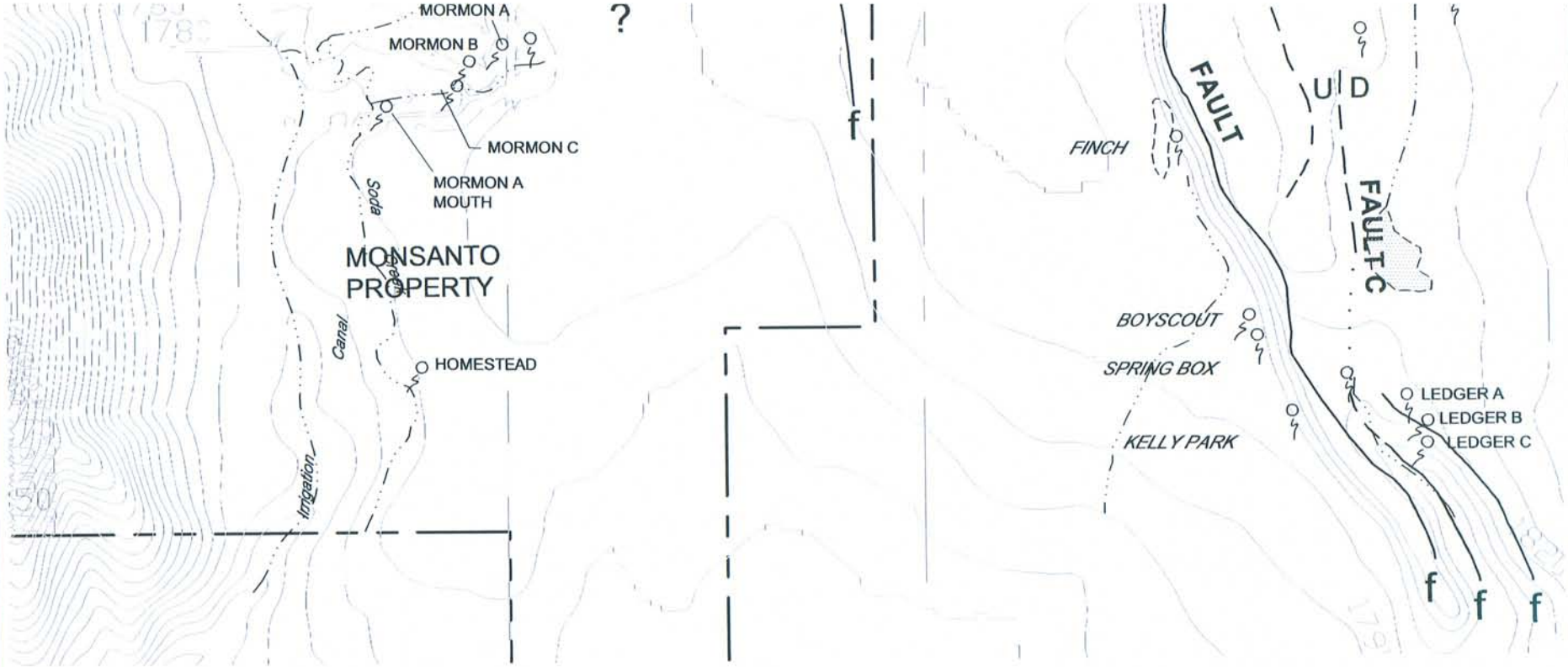
TW-08
TW-10



LEGEND

TW-09	Monitoring well location and name in Groundwater Zone UBZ 1
TW-23	Monitoring well location and name in Groundwater Zone UBZ 2
TW-11	Monitoring well location and name in Groundwater Zone UBZ 3
TW-32	Monitoring well location and name in Groundwater Zone UBZ 4
PW-1	Production well location and name
	Spring location
f	Fault (dashed where inferred)
LBZ-1	Groundwater Zones
	Property Boundary

N

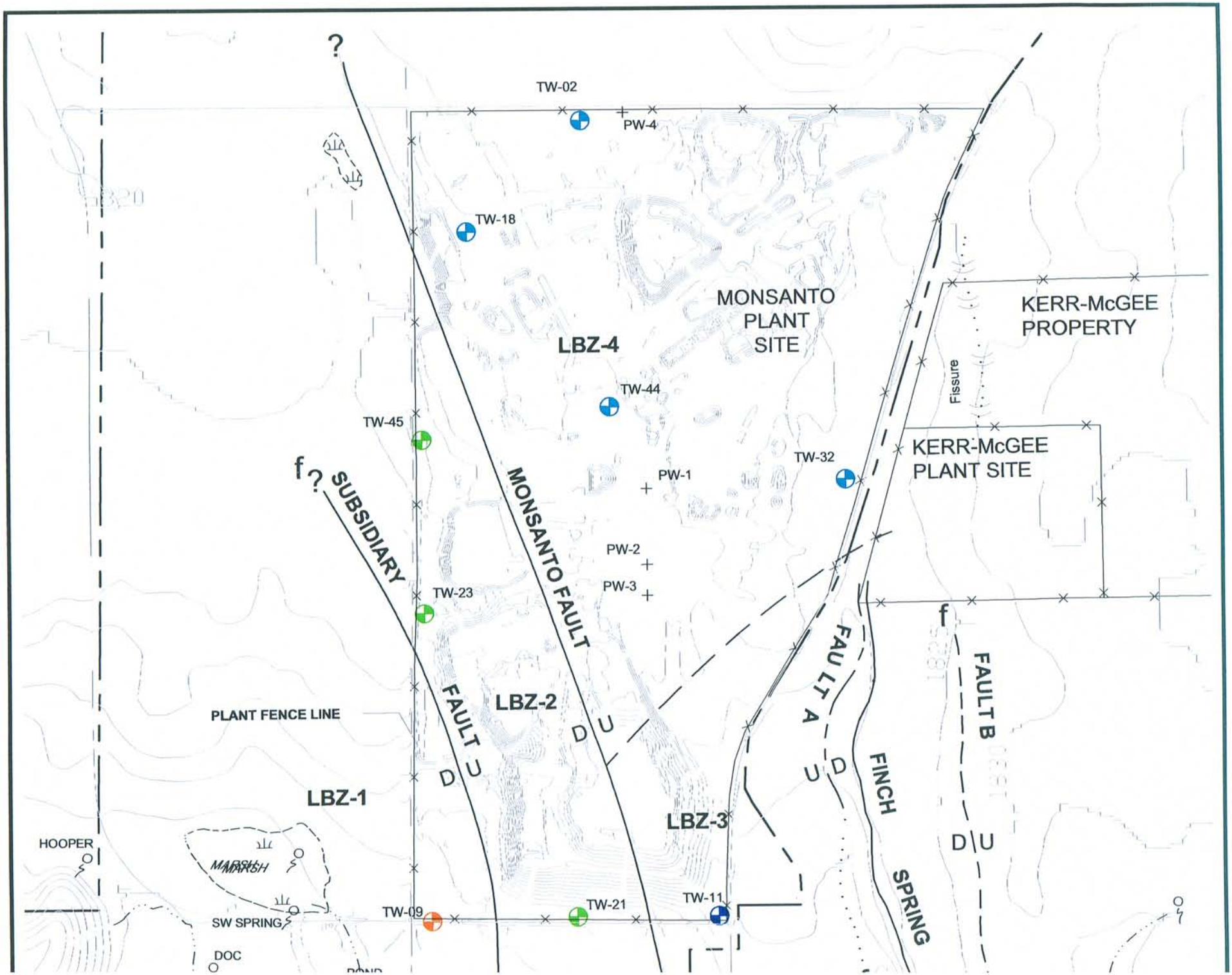
0 300 600 METERS

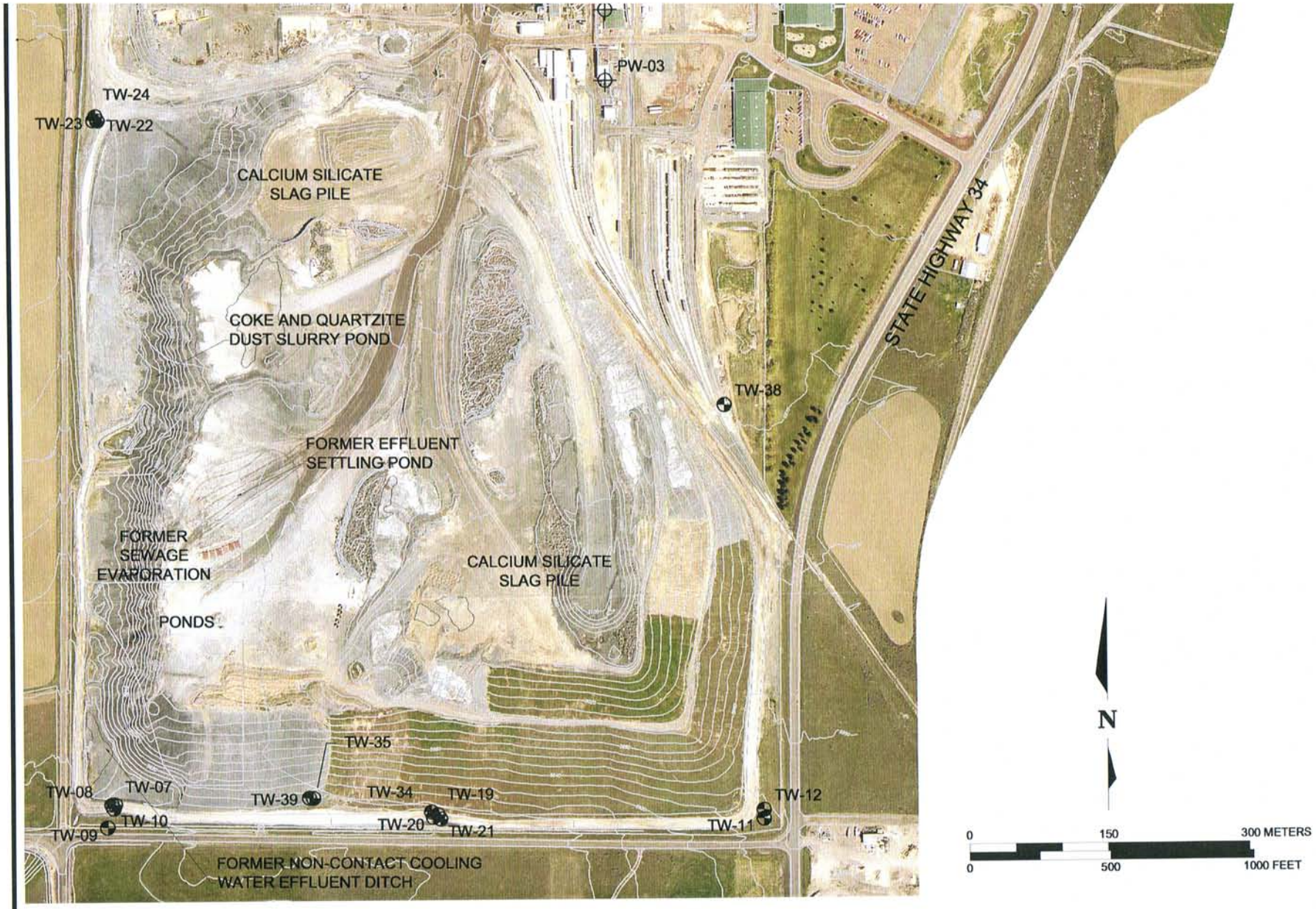
0 500 1000 FEET

FIGURE 3

LOCATION OF WELLS IN THE LOWER BASALT ZONE

MONSANTO/2004 ANNUAL REPORT/ID


TW-02
PW-4
TW-18
MONSANTO
PLANT
SITE
KERR-McGEE
PROPERTY
LBZ-4
TW-44
Fissure
TW-45
TW-32
KERR-McGEE
PLANT SITE
PW-1
SUBSIDIARY
MONSANTO FAULT
PW-2
PW-3
TW-23
FAULT A
FAULT B
FINCH
SPRING
FAULT
LBZ-2
PLANT FENCE LINE
LBZ-1
LBZ-3
HOOPER
MARSH
SW SPRING
TW-09
TW-21
TW-11
DOC



LEGEND

TW-10 Monitoring well location and name

FIGURE 4

MONSANTO FACILITY MAP

MONSANTO/2004 ANNUAL REPORT/ID

9131101001605F39.dwg | Layout: Layout1 | Modified: 01/11/2005, 14:21 | Plotted: 01/17/2005, 14:38

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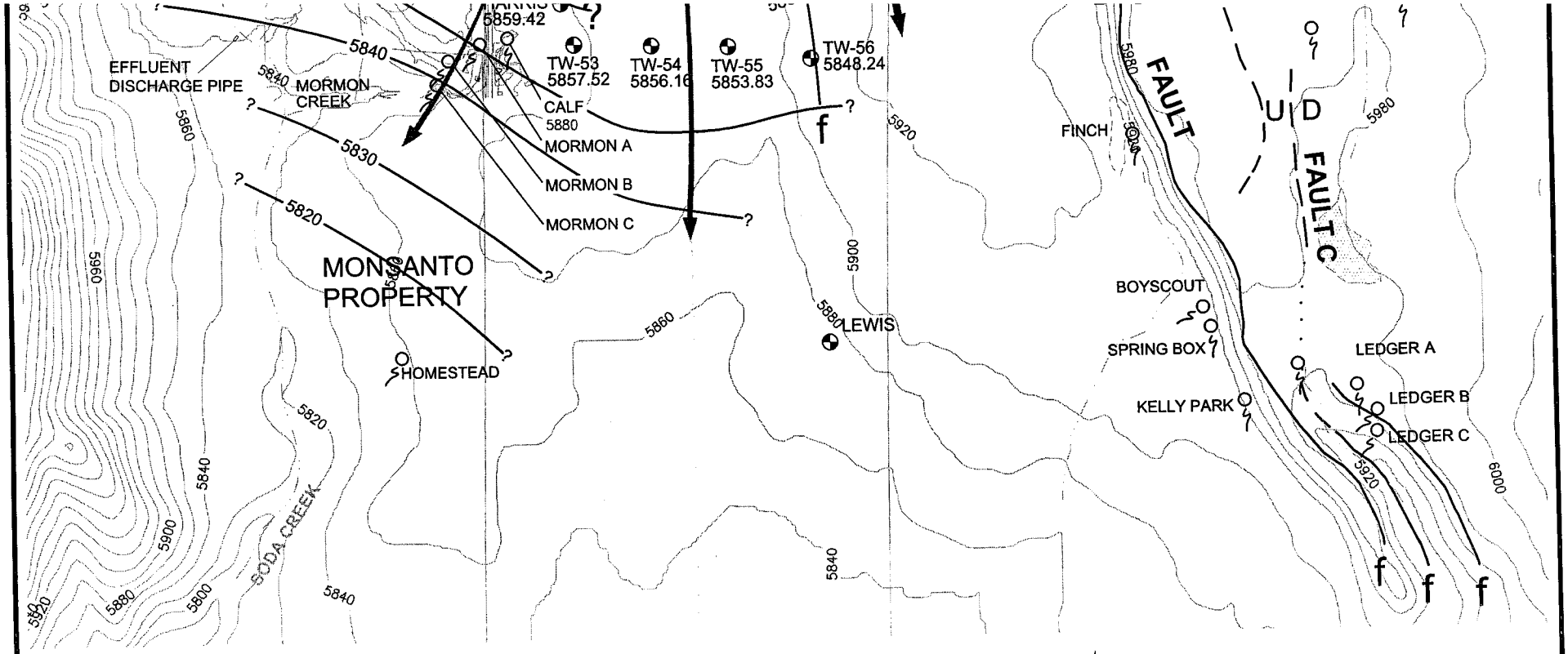
TW-28
TW-29
SEAL WATER POND
PW-04
TW-48
PHOSSY WATER SURGE POND
UNDERFLOW SOLIDS (FORMER LANDFILL)
UNDERFLOW SOLIDS
NORTHWEST POND
TW-49
TW-15
TW-14
TW-13
UNDERFLOW SOLIDS
TW-16
TW-17
TW-18
CRUSHED SLAG
UNDERFLOW SOLIDS
TW-57
OLD UNDERFLOW SOLIDS POND
SEALED UNDERFLOW SOLIDS PONDS
NODULES
TREATER DUST
BLEND 1
TW-50
TW-30
CAPPED OLD UNDERFLOW SOLIDS POND
TW-41
PHOSPHATE ORE STOCKPILES
BLEND 2
OLD HYDROCLARIFIER AREA
TW-40
NODULES FINES AREA
TW-42
MONSANTO PLANT FENCELINE
TW-43
TW-44A
TW-37
TW-45
QUARTZITE STOCKPILE AREA
FORMER STORAGE AREA
PW-01
TW-32
TW-31
TW-33
TW-26
COKE STOCKPILE AREA
CALCIUM SILICATE



LEGEND

TW-26	Monitoring well location and name
PW-03	Production well location and name
BOYSCOUT	Spring location and name
5872	Groundwater elevation (ft)
ND	No data
5870	Groundwater elevation contour (10 ft interval)
	Groundwater flow direction
	Fault (dashed where inferred)

N

0 300 600 METERS

0 1000 2000 FEET

NOTE:
PW-1, PW-2, PW-3 and PW-4 are open to both the Upper and Lower Basalt Zones.

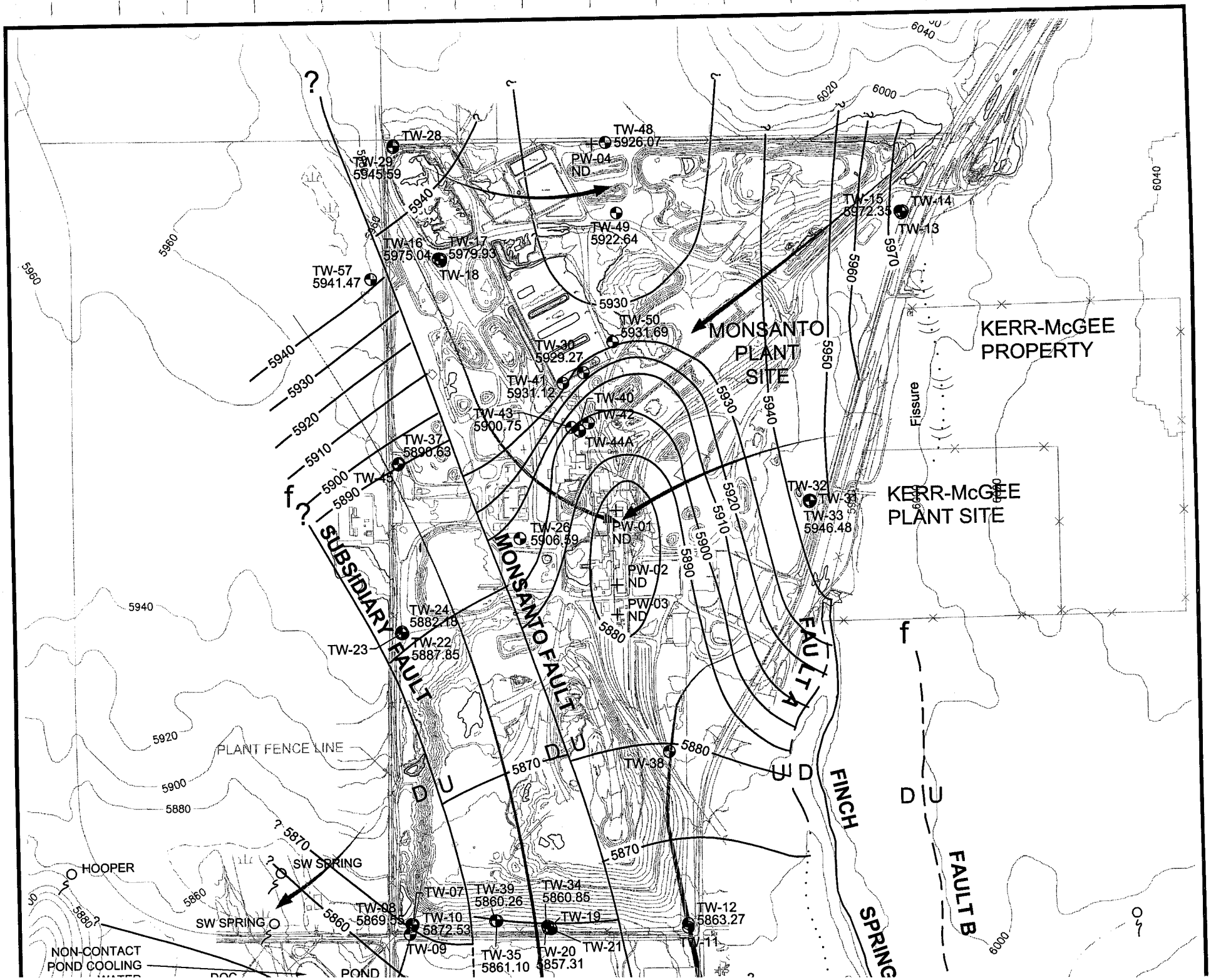
FIGURE **5**

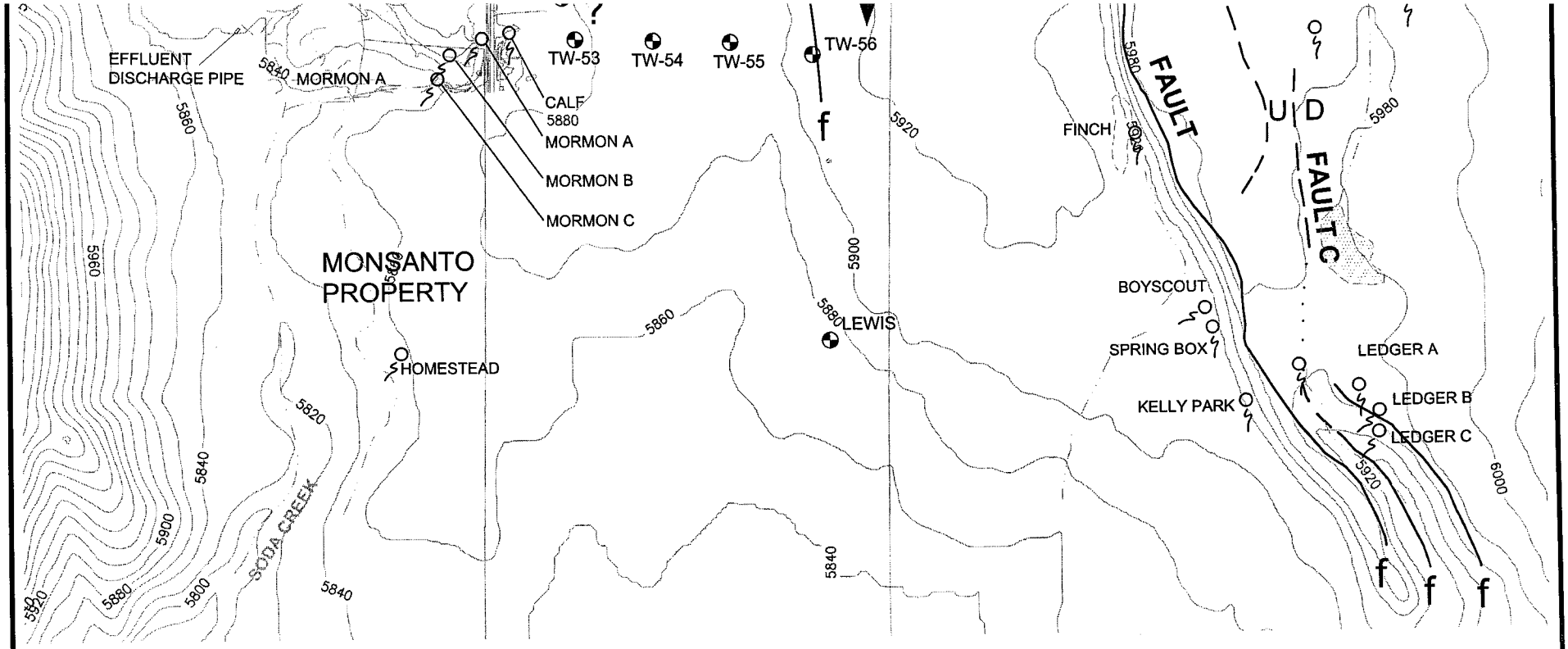
GROUNDWATER ELEVATION OF THE UPPER BASALT ZONE JUNE 2004

MONSANTO/2004 ANNUAL REPORT/ID

Golder Associates

9131101001605F35.dwg | Layout: UBZ | Modified: 01/17/2005, 10:32 | Plotted: 01/17/2005, 10:32


MONSANTO PLANT SITE
KERR-McGEE PROPERTY
KERR-McGEE PLANT SITE
SUBSIDIARY FAULT
MONSANTO FAULT
FAULT A
FINCH SPRING
FAULT B
Fissure
PLANT FENCE LINE
HOOPER
SW SPRING
NON-CONTACT POND COOLING
POND
TW-28
TW-29 5945.59
TW-48 5926.07
PW-04 ND
TW-49 5922.64
TW-16 5975.04
TW-17 5979.93
TW-18
TW-57 5941.47
TW-15 5972.35
TW-14
TW-13
TW-50 5931.69
TW-30 5929.27
TW-41 5931.12
TW-40
TW-42
TW-43 5900.75
TW-44A
TW-37 5890.63
TW-45
TW-32
TW-31
TW-33 5946.48
TW-26 5906.59
PW-01 ND
PW-02 ND
PW-03 ND
TW-24 5882.18
TW-22 5887.85
TW-23
TW-38
TW-07
TW-39 5860.26
TW-34 5860.85
TW-08 5869.55
TW-10 5872.53
TW-19
TW-12 5863.27
TW-09
TW-35 5861.10
TW-20 5857.31
TW-21
TW-11
5940
5930
5920
5910
5900
5890
5880
5870
5860
5950
5960
5970
6000
6020
6040



LEGEND

TW-26	Monitoring well location and name
PW-03	Production well location and name
BOYSCOUT	Spring location and name
5872	Groundwater elevation (ft)
ND	No data
5870	Groundwater elevation contour (10 ft interval)
	Groundwater flow direction
	Fault (dashed where inferred)

N

0 300 600 METERS

0 1000 2000 FEET

NOTE:
PW-1, PW-2, PW-3 and PW-4 are open to both the Upper and Lower Basalt Zones.

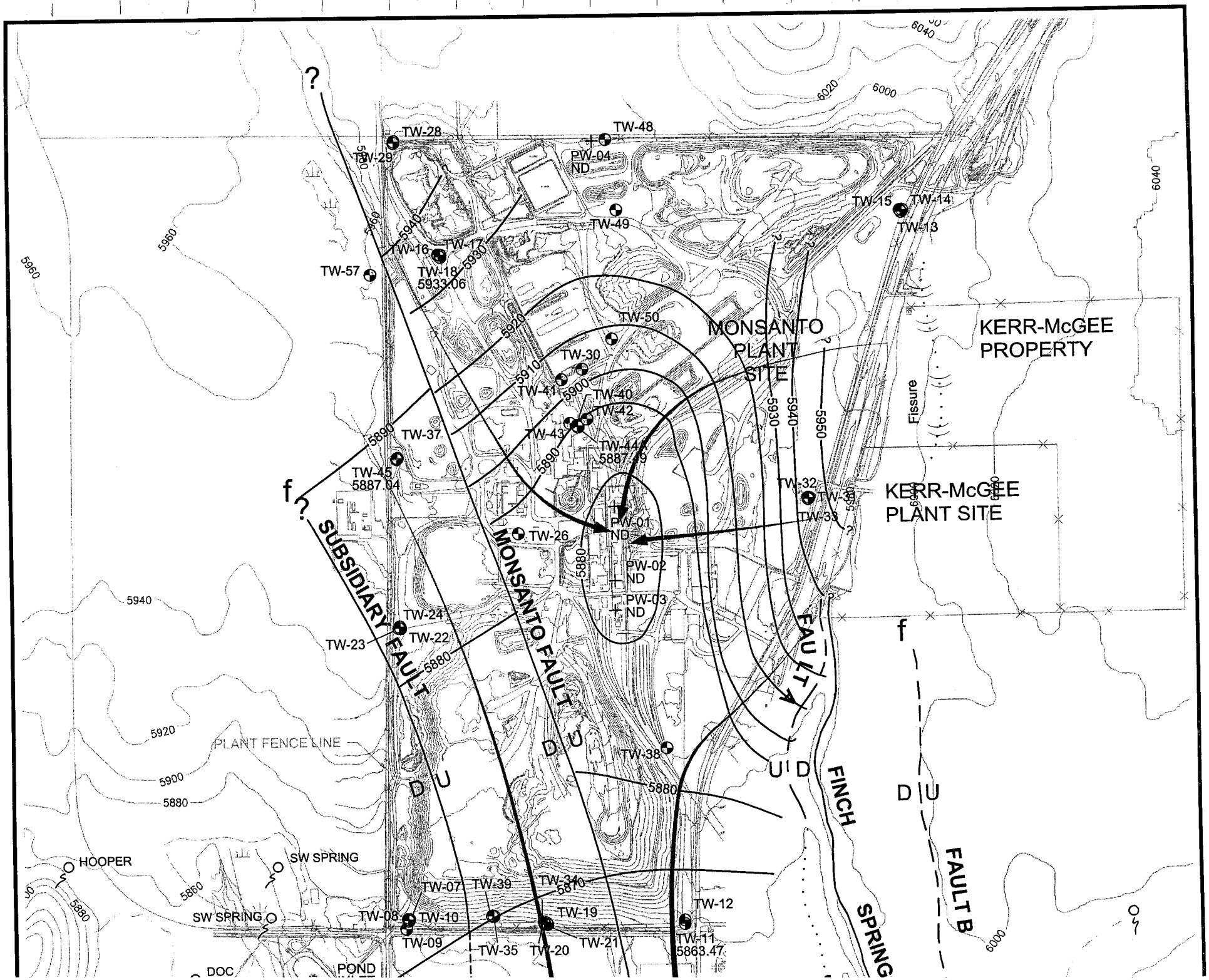
FIGURE **6**

GROUNDWATER ELEVATION OF THE LOWER BASALT ZONE JUNE 2004

MONSANTO/2004 ANNUAL REPORT/ID

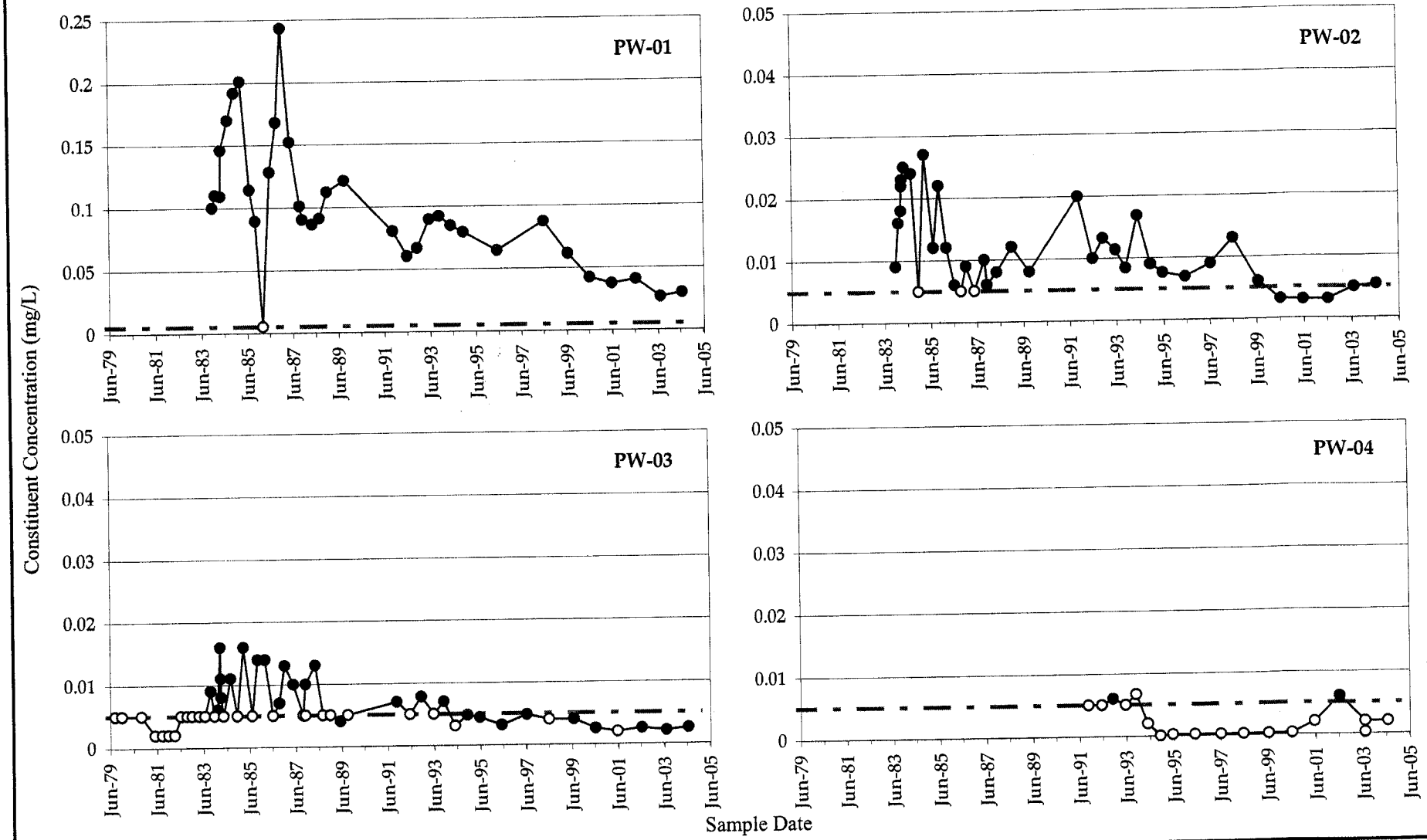
9131101001605F36.dwg | Layout: LBZ | Modified: 01/11/2005, 14:39 | Plotted: 01/11/2005, 14:39

Golder Associates


MONSANTO PLANT SITE
KERR-McGEE PROPERTY
KERR-McGEE PLANT SITE
SUBSIDIARY FAULT
MONSANTO FAULT
FAULT A
FINCH SPRING
FAULT B
Fissure
PLANT FENCE LINE
HOOPER
SW SPRING
DOC
POND
TW-28
TW-29
TW-48
PW-04 ND
TW-49
TW-15
TW-14
TW-13
TW-16
TW-17
TW-18 5933.06
TW-57
TW-50
TW-30
TW-41
TW-40
TW-42
TW-43
TW-44A 5887.49
TW-37
TW-45 5887.04
TW-32
TW-33
PW-01 ND
TW-26
PW-02 ND
PW-03 ND
TW-24
TW-22
TW-23
TW-38
TW-07
TW-39
TW-34
TW-08
TW-10
TW-19
TW-09
TW-35
TW-20
TW-21
TW-12
TW-11 5863.47
5960
5940
5920
5900
5880
5890
5910
5930
5950
6000
6020
6040

APPENDIX A

TIME-HISTORY GRAPHS FOR CADMIUM



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

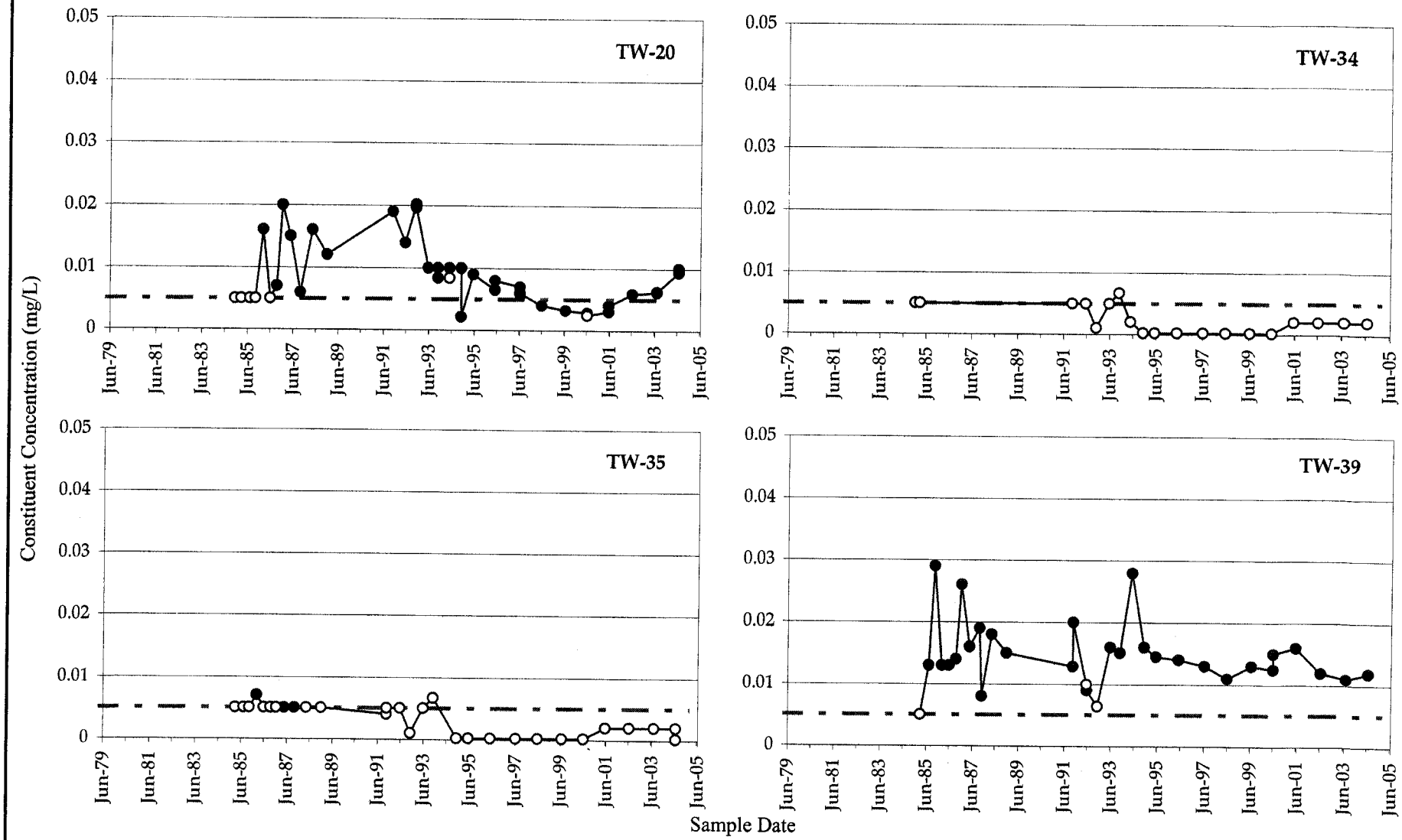
Cadmium Remediation Goal (0.005 mg/L)

Remediation goals shown for point of compliance locations

Cadmium in Production Wells

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-01

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

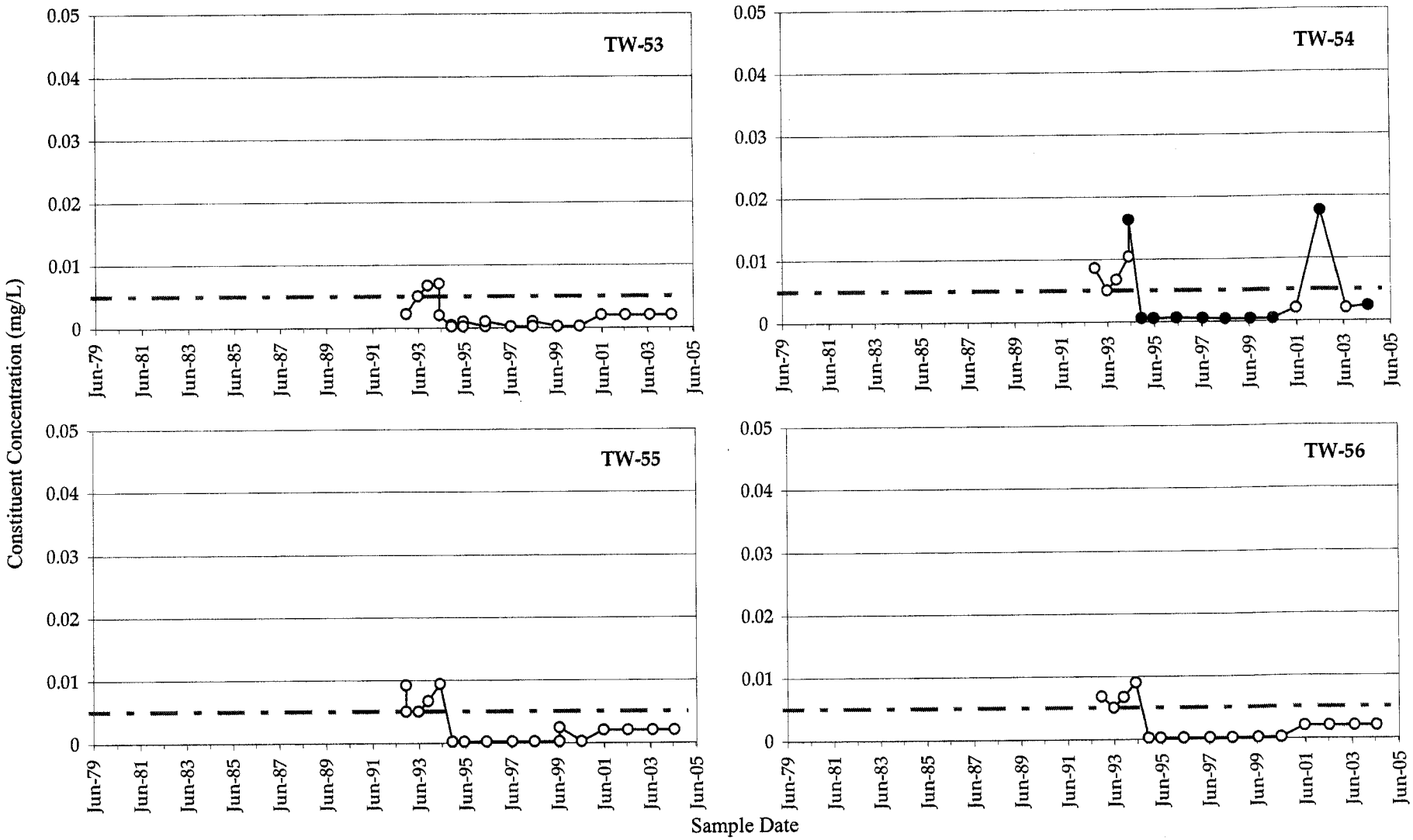
Cadmium Remediation Goal (0.005 mg/L)

Remediation goals shown for point of compliance locations

Cadmium in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-02

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

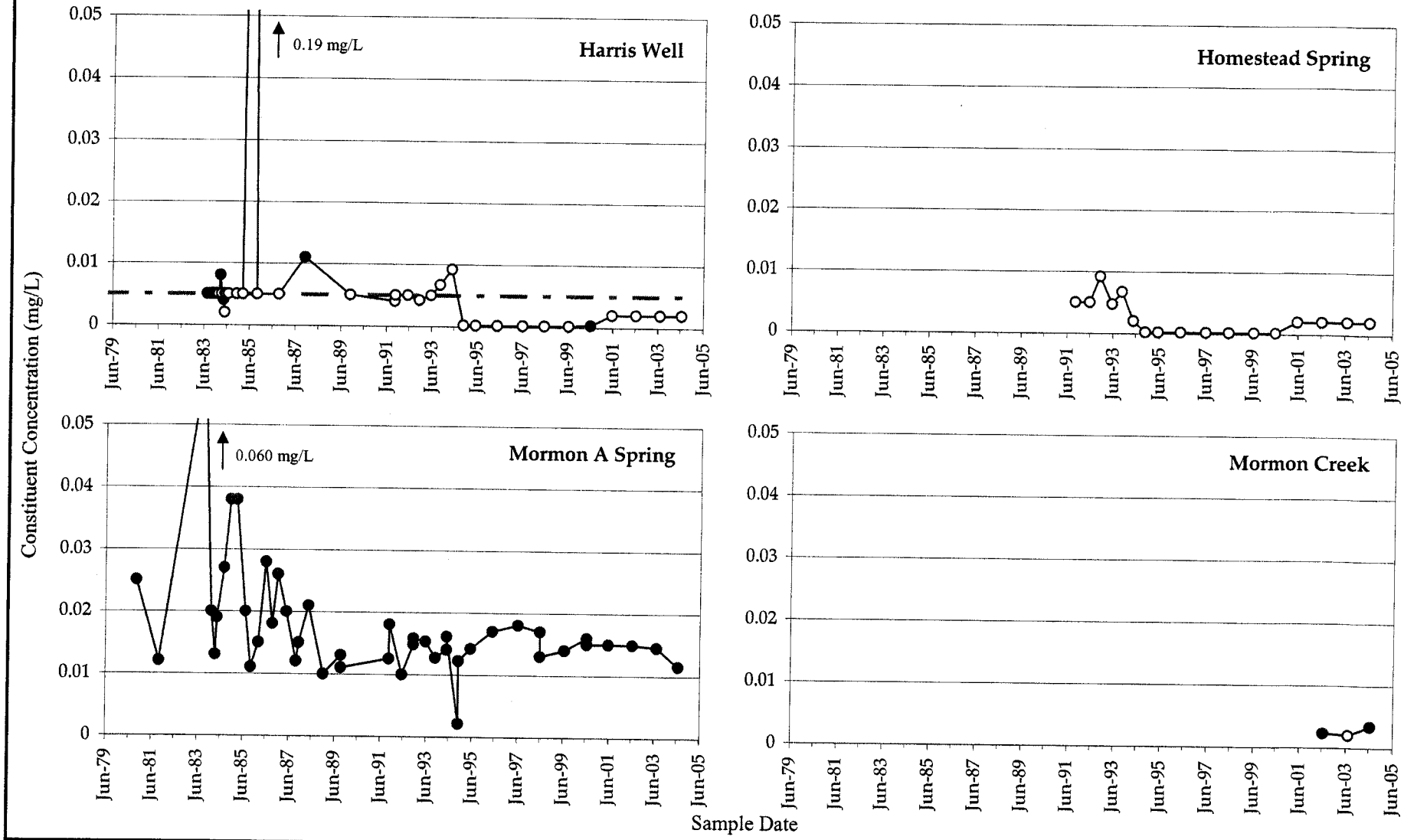
Cadmium Remediation Goal (0.005 mg/L)

Remediation goals shown for point of compliance locations

Cadmium in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-03

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

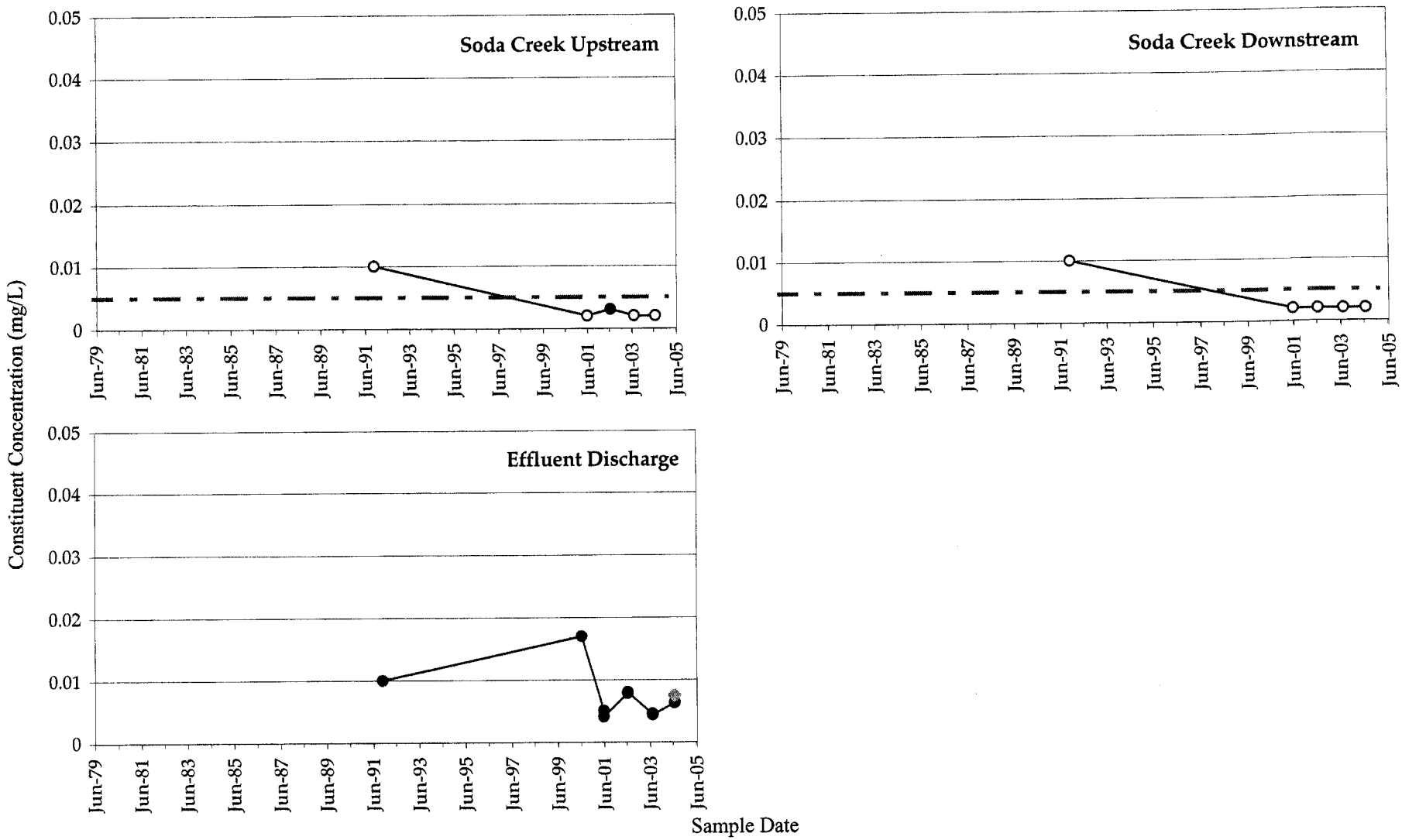
Cadmium Remediation Goal (0.005 mg/L)

Remediation goals shown for point of compliance locations

Cadmium in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-04

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

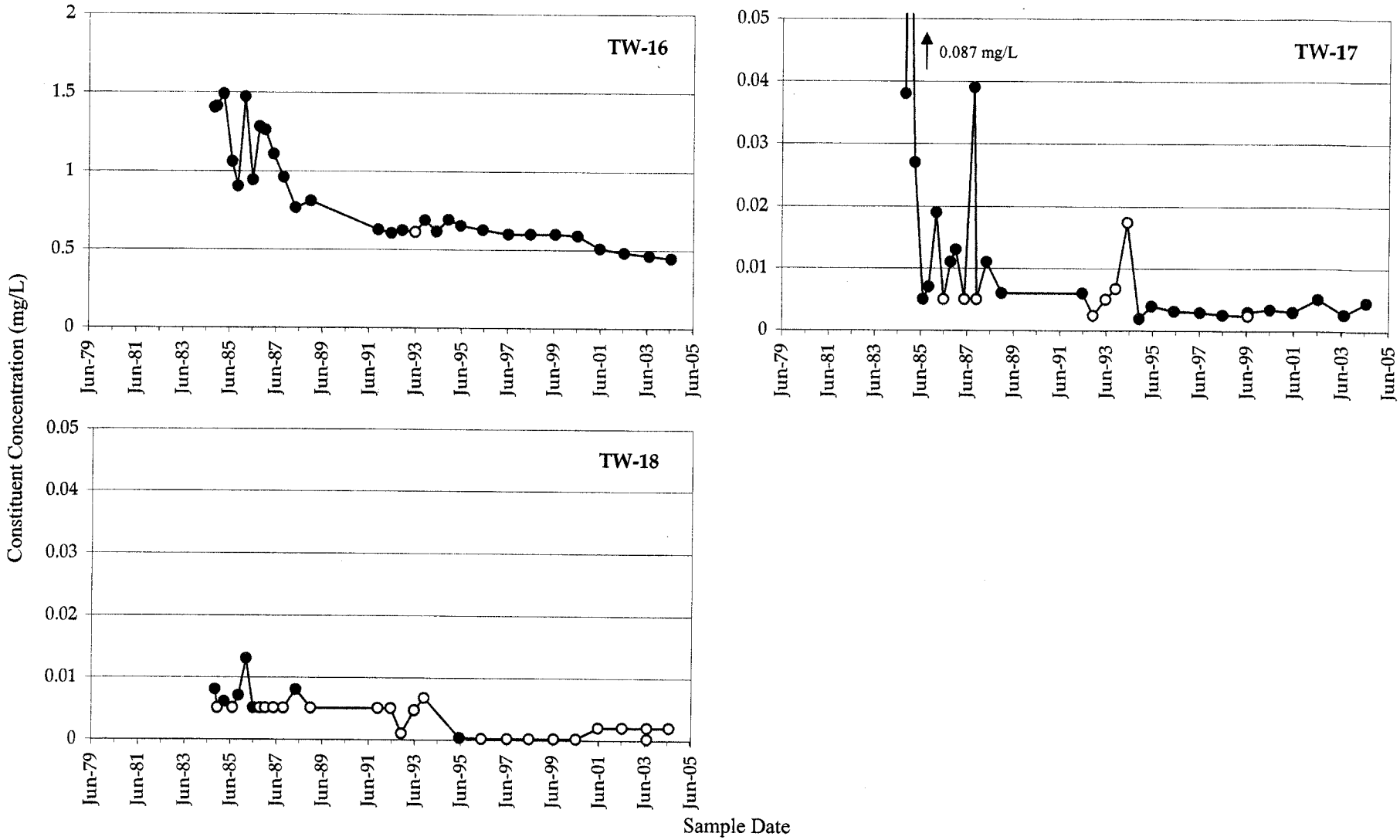
Constituent Concentration (mg/L)
Non-Detects
Cadmium Remediation Goal (0.005 mg/L)
Pond Inlet

Remediation goals shown for point of compliance locations

Cadmium in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-05

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

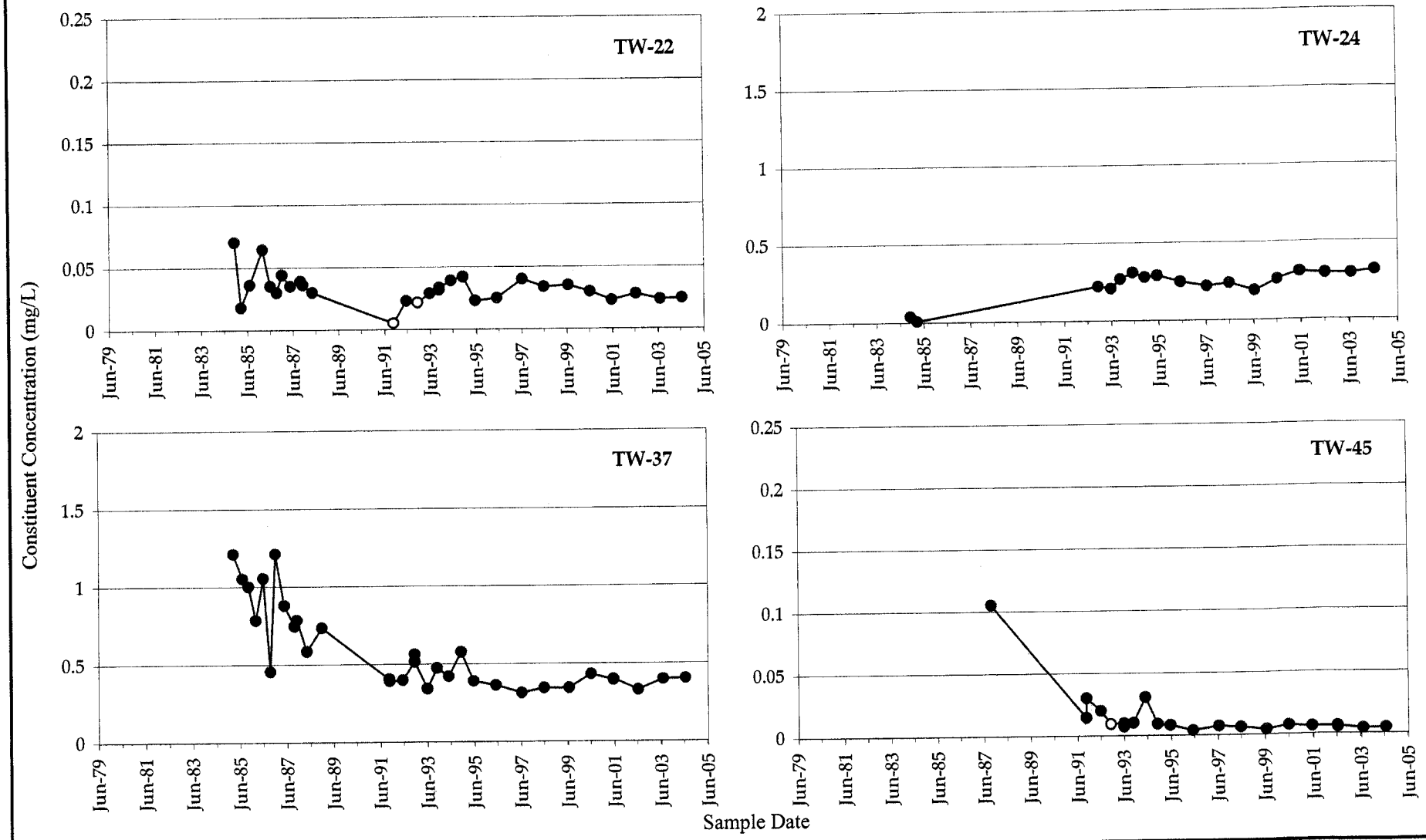
Non-Detects

Remediation goals shown for point of compliance locations

Cadmium in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-06

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

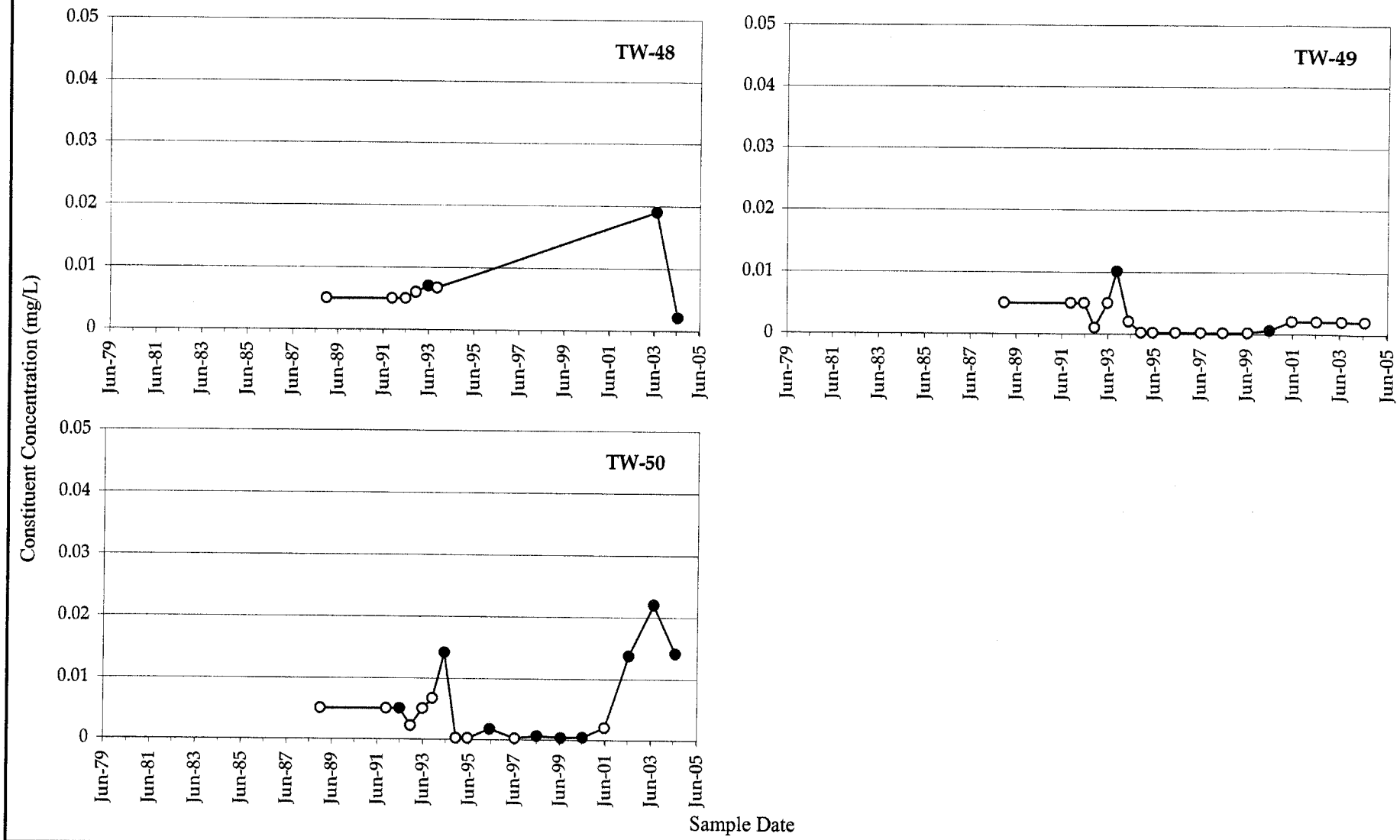
Non-Detects

Remediation goals shown for point of compliance locations

Cadmium in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-07

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

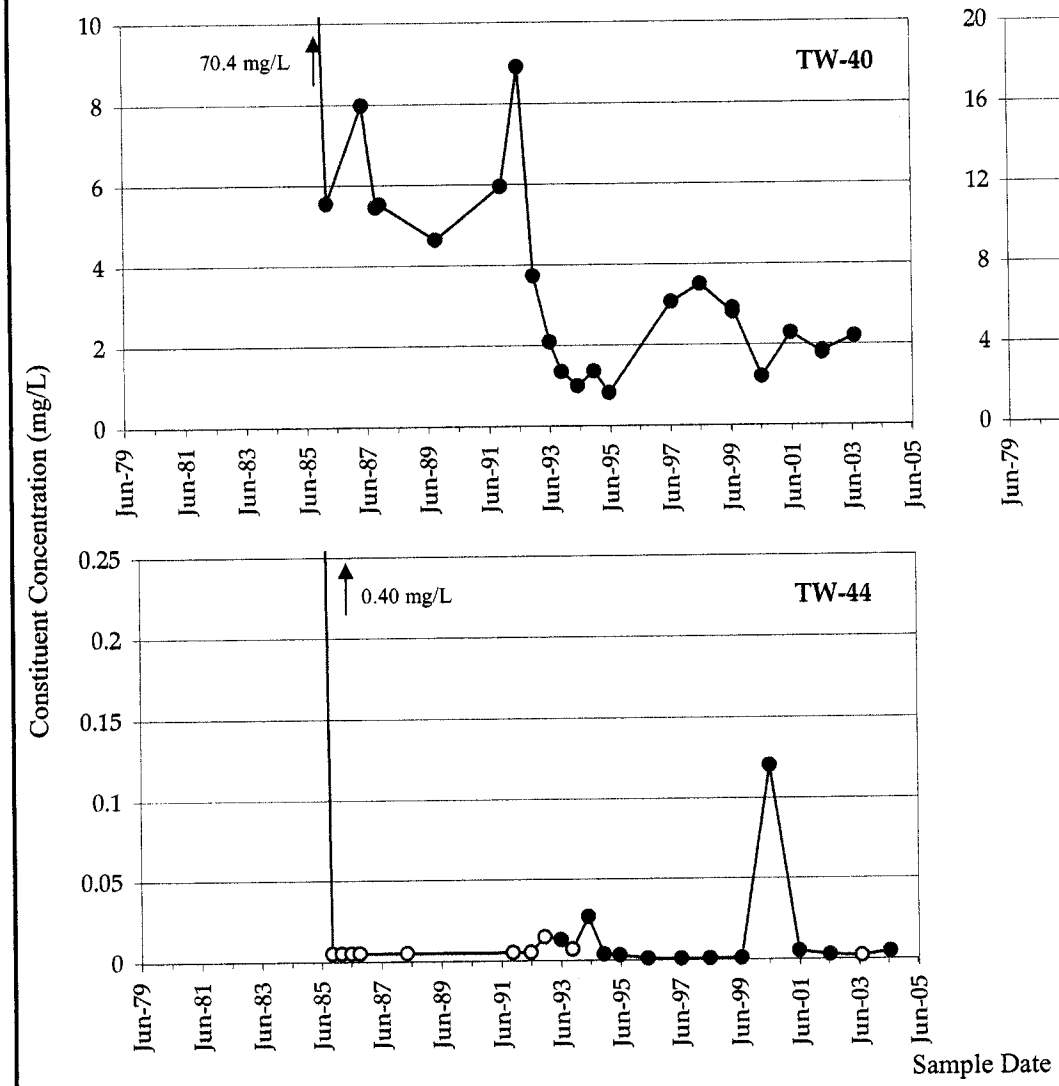
Non-Detects

Remediation goals shown for point of compliance locations

Cadmium in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	**A-08**

File Name: App A Cadmium Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

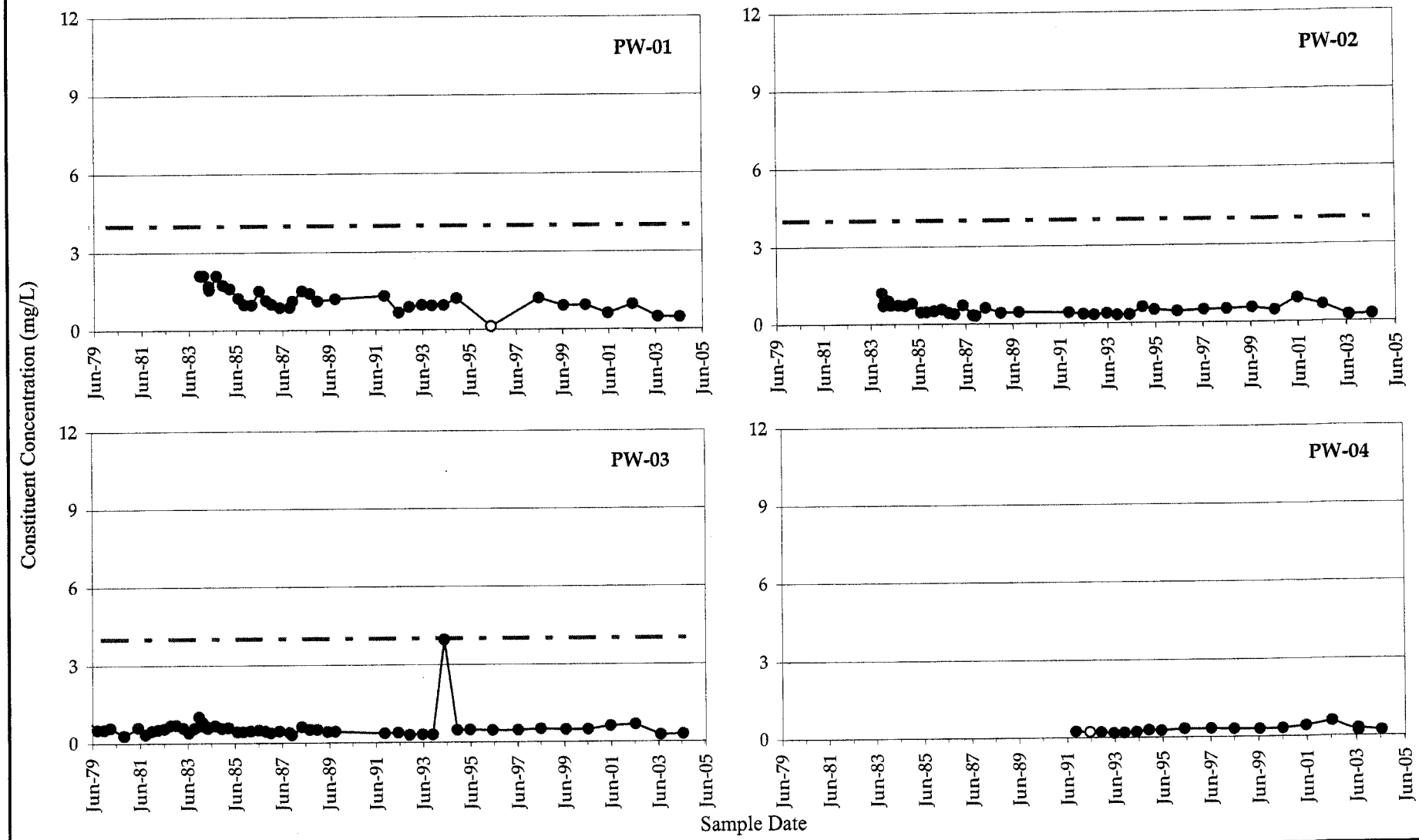
Cadmium in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	29-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	A-09

File Name: App A Cadmium Charts 2004.xls

APPENDIX B

TIME-HISTORY GRAPHS FOR FLUORIDE



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

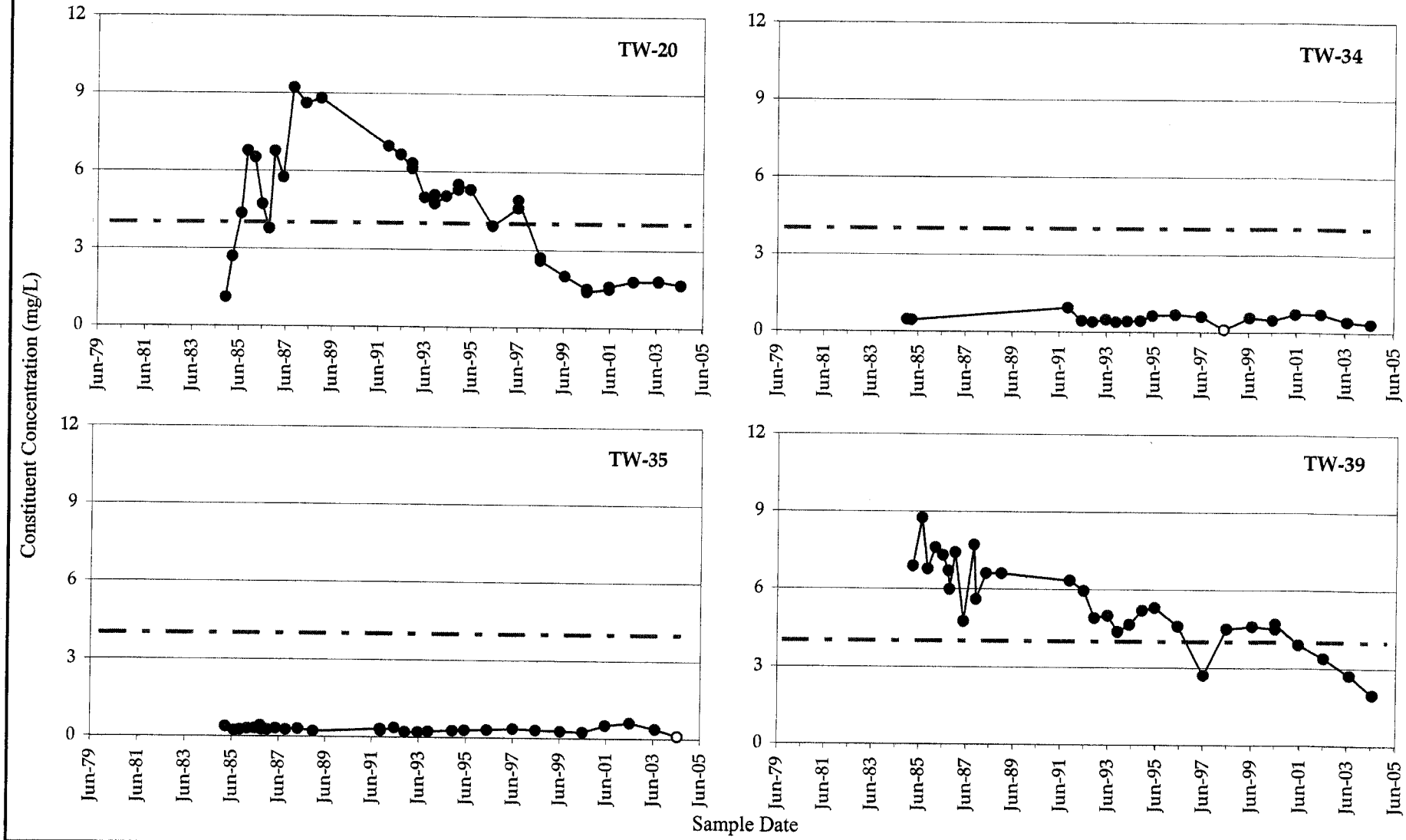
Fluoride Remediation Goal (4 mg/L)

Remediation goals shown for point of compliance locations

Fluoride in Production Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-01

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

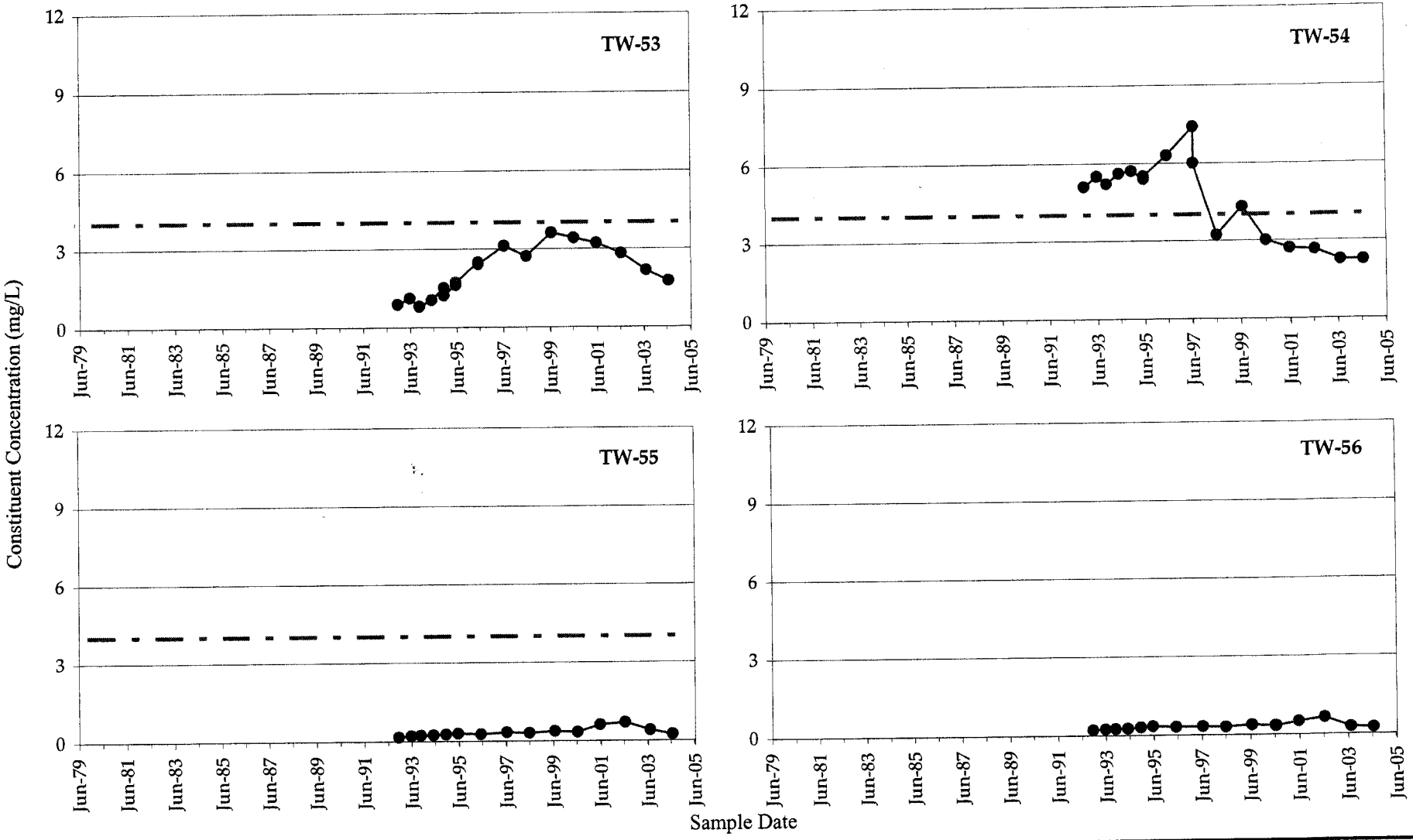
Fluoride Remediation Goal (4 mg/L)

Remediation goals shown for point of compliance locations

Fluoride in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-02

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

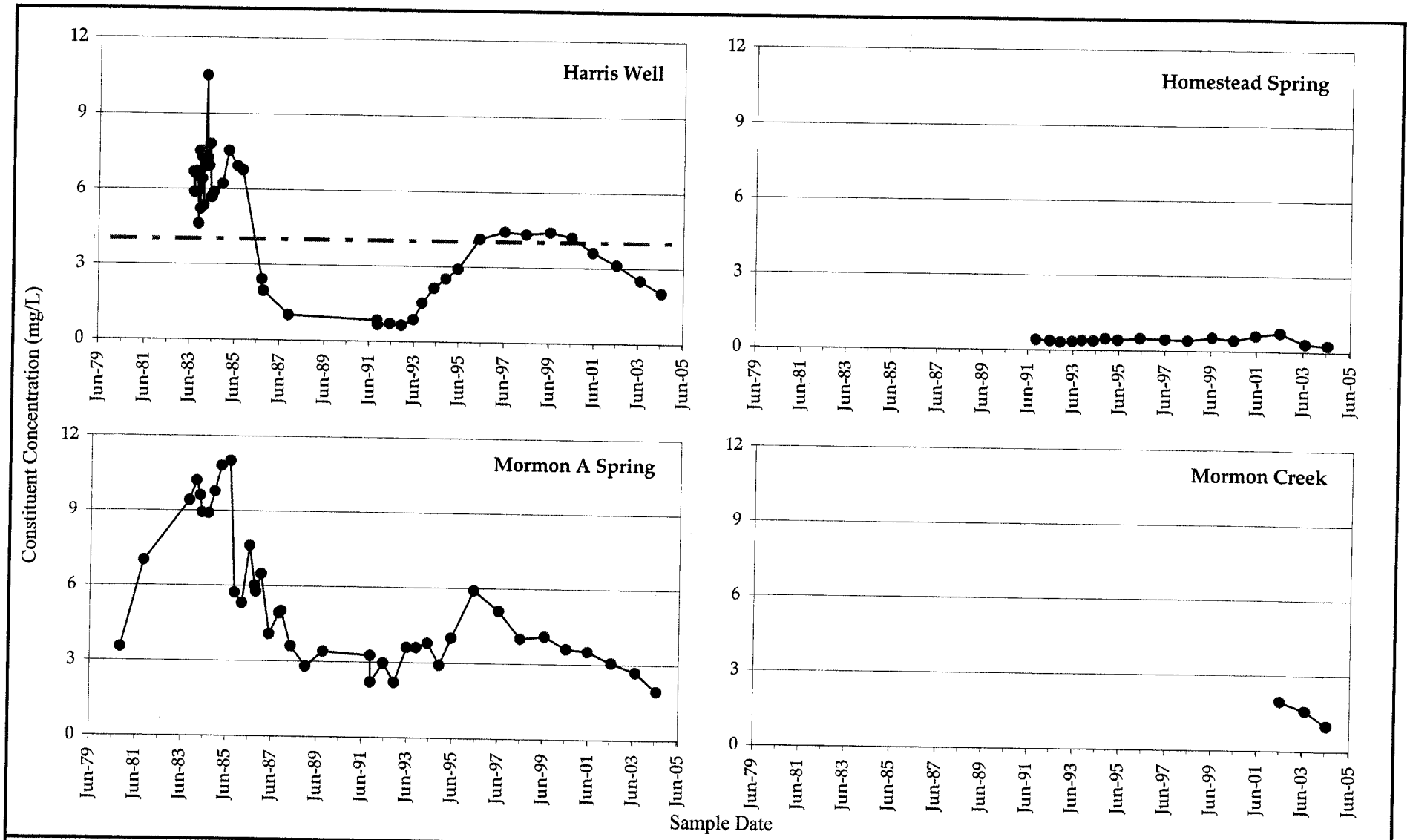
Fluoride Remediation Goal (4 mg/L)

Remediation goals shown for point of compliance locations

Fluoride in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-03

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

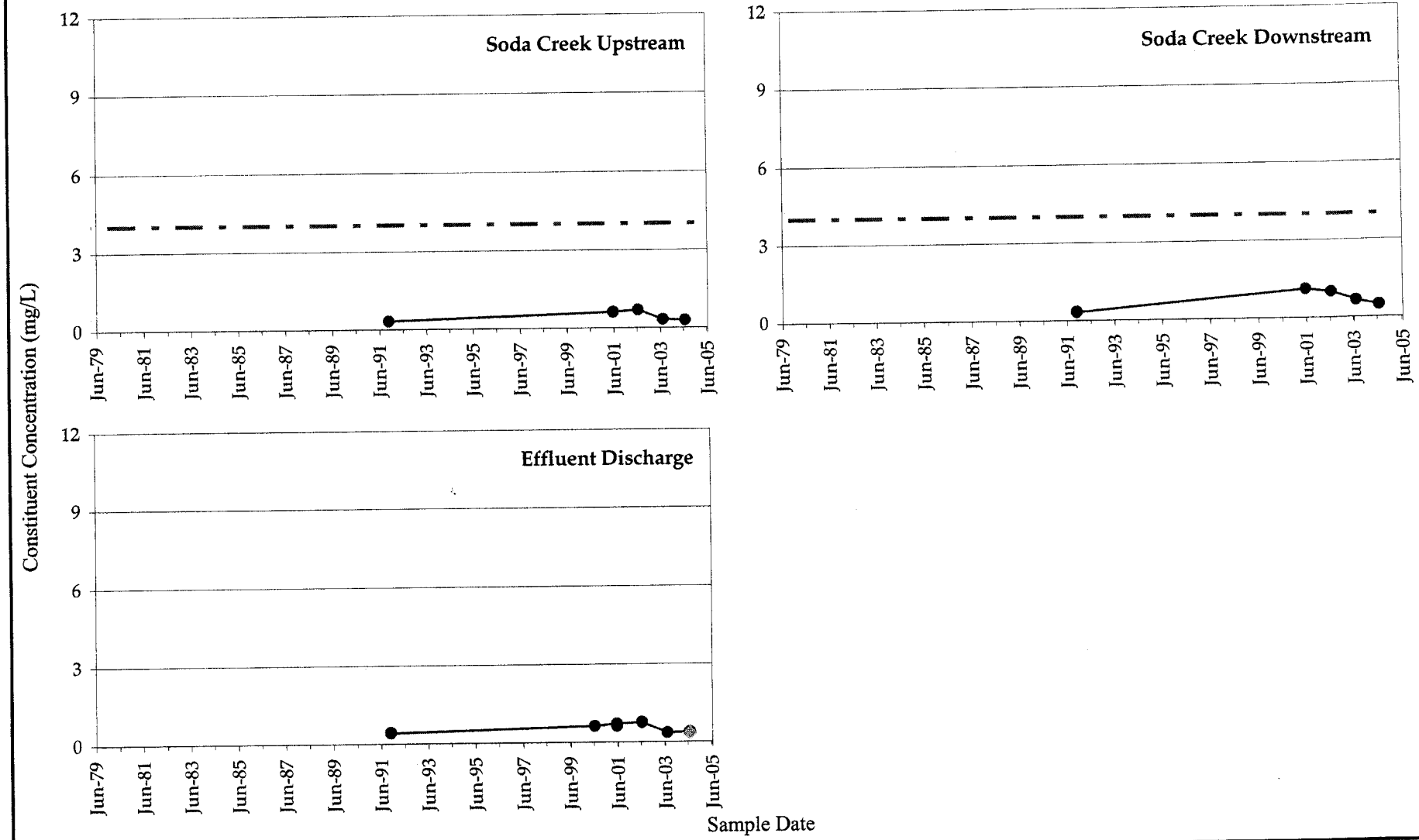
Fluoride Remediation Goal (4 mg/L)

Remediation goals shown for point of compliance locations

Fluoride in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-04

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

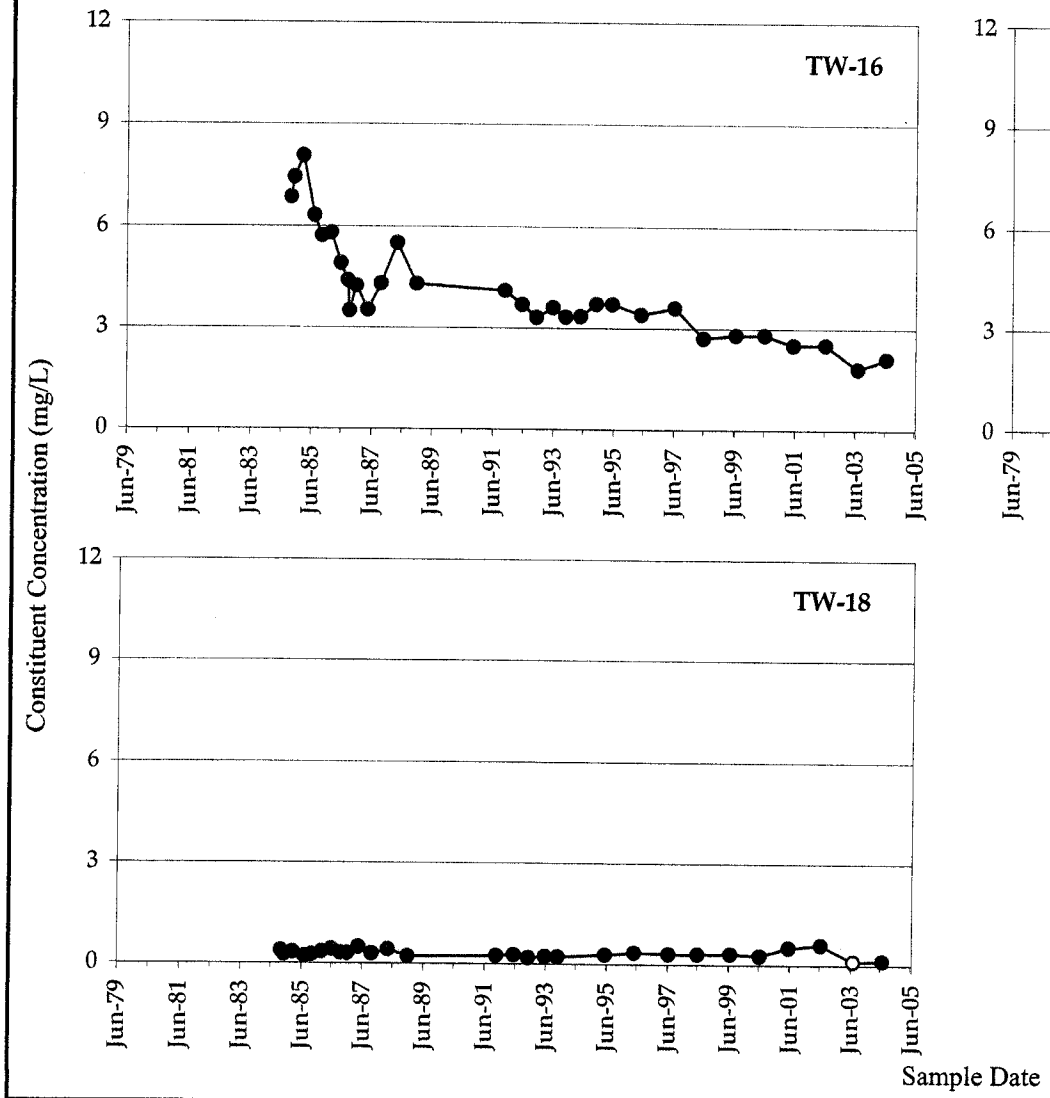
Constituent Concentration (mg/L)
Fluoride Remediation Goal (4 mg/L)
Pond Inlet

Remediation goals shown for point of compliance locations

Fluoride in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-05

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

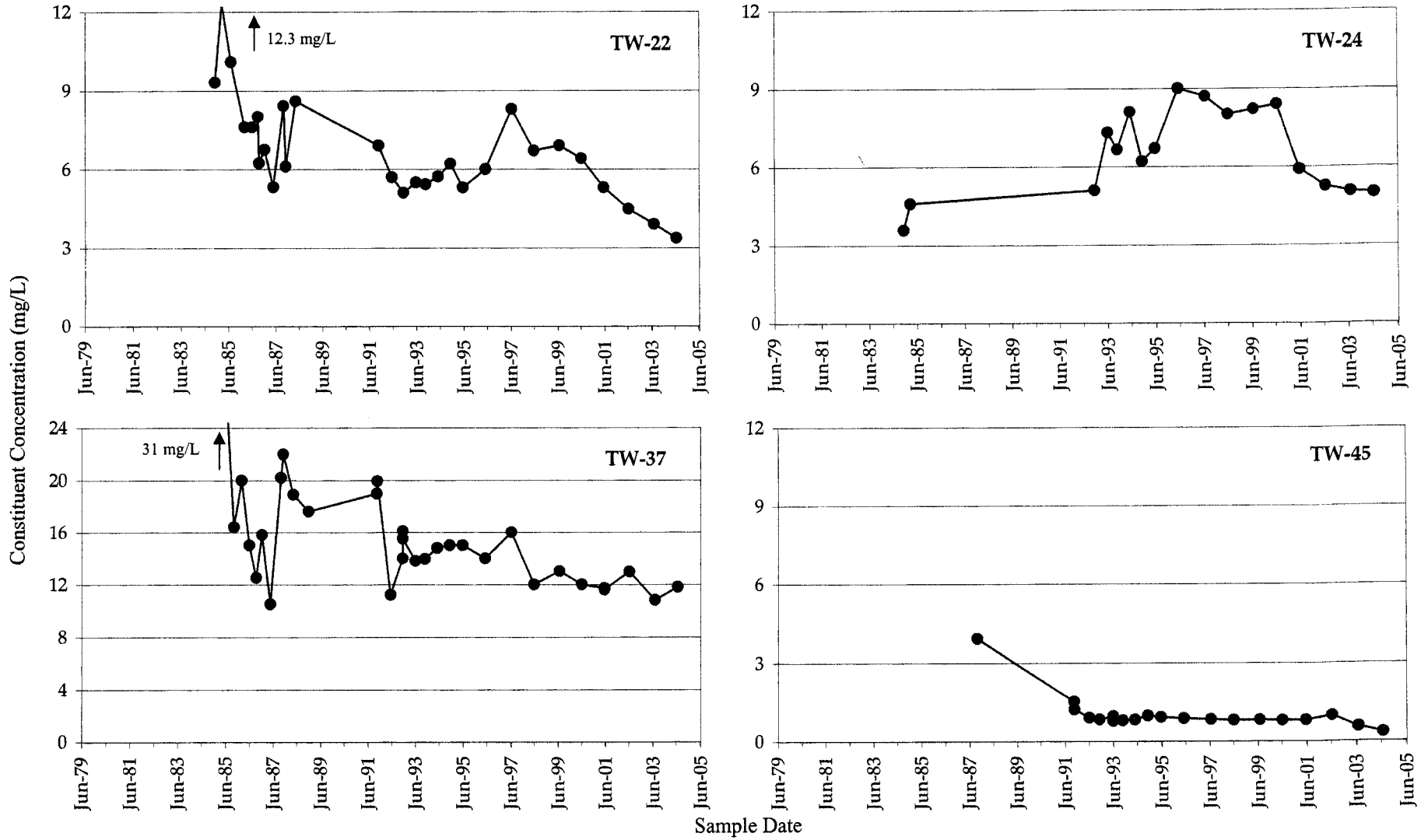
Non-Detects

Remediation goals shown for point of compliance locations

Fluoride in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-06

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

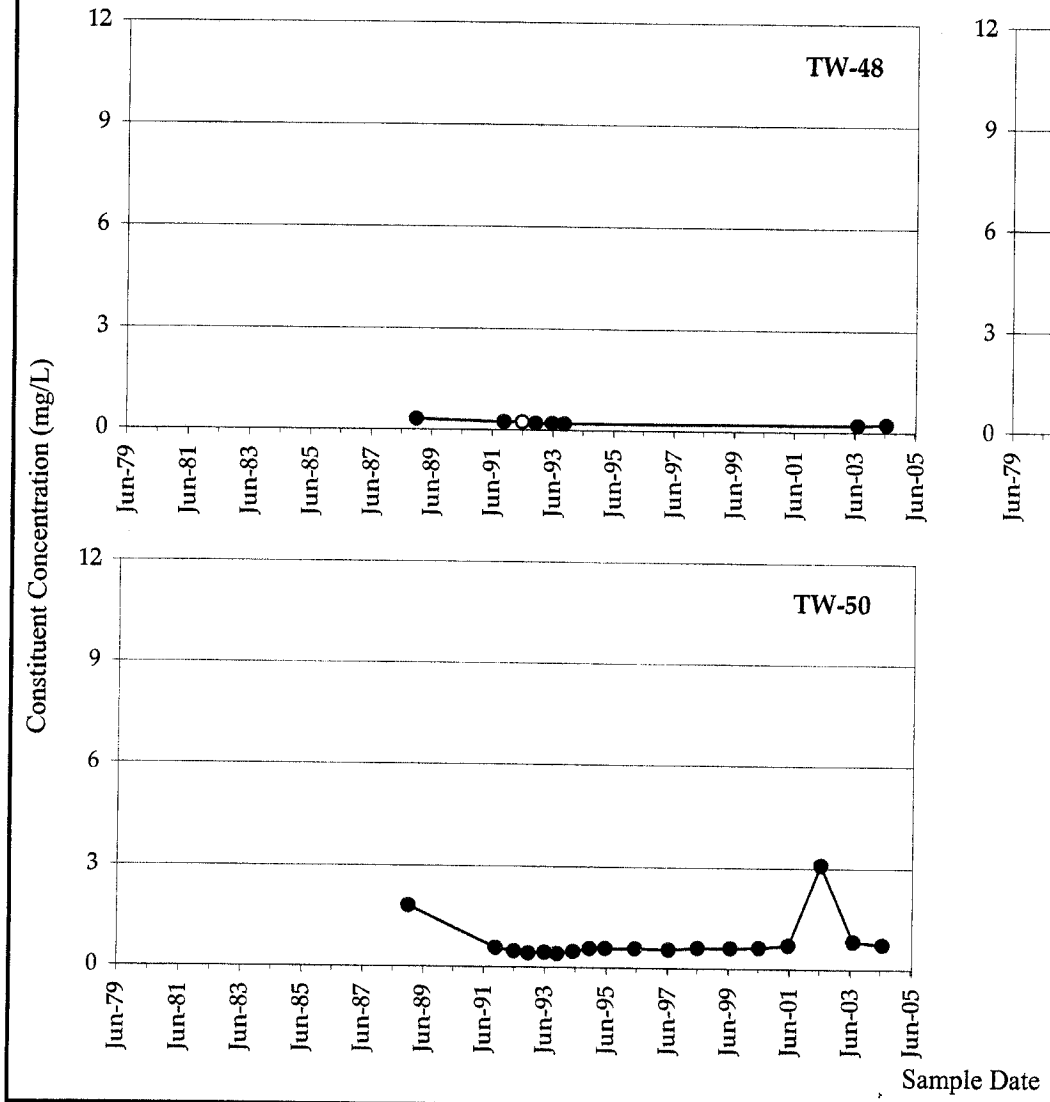
Non-Detects

Remediation goals shown for point of compliance locations

Fluoride in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-07

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

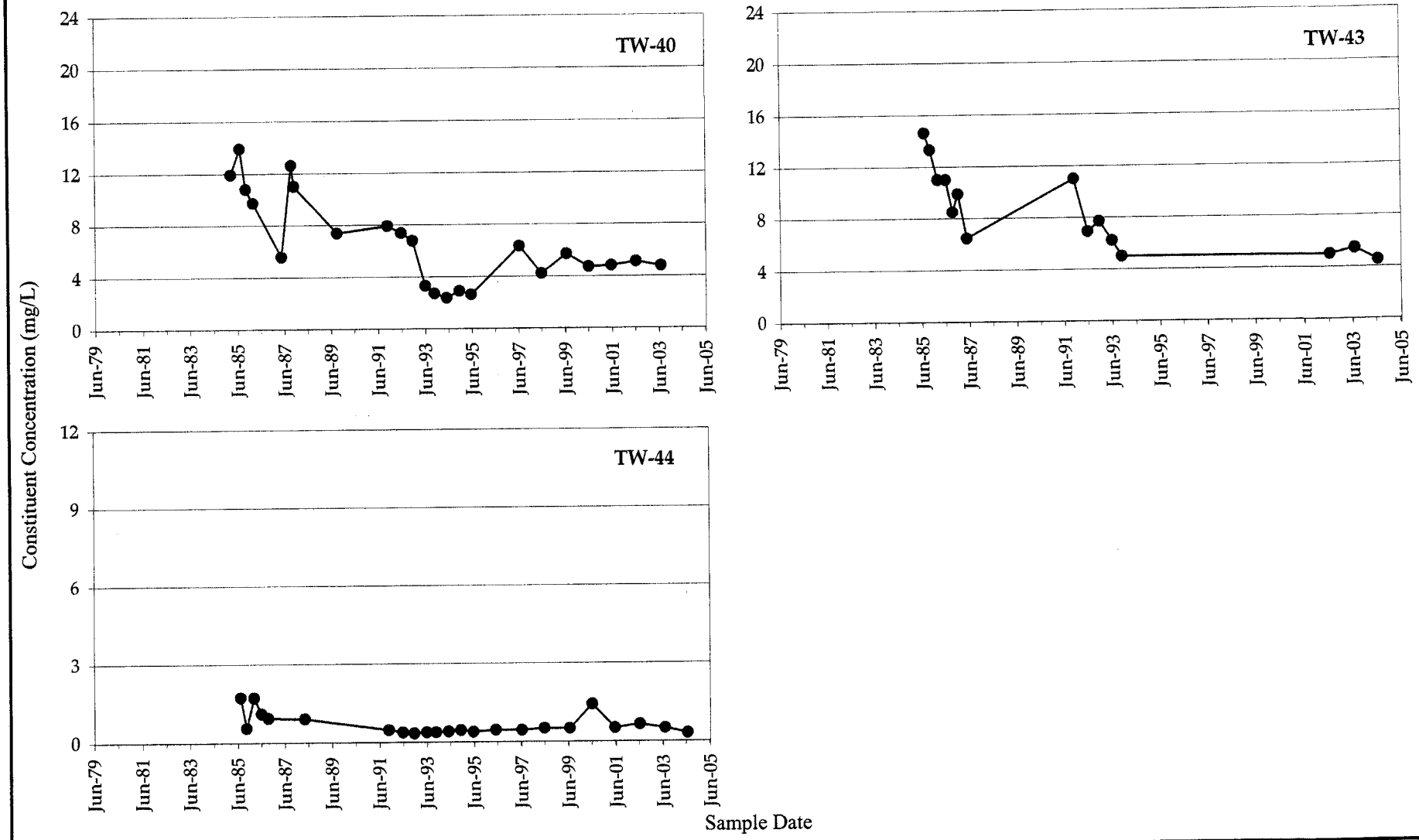
Non-Detects

Remediation goals shown for point of compliance locations

Fluoride in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	**B-08**

File Name: App B Fluoride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

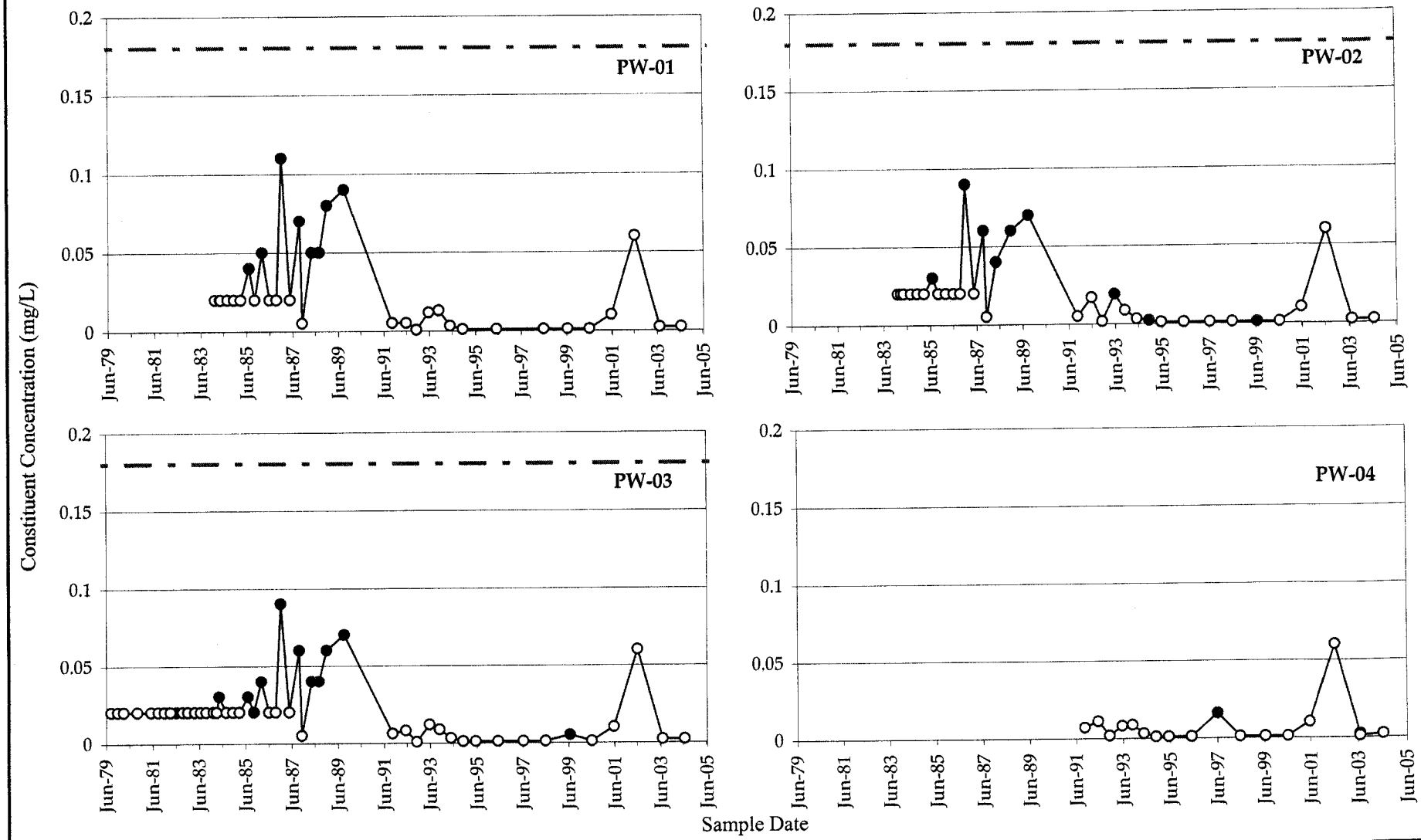
Fluoride in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	B-09

File Name: App B Fluoride Charts 2004.xls

APPENDIX C

TIME-HISTORY GRAPHS FOR MANGANESE



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

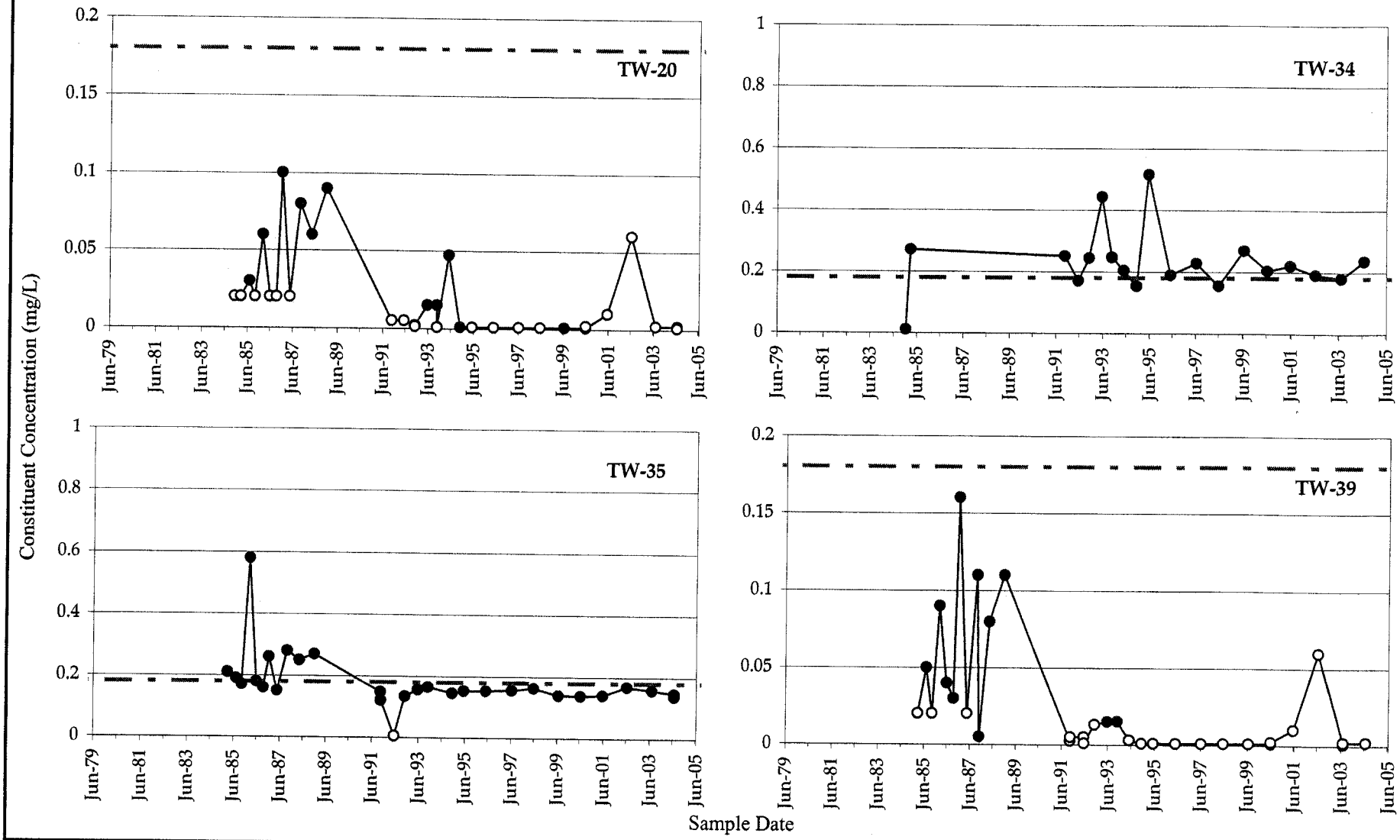
Manganese Remediation Goal (0.18 mg/L)

Remediation goals shown for point of compliance locations

Manganese in Production Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-01

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

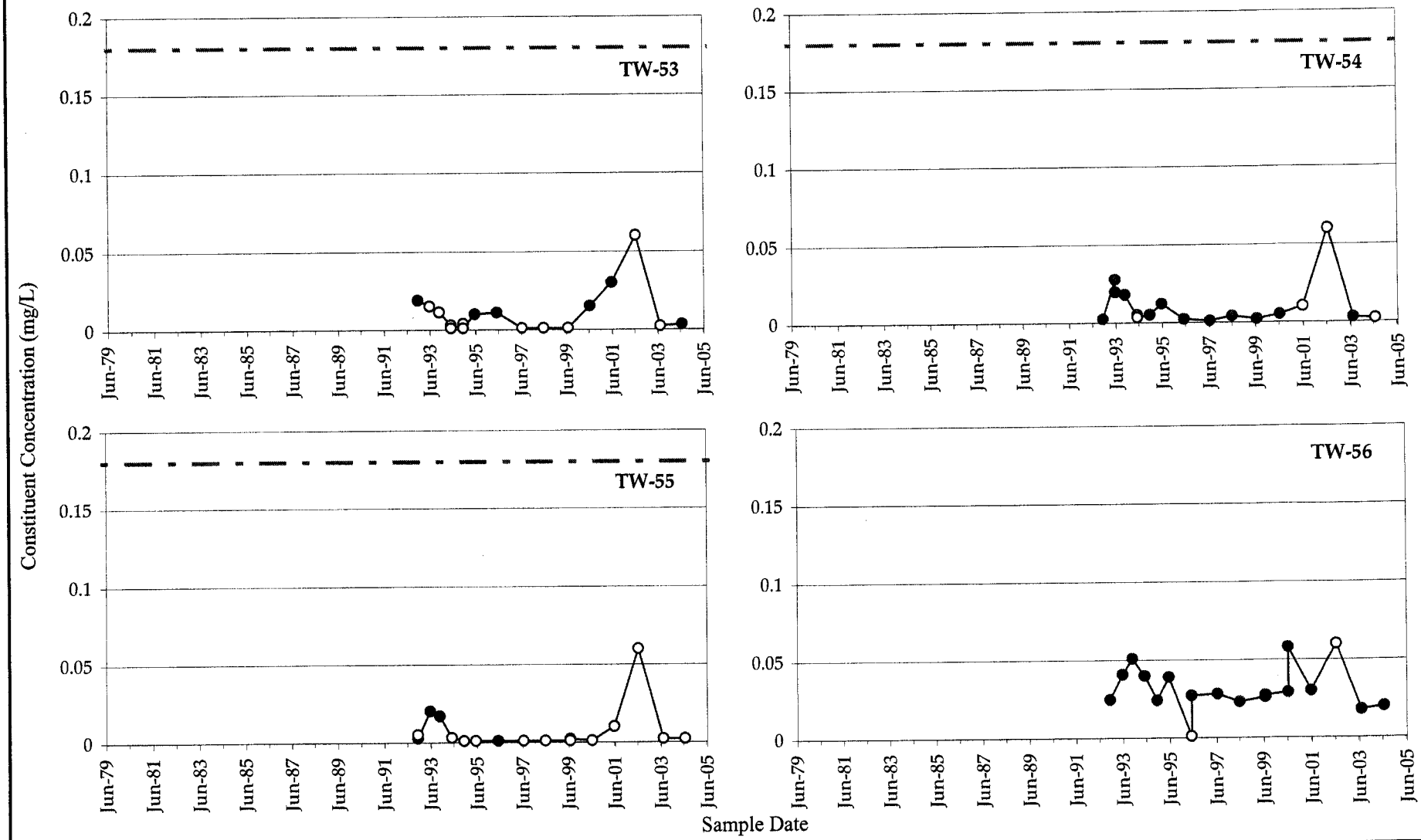
Manganese Remediation Goal (0.18 mg/L)

Remediation goals shown for point of compliance locations

Manganese in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-02

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

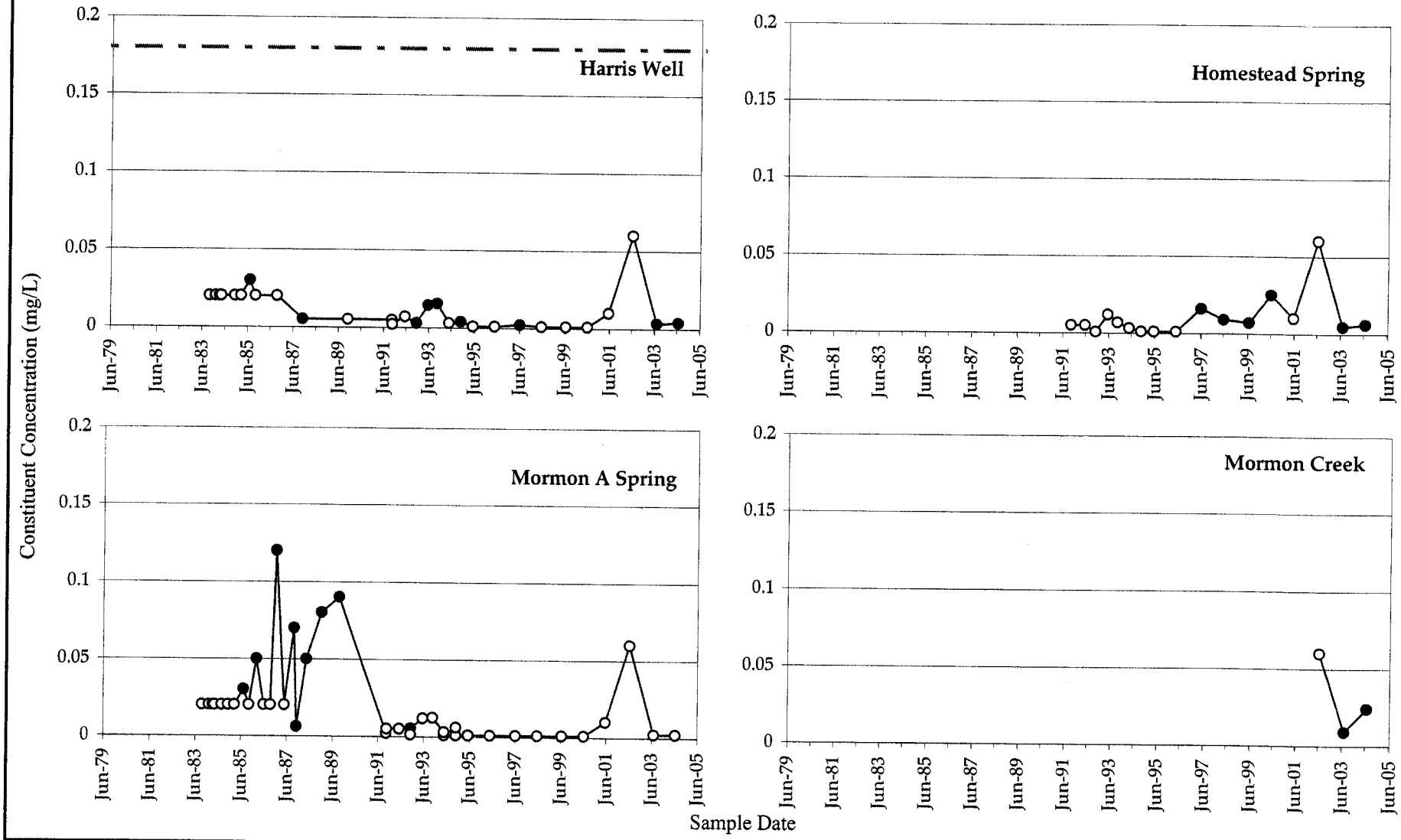
Manganese Remediation Goal (0.18 mg/L)

Remediation goals shown for point of compliance locations

Manganese in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-03

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

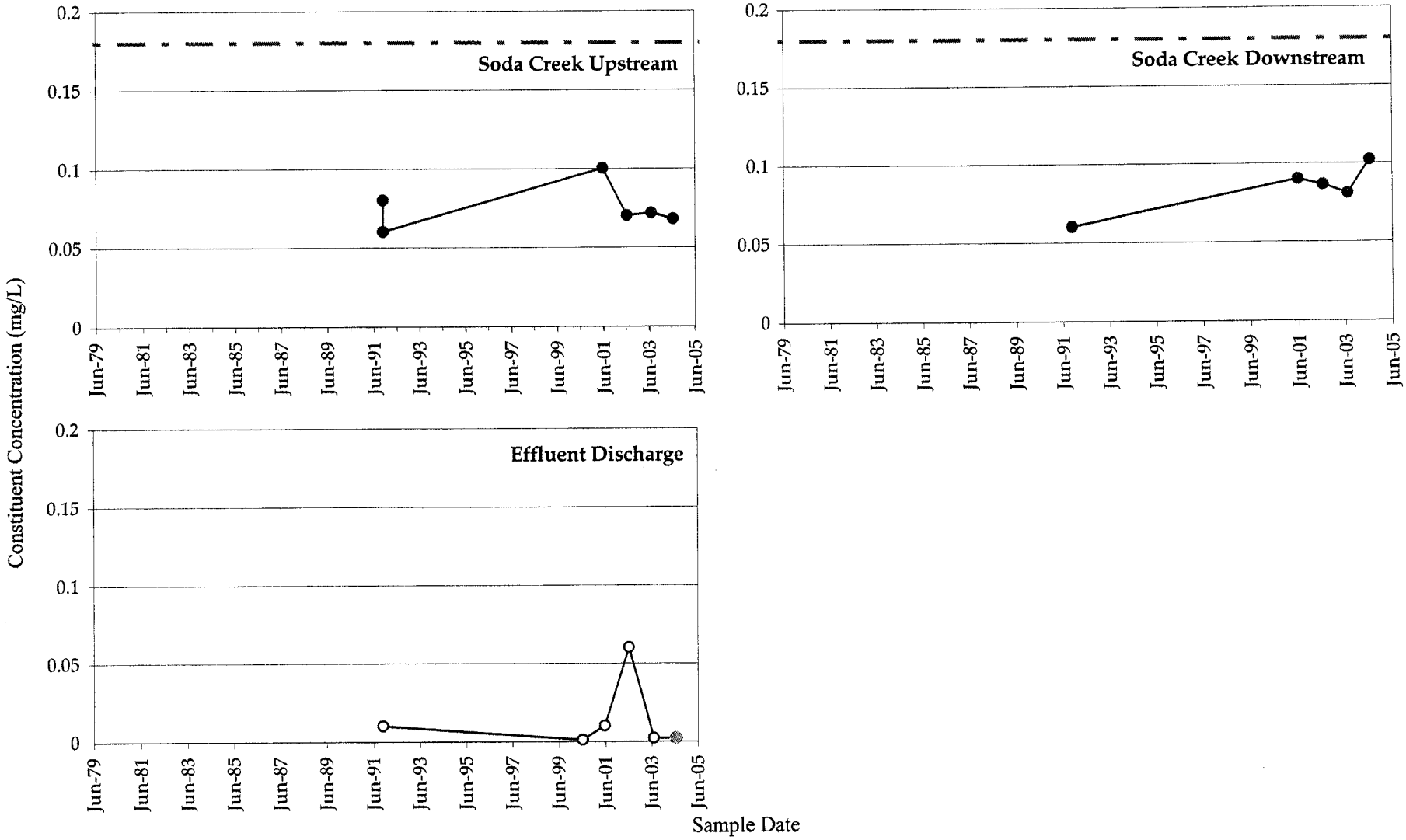
Constituent Concentration (mg/L)
Non-Detects
Manganese Remediation Goal (0.18 mg/L)

Remediation goals shown for point of compliance locations

Manganese in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-04

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

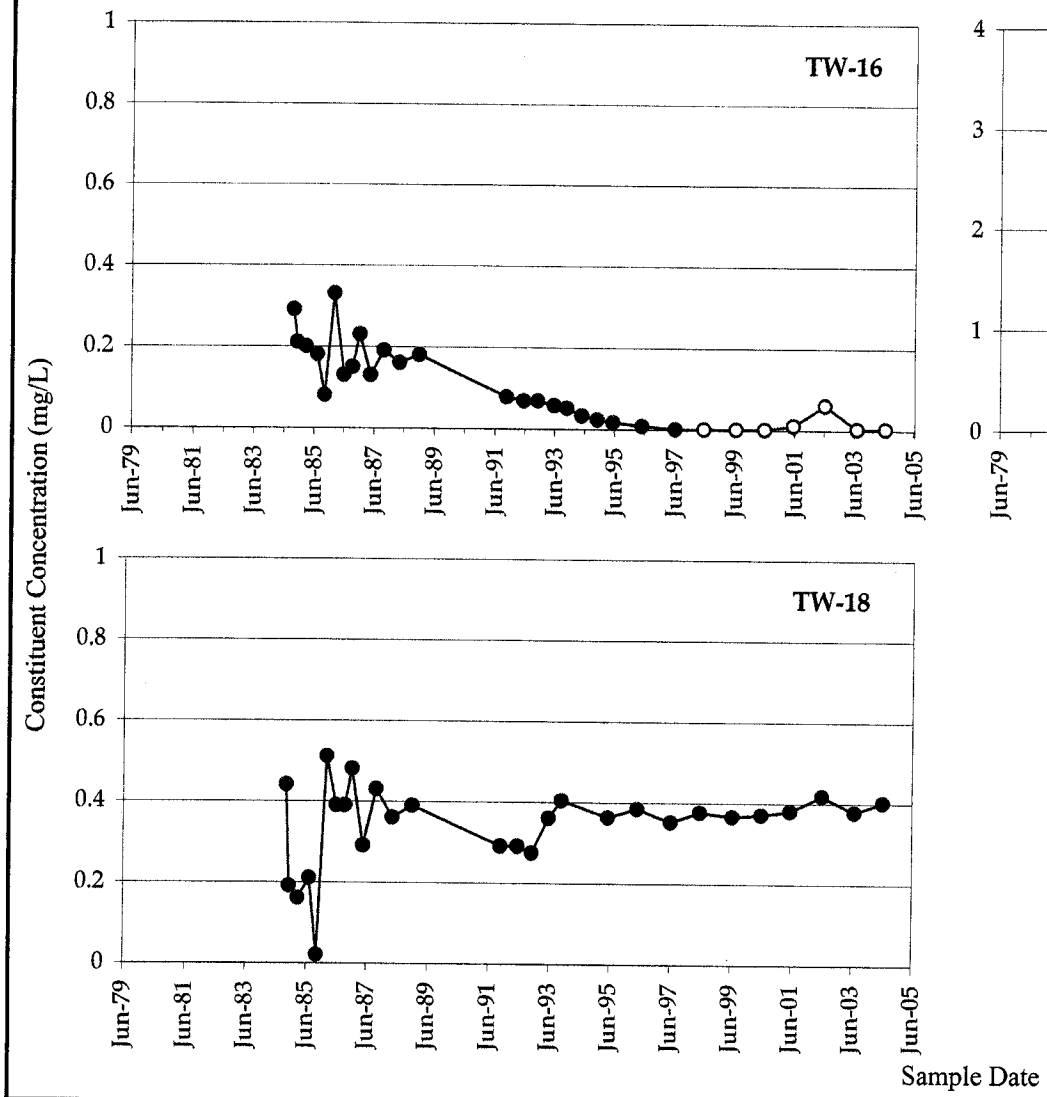
Constituent Concentration (mg/L)
Manganese Remediation Goal (0.18 mg/L)
Non detects
Pond Inlet

Remediation goals shown for point of compliance locations

Manganese in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-05

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

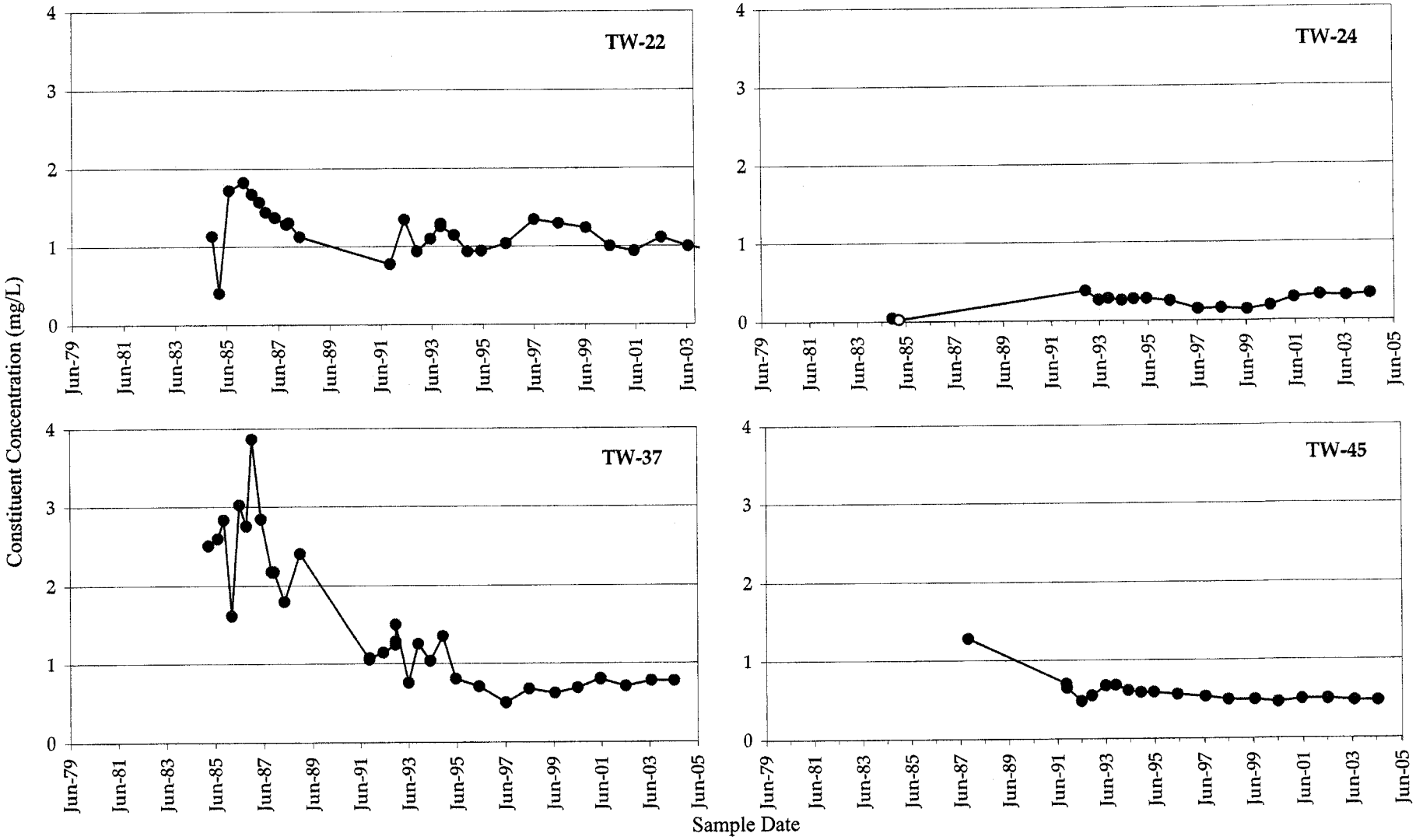
Non-Detects

Remediation goals shown for point of compliance locations

Manganese in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-06

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

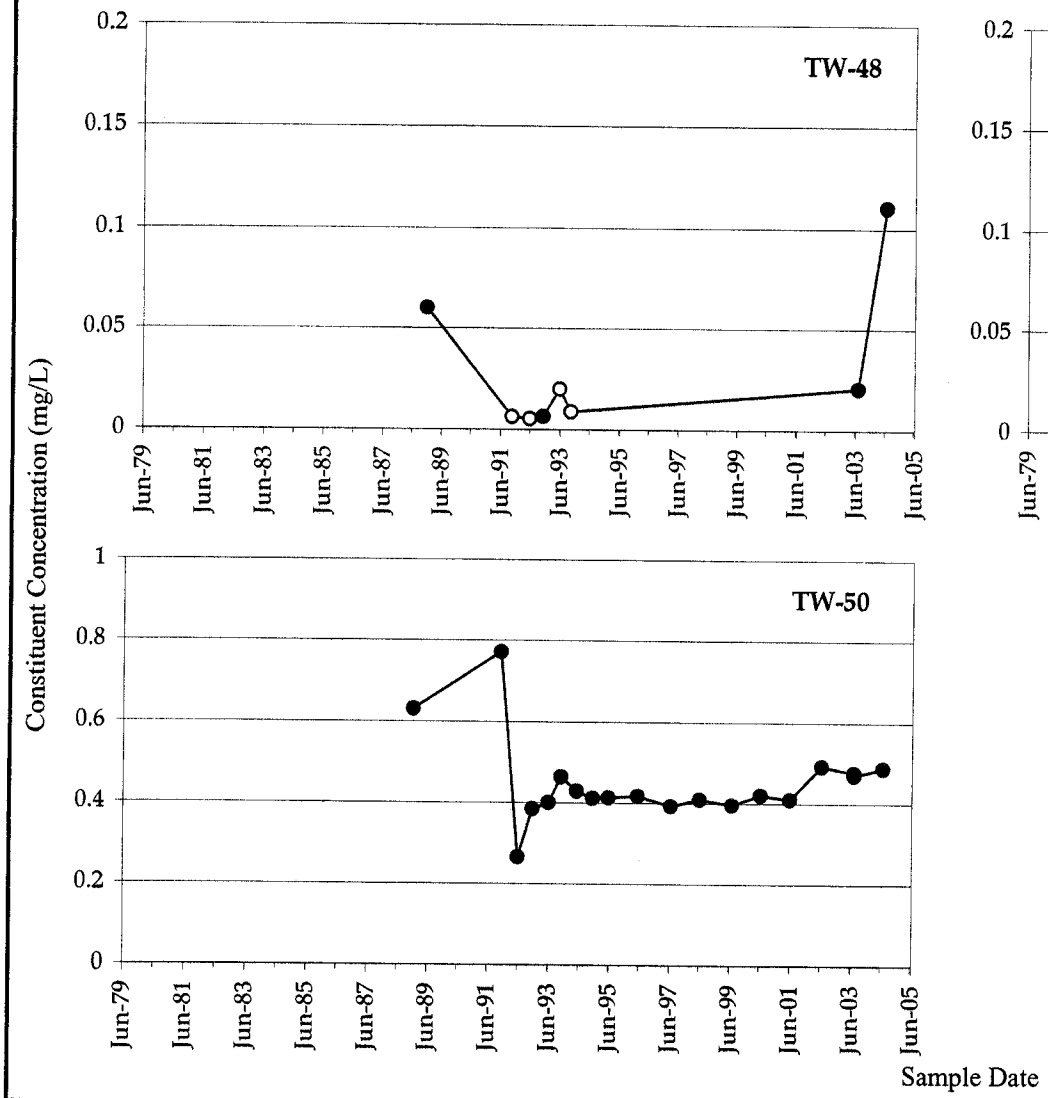
Non-Detects

Remediation goals shown for point of compliance locations

Manganese in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-07

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

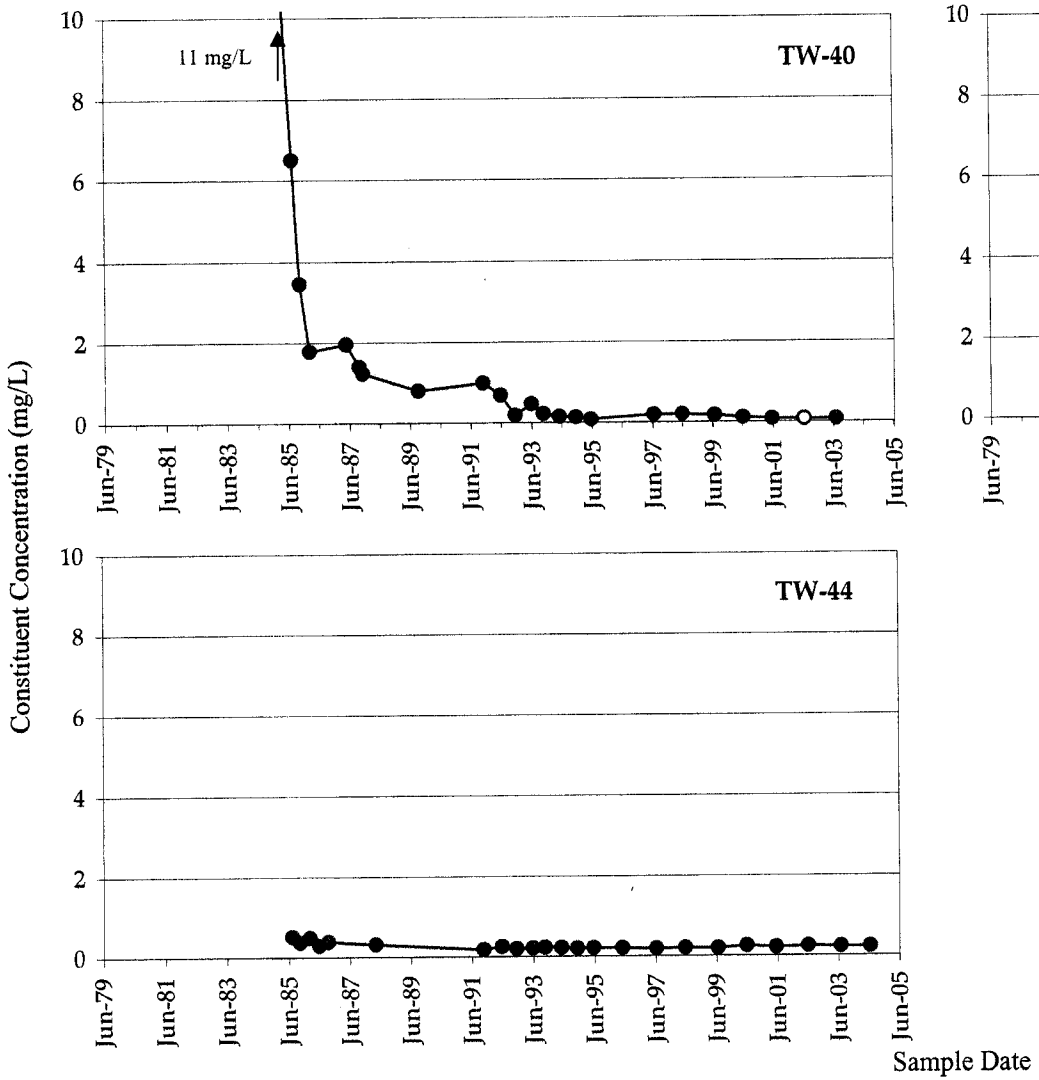
Non-Detects

Remediation goals shown for point of compliance locations

Manganese in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-08

File Name: App C Manganese Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

Remediation goals shown for point of compliance locations

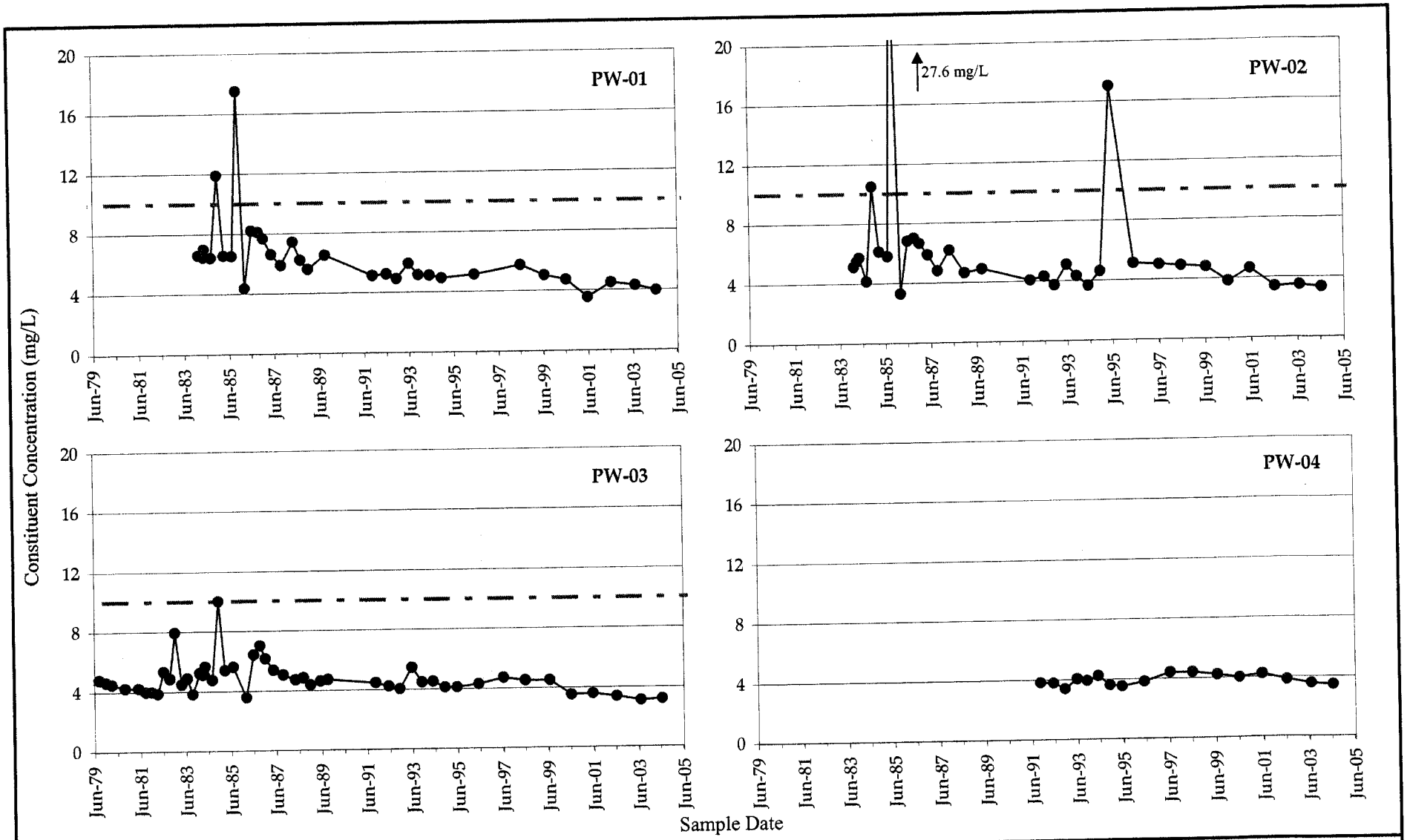
Manganese in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	C-09

File Name: App C Manganese Charts 2004.xls

APPENDIX D

TIME-HISTORY GRAPHS FOR NITRATE AS N



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

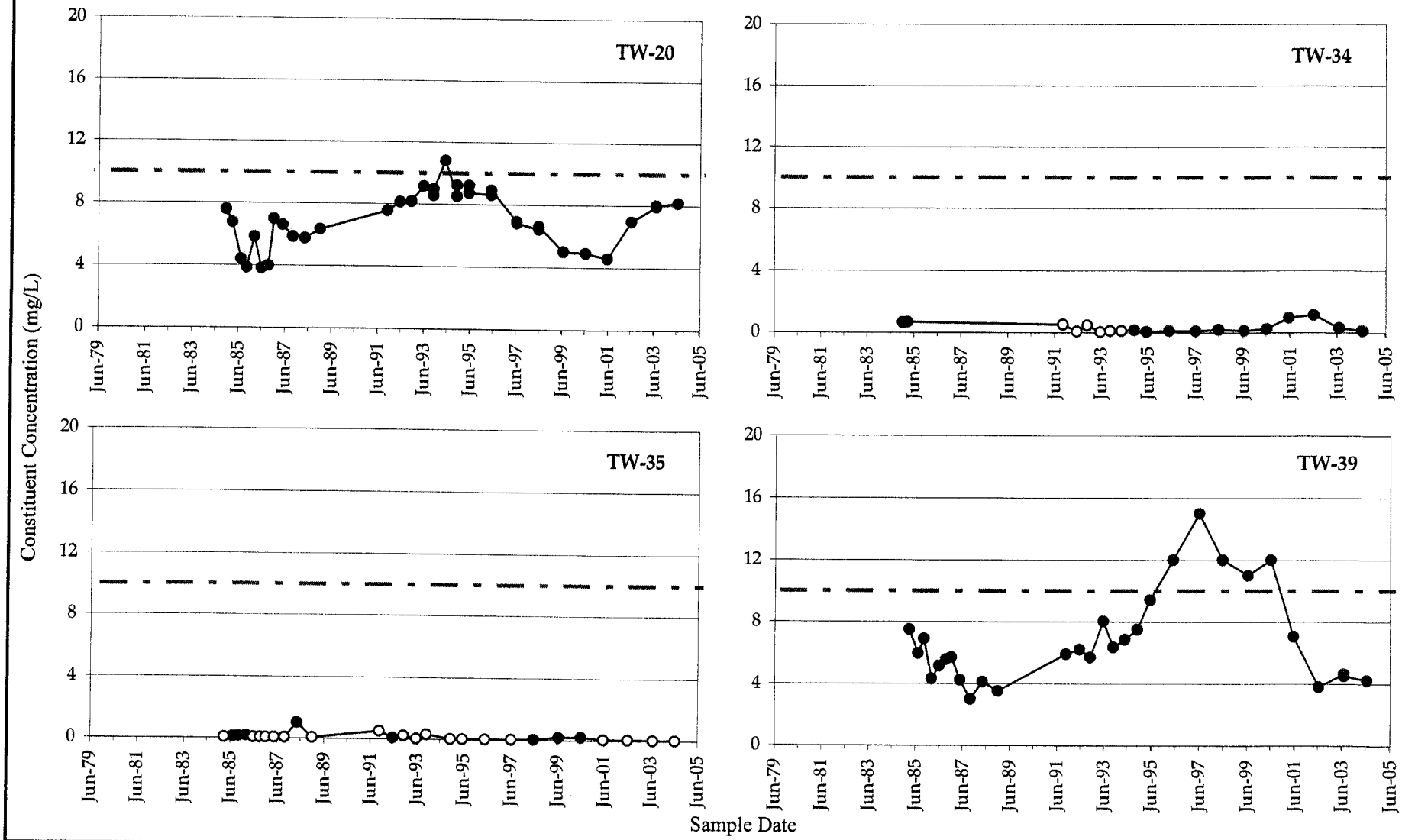
Nitrate as N Remediation Goal (10 mg/L)

Remediation goals shown for point of compliance locations

Nitrate in Production Wells

JOB NUMBER:	913-1101,605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-01

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

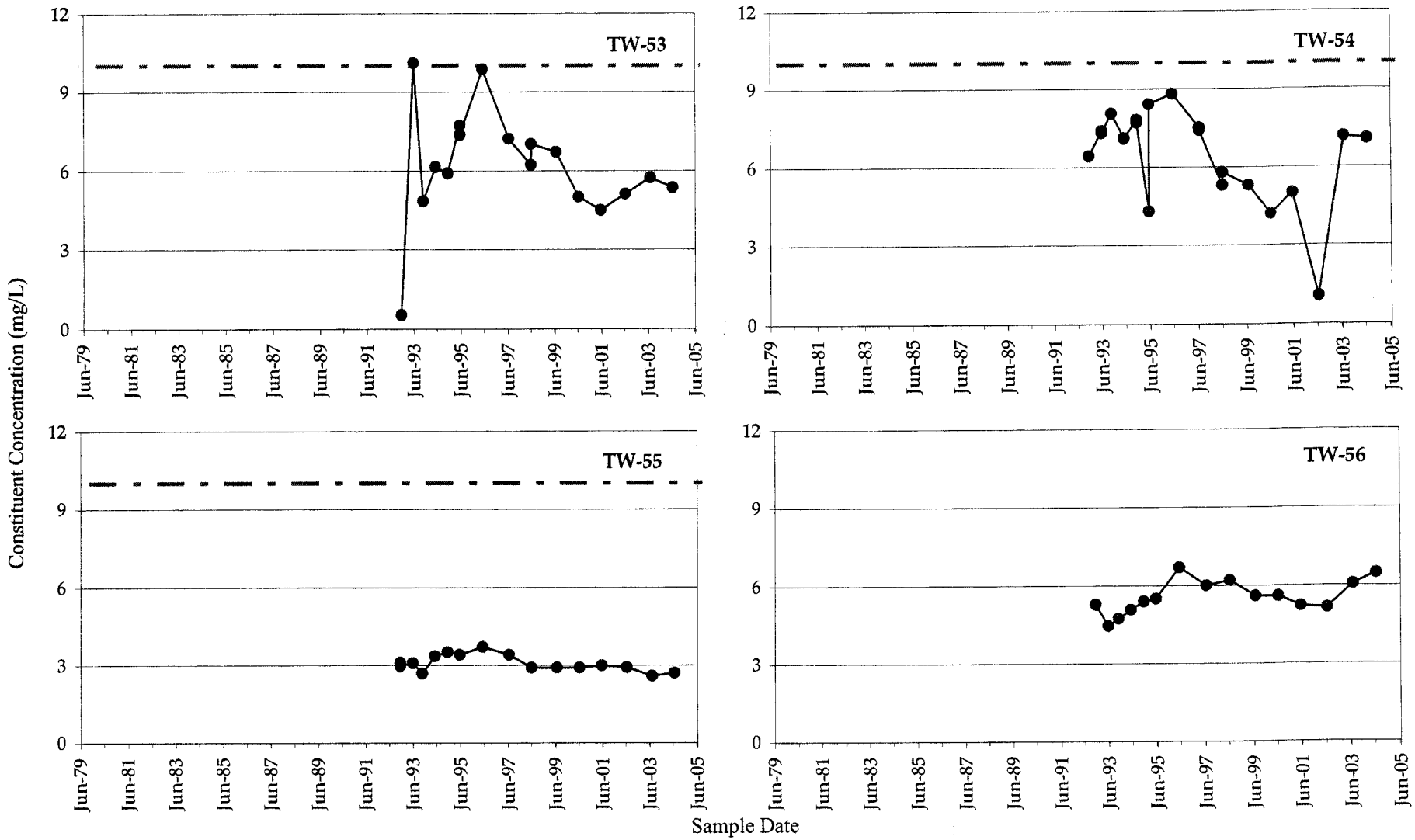
Nitrate as N Remediation Goal (10 mg/L)

Remediation goals shown for point of compliance locations

Nitrate in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-02

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

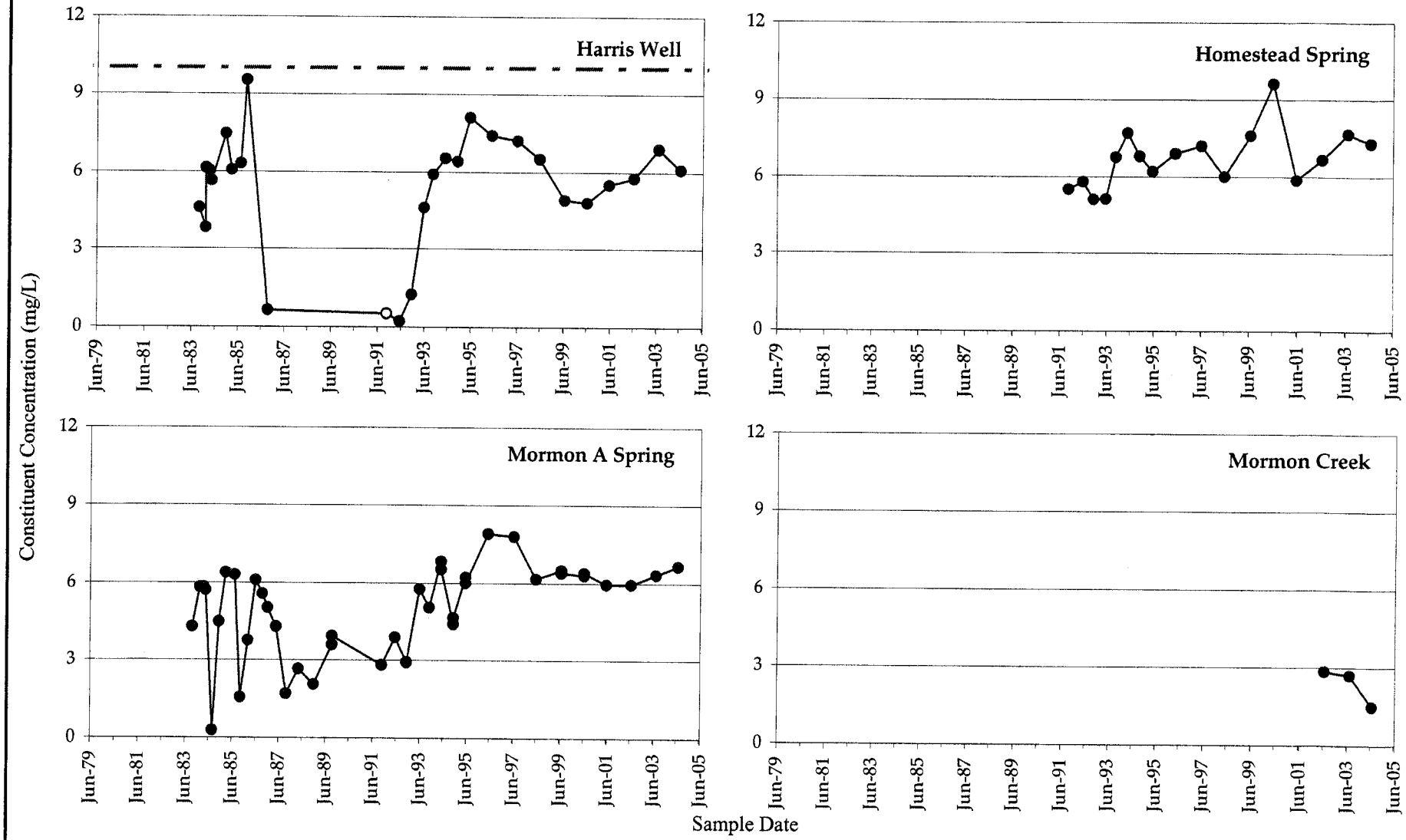
Nitrate as N Remediation Goal (10 mg/L)

Remediation goals shown for point of compliance locations

Nitrate in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-03

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

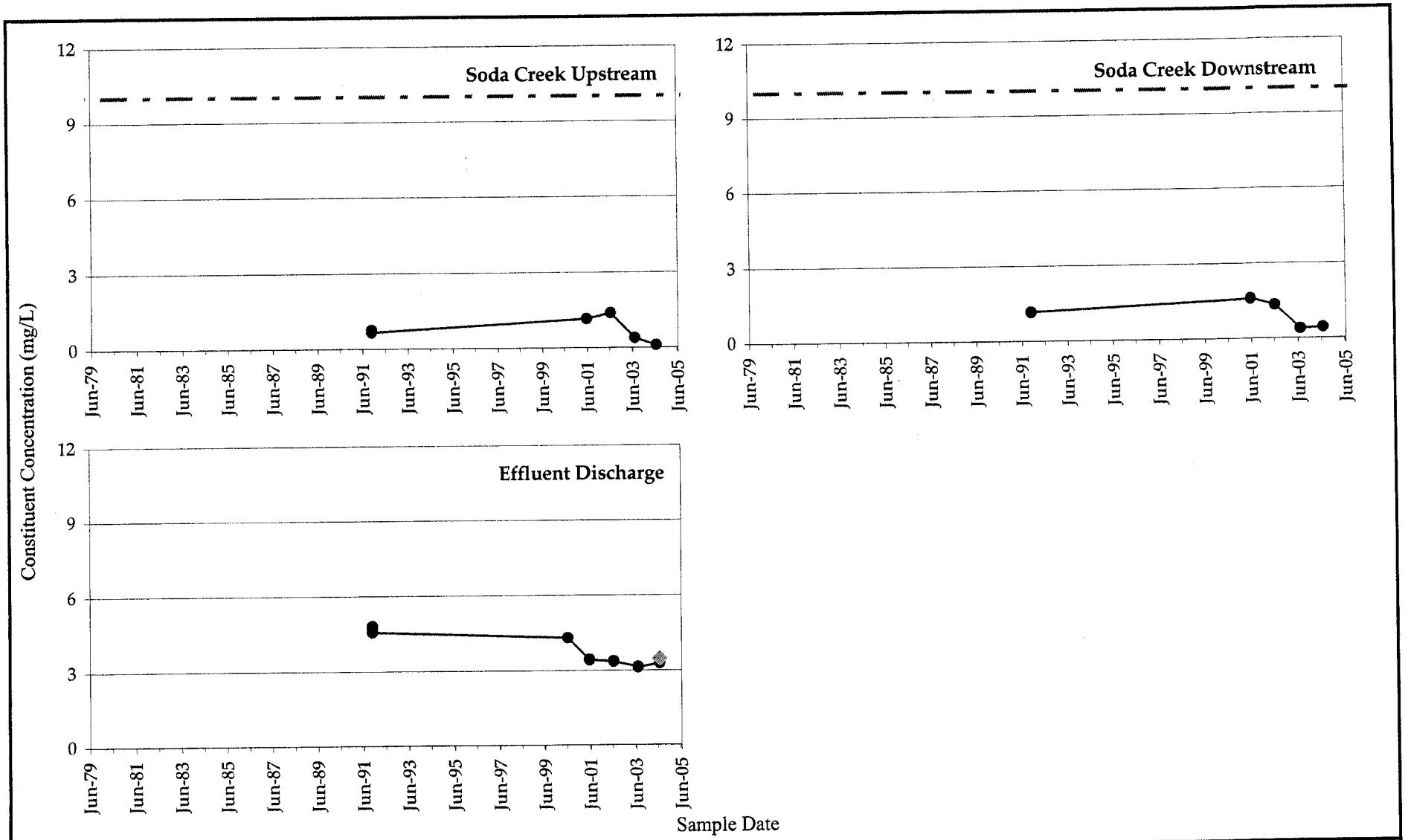
Nitrate as N Remediation Goal (10 mg/L)

Remediation goals shown for point of compliance locations

Nitrate in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-04

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

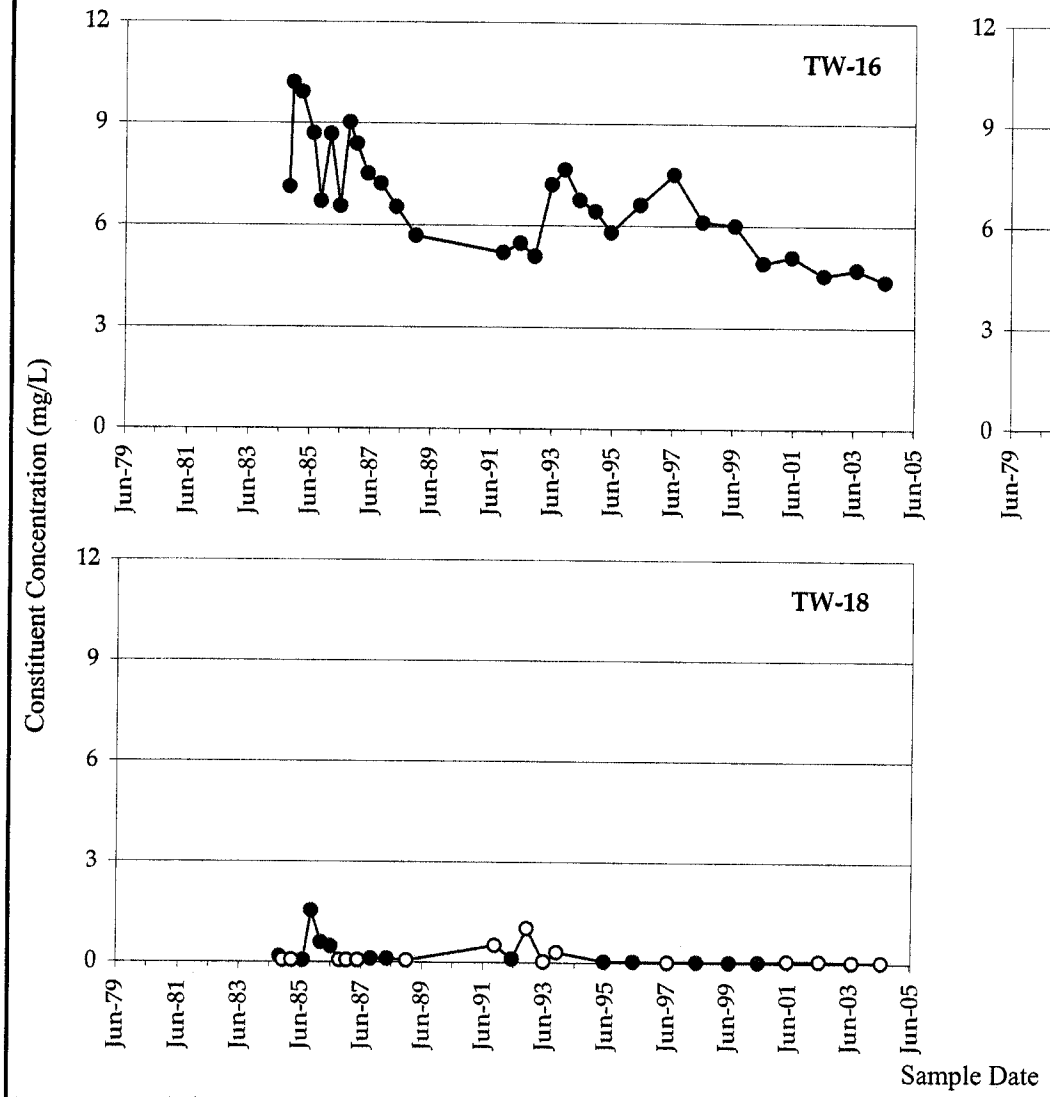
- Constituent Concentration (mg/L)
- Non-Detects
- Nitrate as N Remediation Goal (10 mg/L)
- Pond Inlet

Remediation goals shown for point of compliance locations

Nitrate in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-05

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

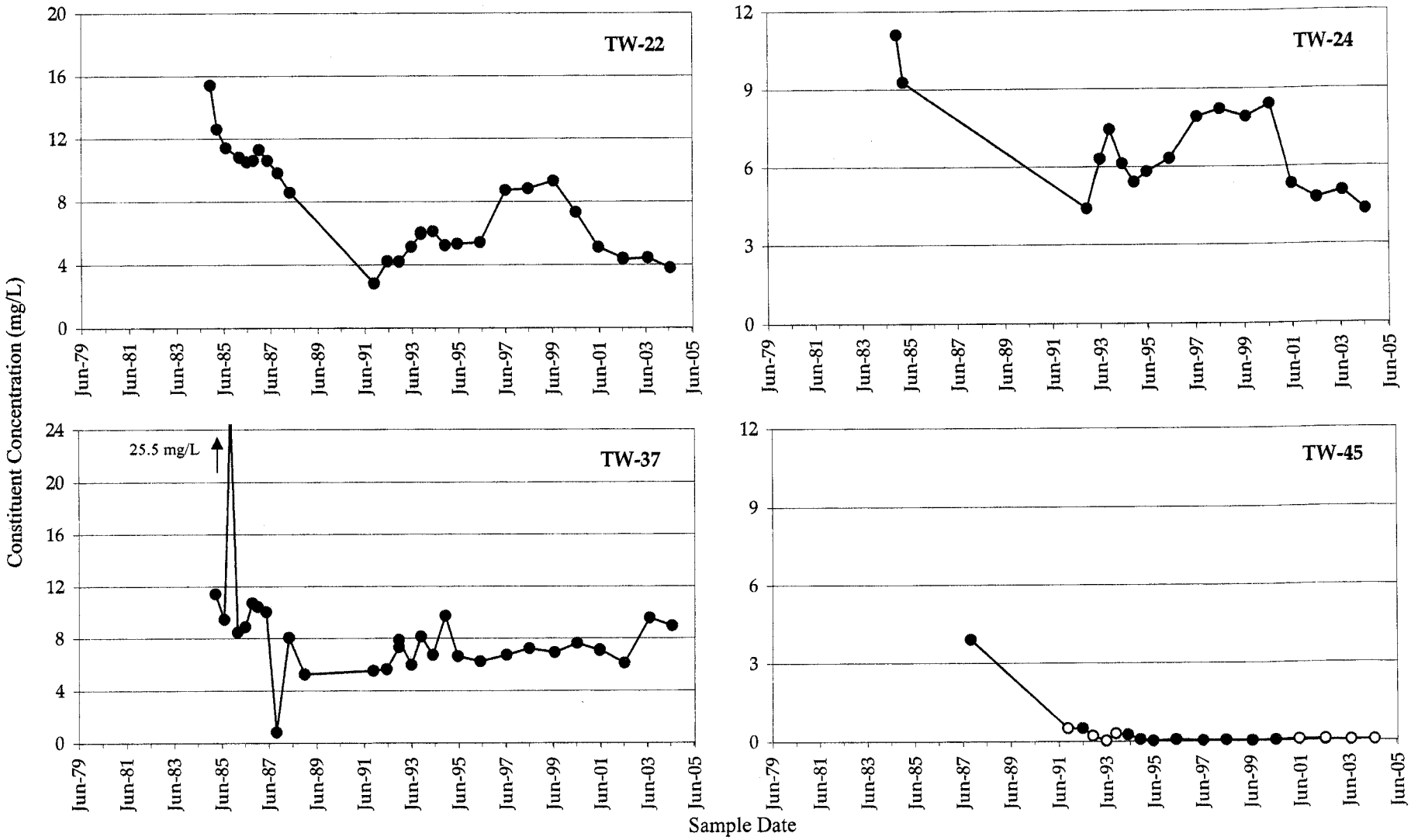
Non-Detects

Remediation goals shown for point of compliance locations

Nitrate in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-06

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

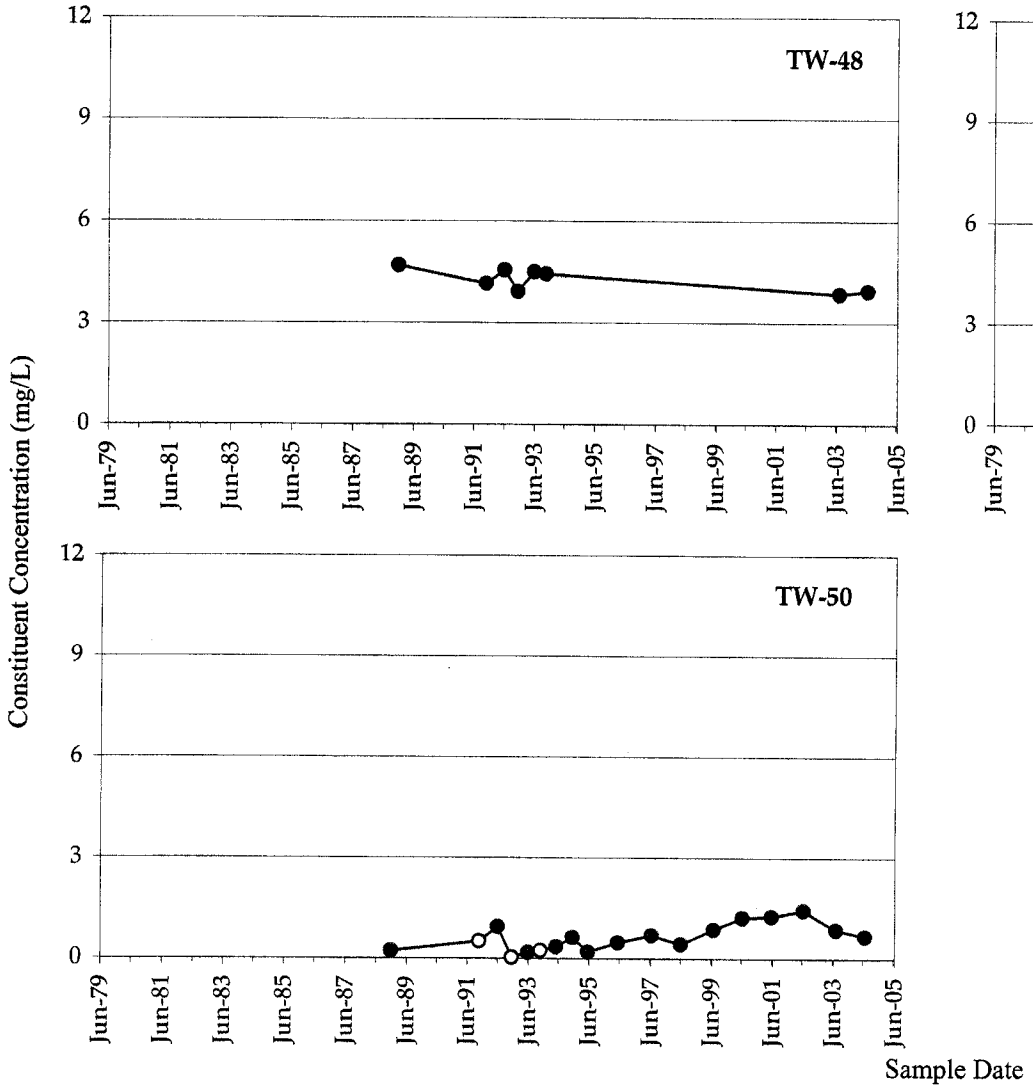
Non-Detects

Remediation goals shown for point of compliance locations

Nitrate in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-07

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

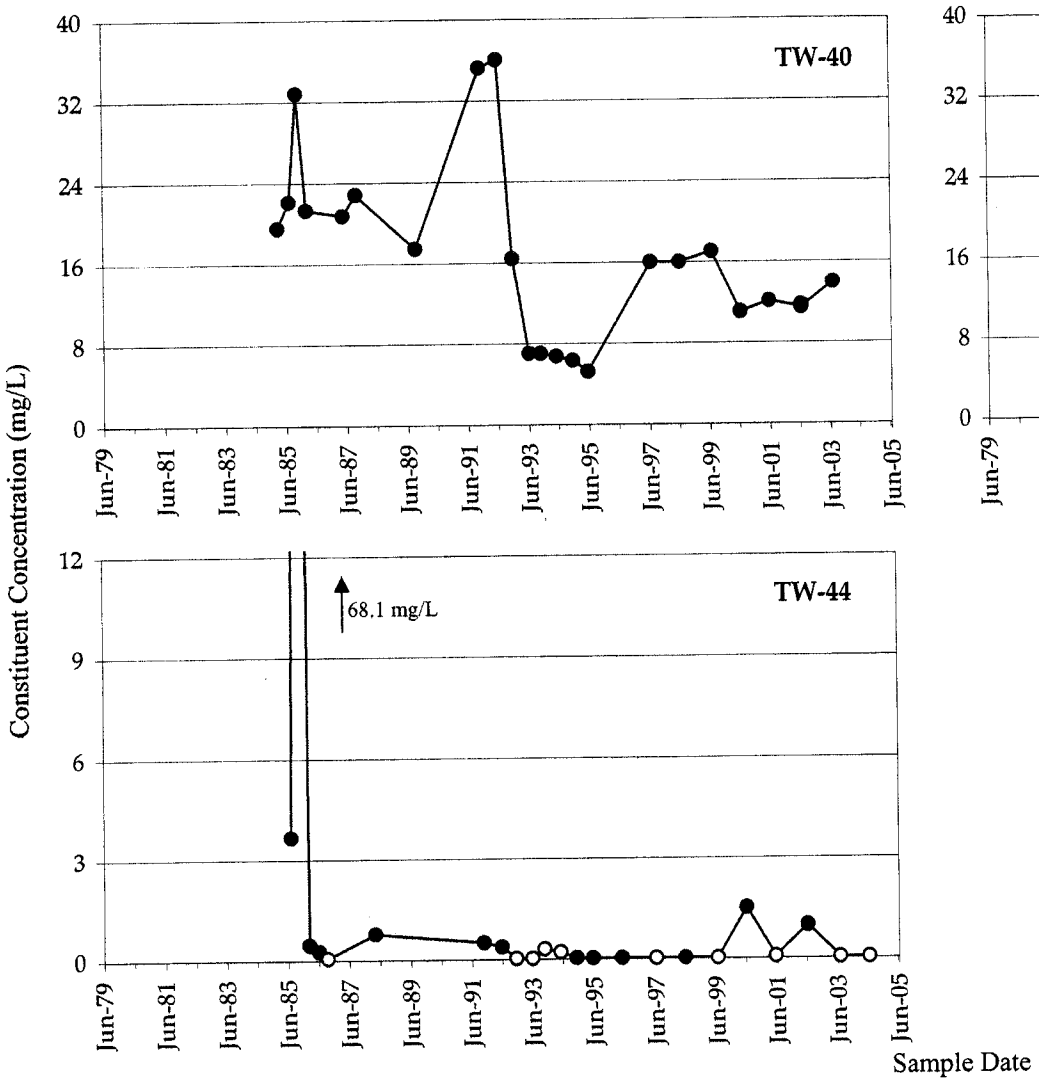
Non-Detects

Remediation goals shown for point of compliance locations

Nitrate in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	**D-08**

File Name: App D Nitrate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

Remediation goals shown for point of compliance locations

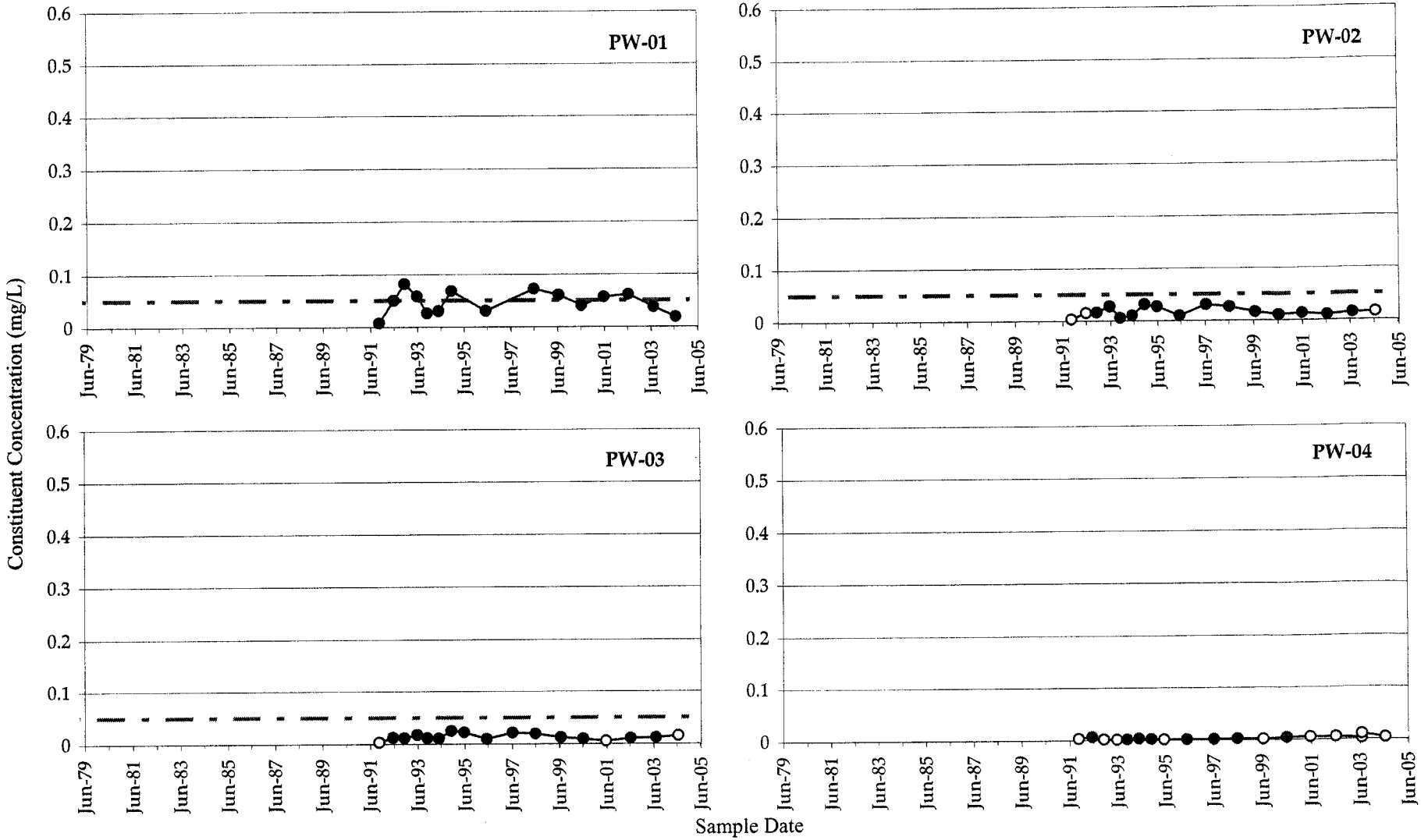
Nitrate in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	D-09

File Name: App D Nitrate Charts 2004.xls

APPENDIX E

TIME-HISTORY GRAPHS FOR SELENIUM



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

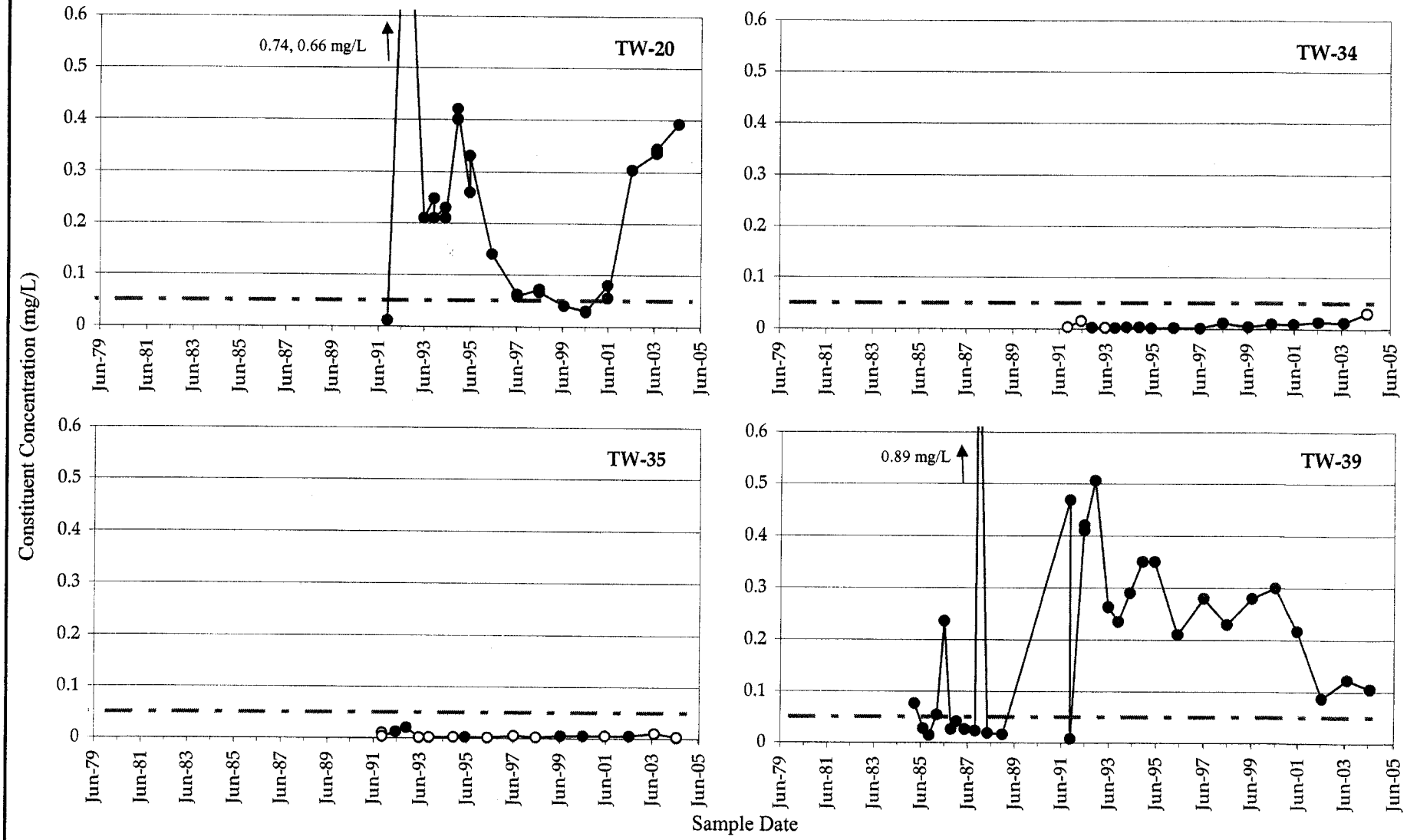
Selenium Remediation Goal (0.05 mg/L)

Remediation goals shown for point of compliance locations

Selenium in Production Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-01

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

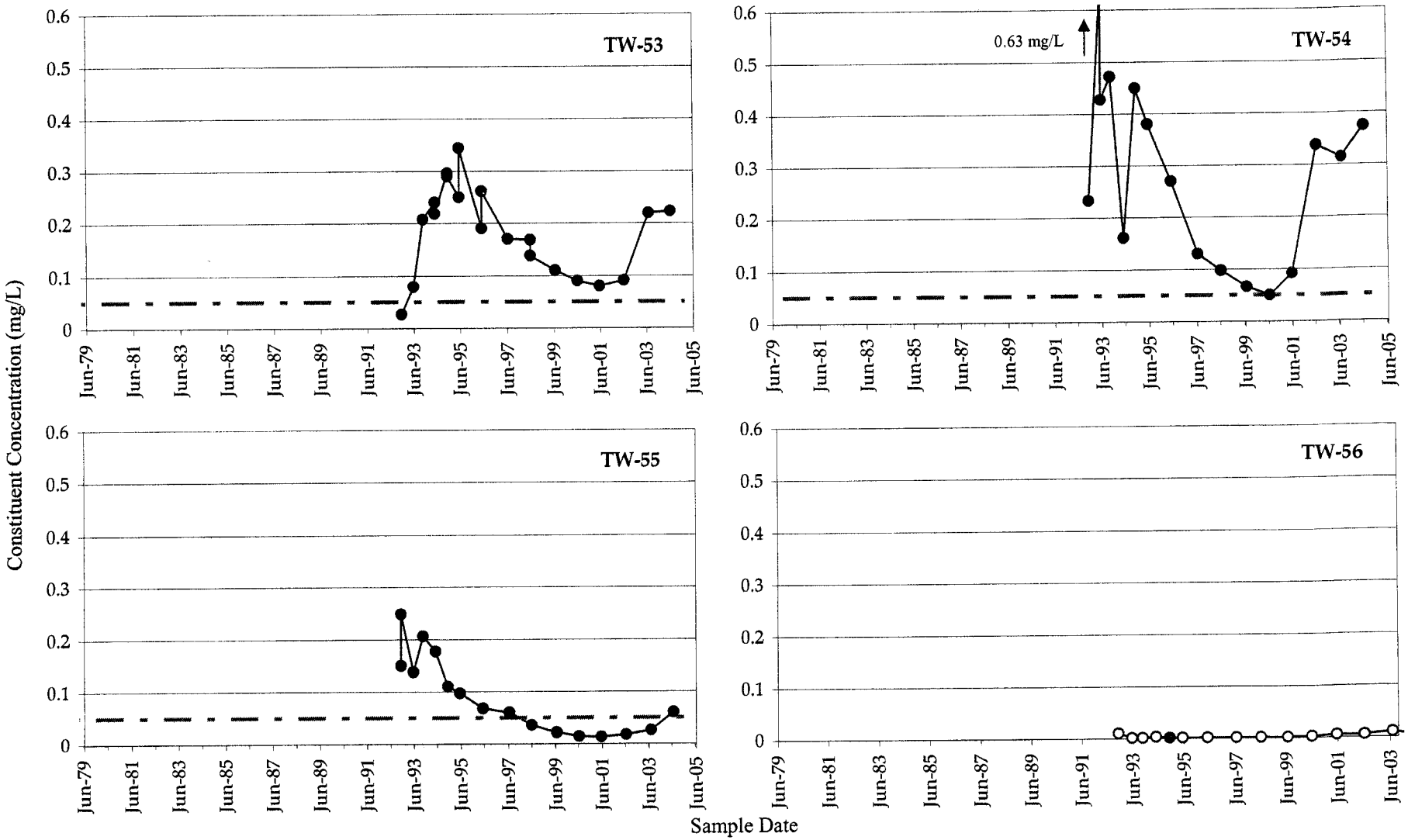
Selenium Remediation Goal (0.05 mg/L)

Remediation goals shown for point of compliance locations

Selenium in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-02

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

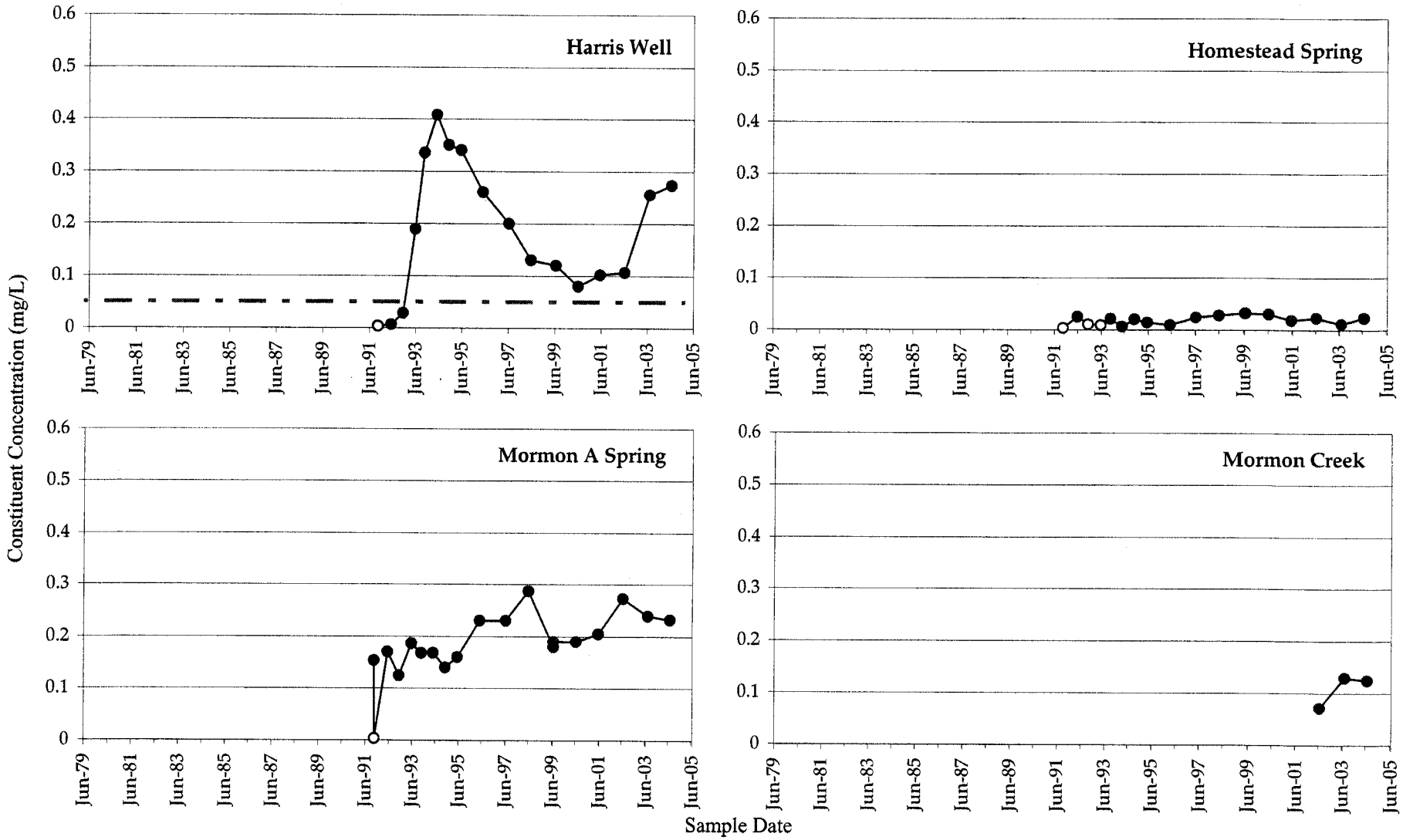
Selenium Remediation Goal (0.05 mg/L)

Remediation goals shown for point of compliance locations

Selenium in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-03

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

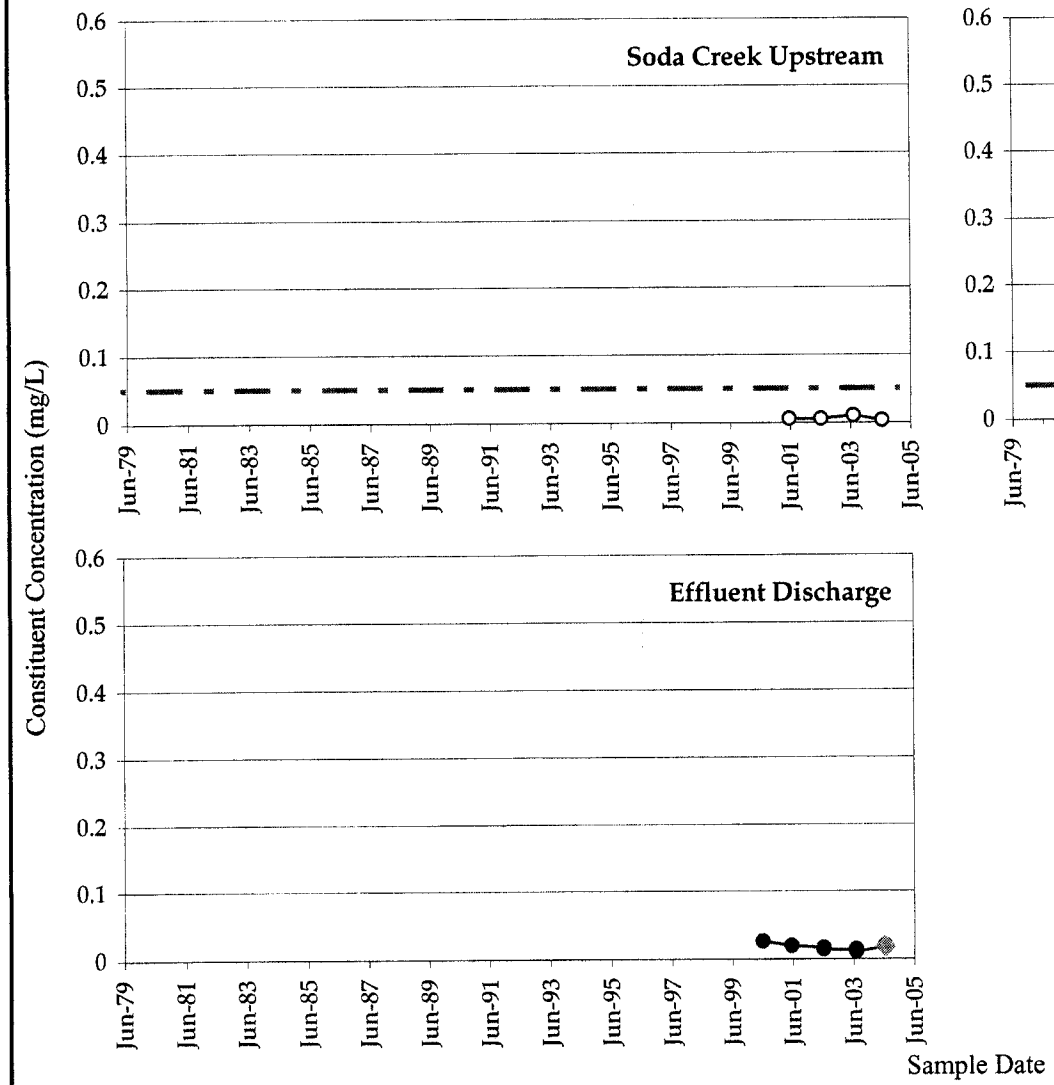
Constituent Concentration (mg/L)
Non-Detects
Selenium Remediation Goal (0.05 mg/L)

Remediation goals shown for point of compliance locations

Selenium in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-04

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

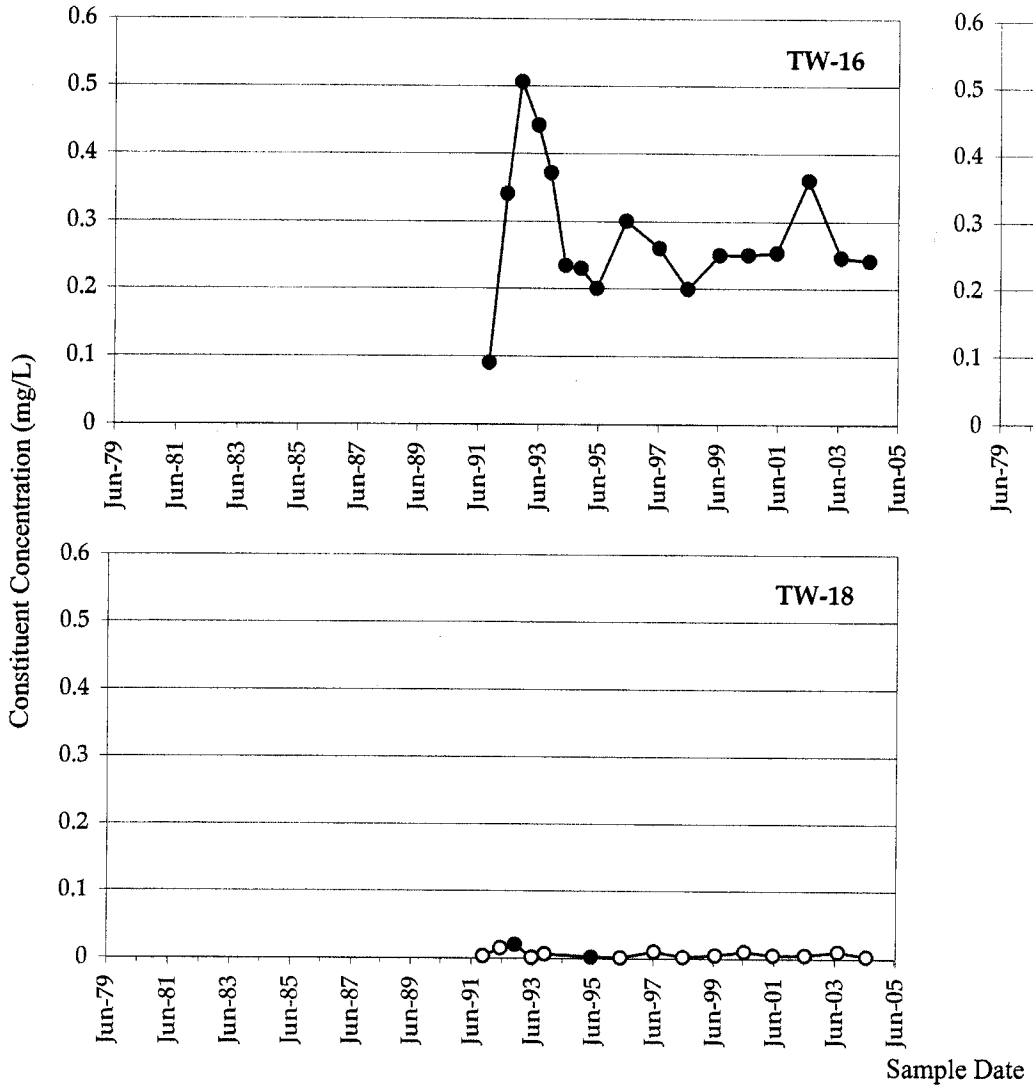
- Constituent Concentration (mg/L)
- Non-Detects
- Selenium Remediation Goal (0.05 mg/L)
- Pond Inlet

Remediation goals shown for point of compliance locations

Selenium in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-05

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

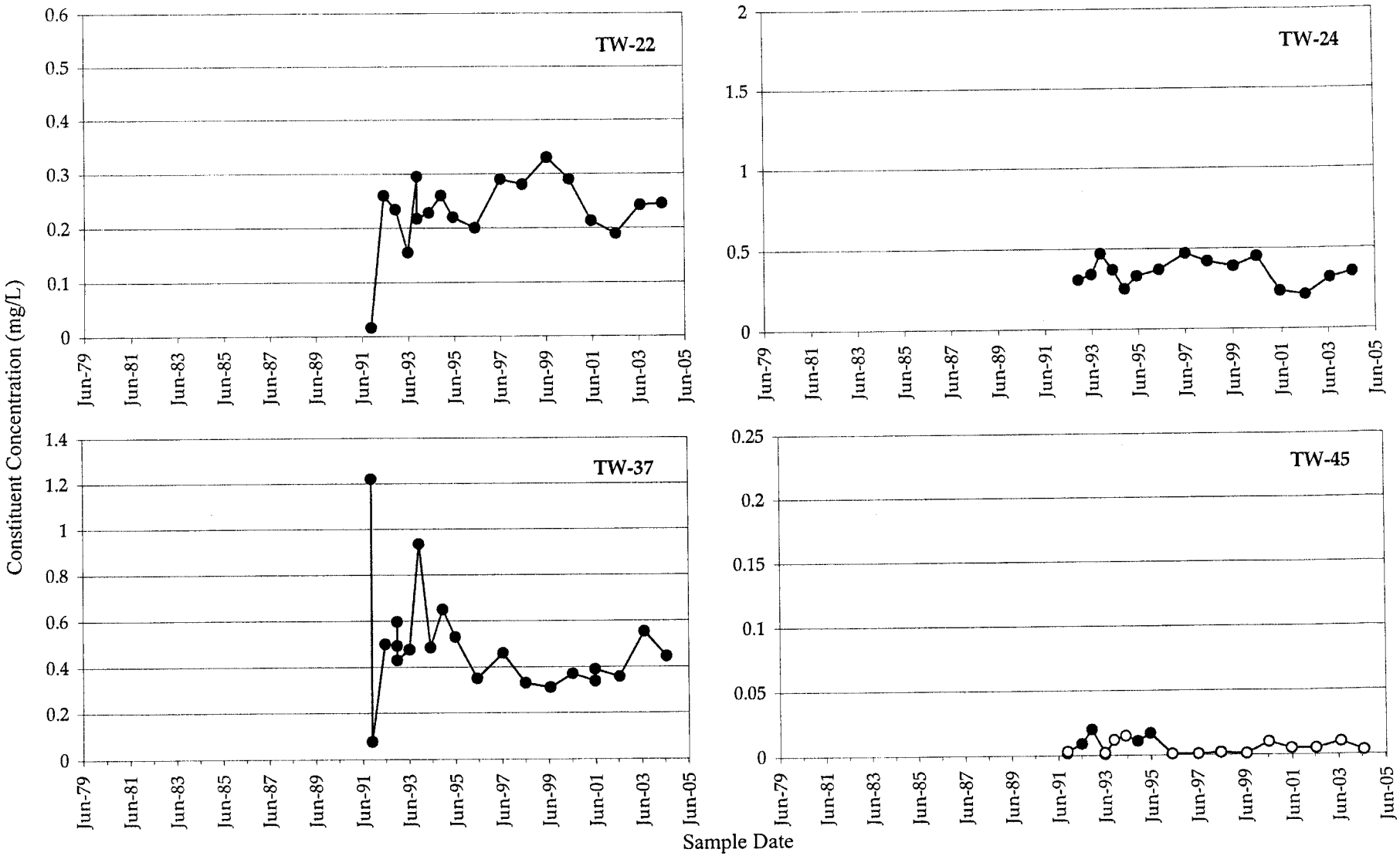
Non-Detects

Remediation goals shown for point of compliance locations

Selenium in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-06

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

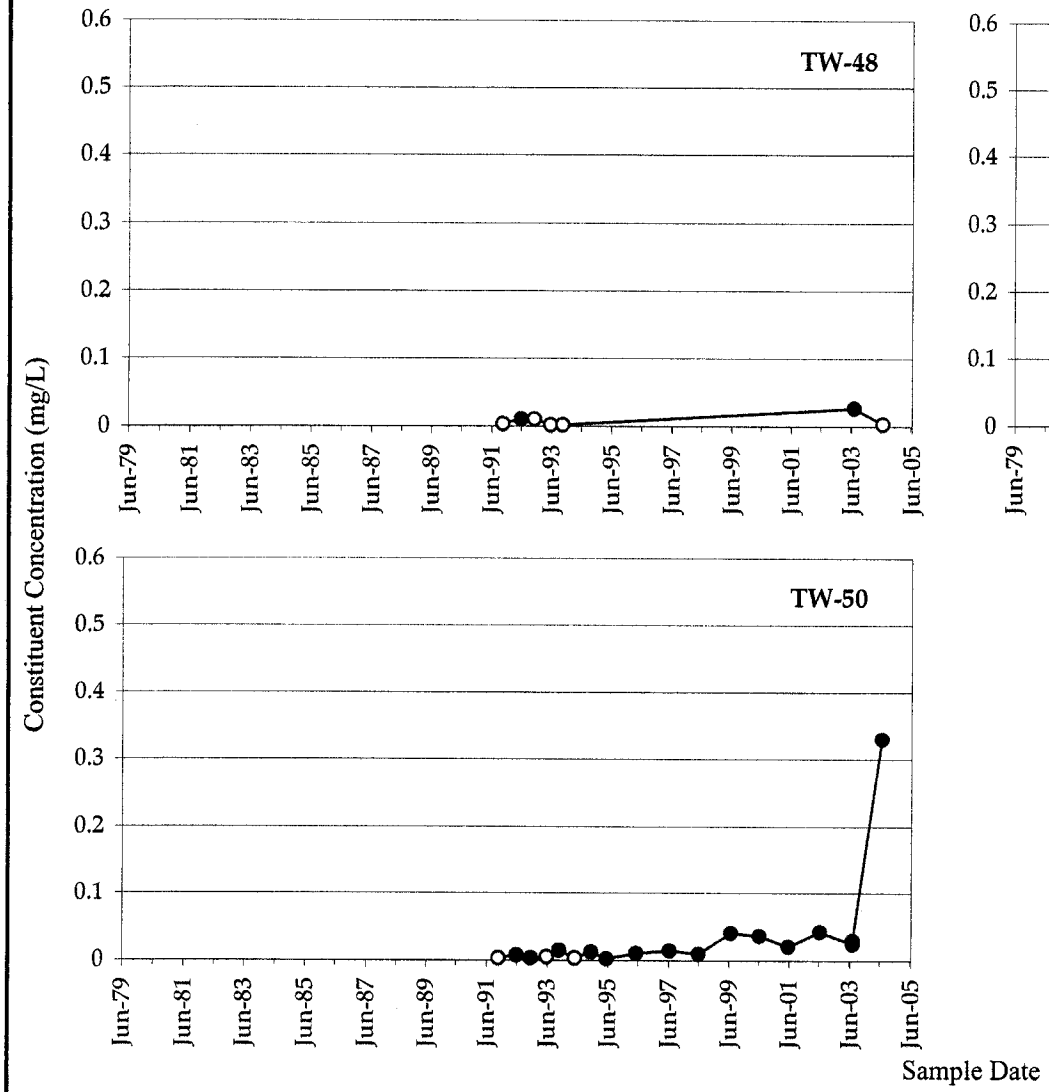
Non-Detects

Remediation goals shown for point of compliance locations

Selenium in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-07

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

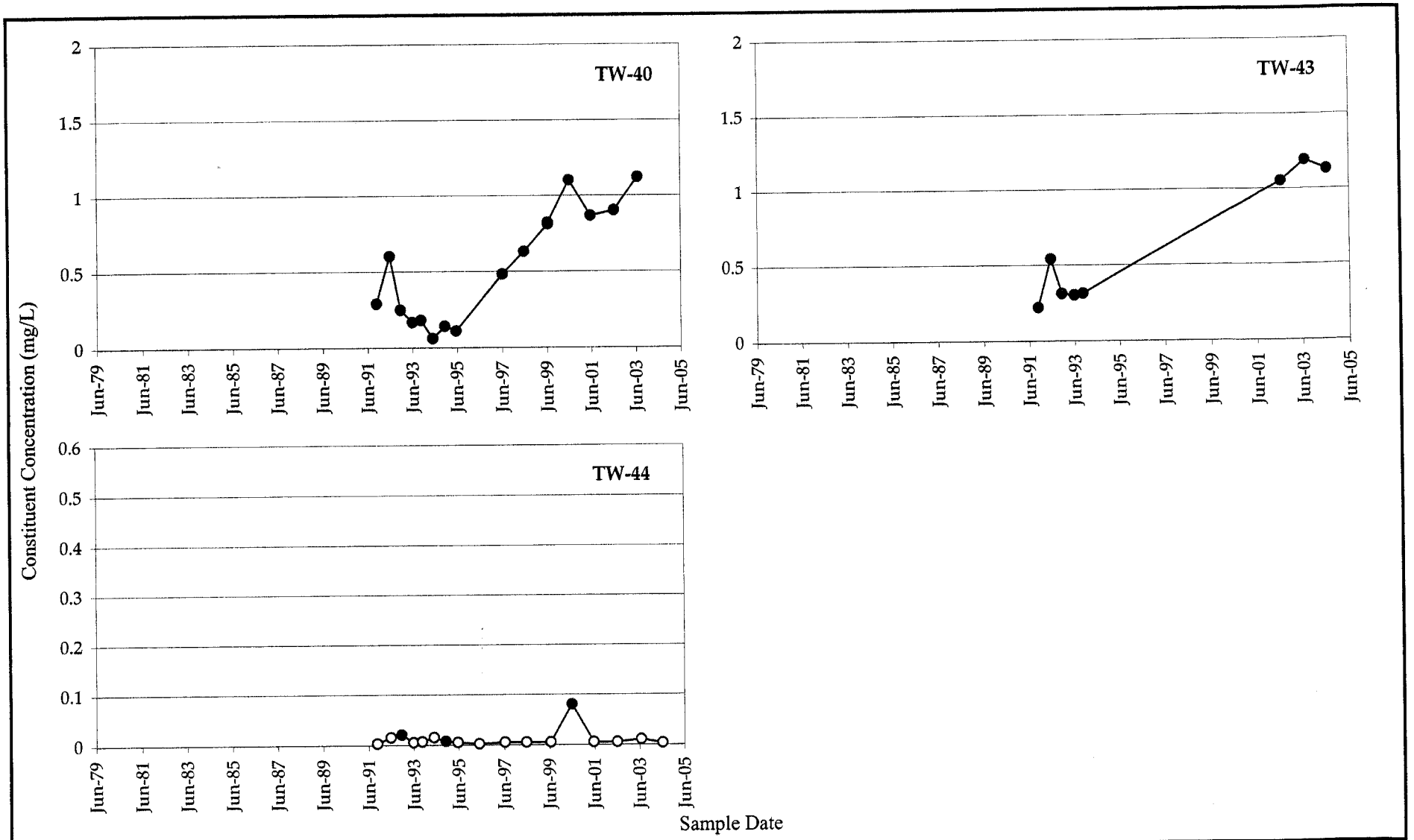
Non-Detects

Remediation goals shown for point of compliance locations

Selenium in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	**E-08**

File Name: App E Selenium Charts 2003.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

Remediation goals shown for point of compliance locations

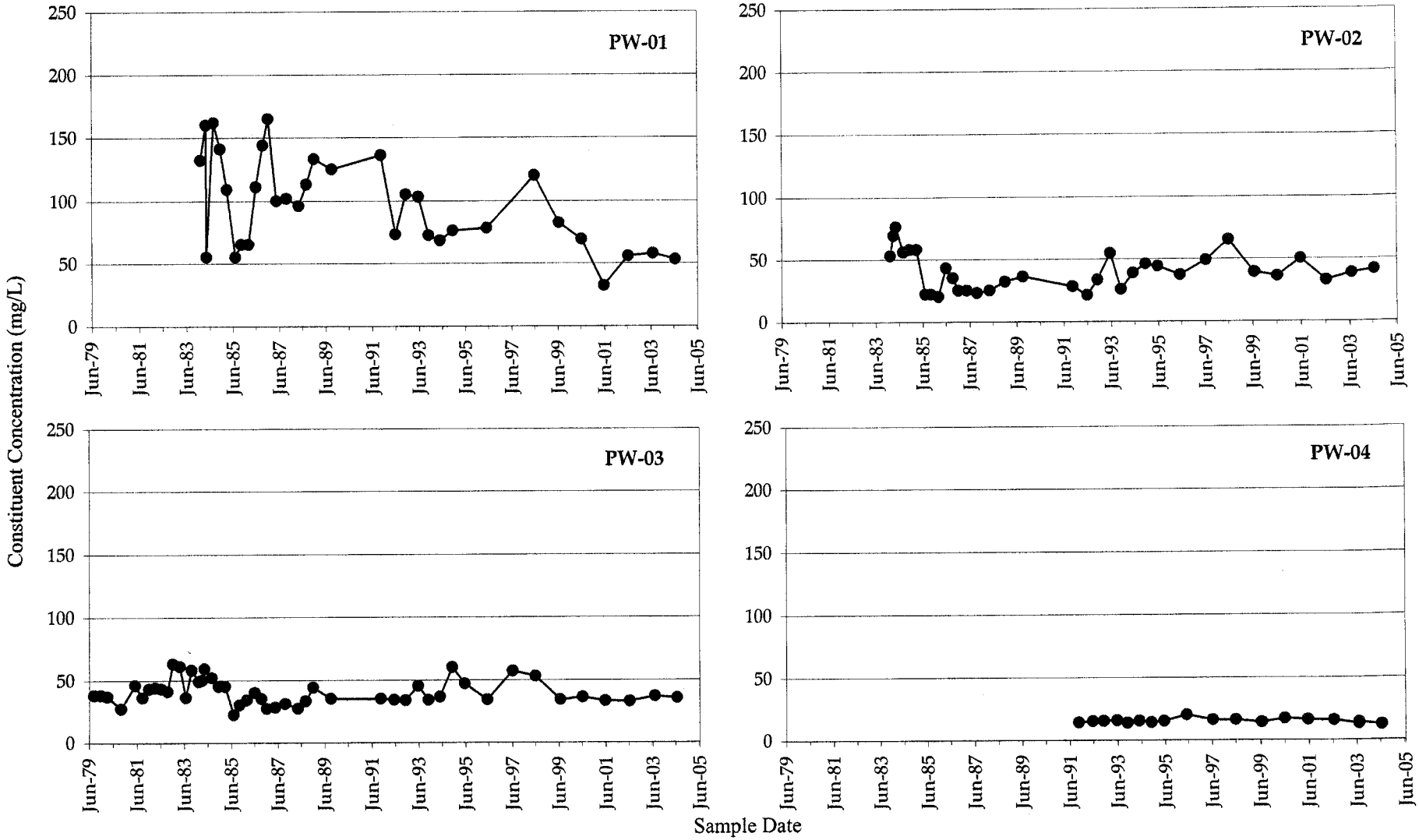
Selenium in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	31-Aug-04
DRAWN BY:	KAS	FIGURE NO.:	E-09

File Name: App E Selenium Charts 2003.xls

APPENDIX F

TIME-HISTORY GRAPHS FOR CHLORIDE



Golder Associates

Monsanto Groundwater Monitoring

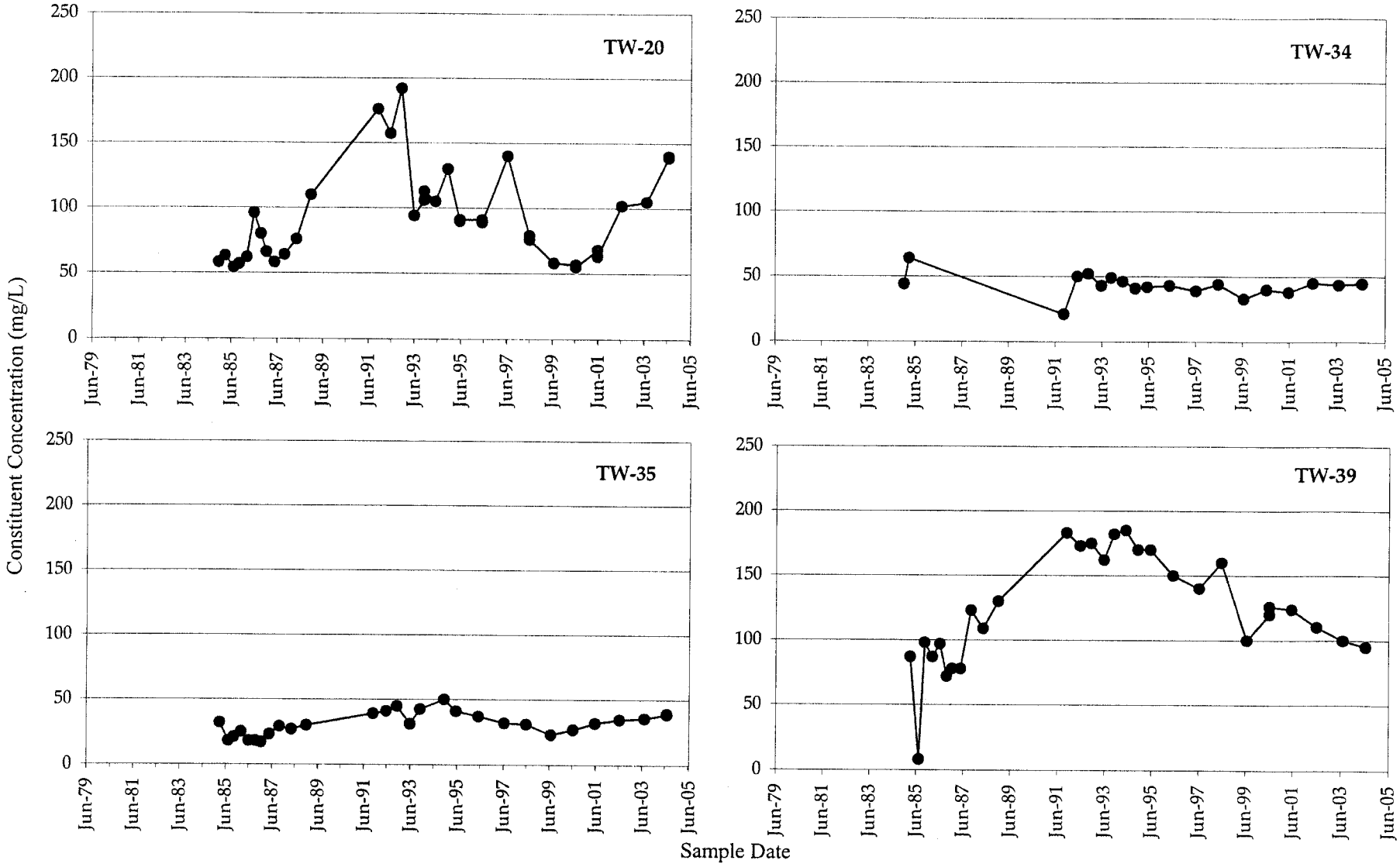
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Chloride in Production Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-01

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

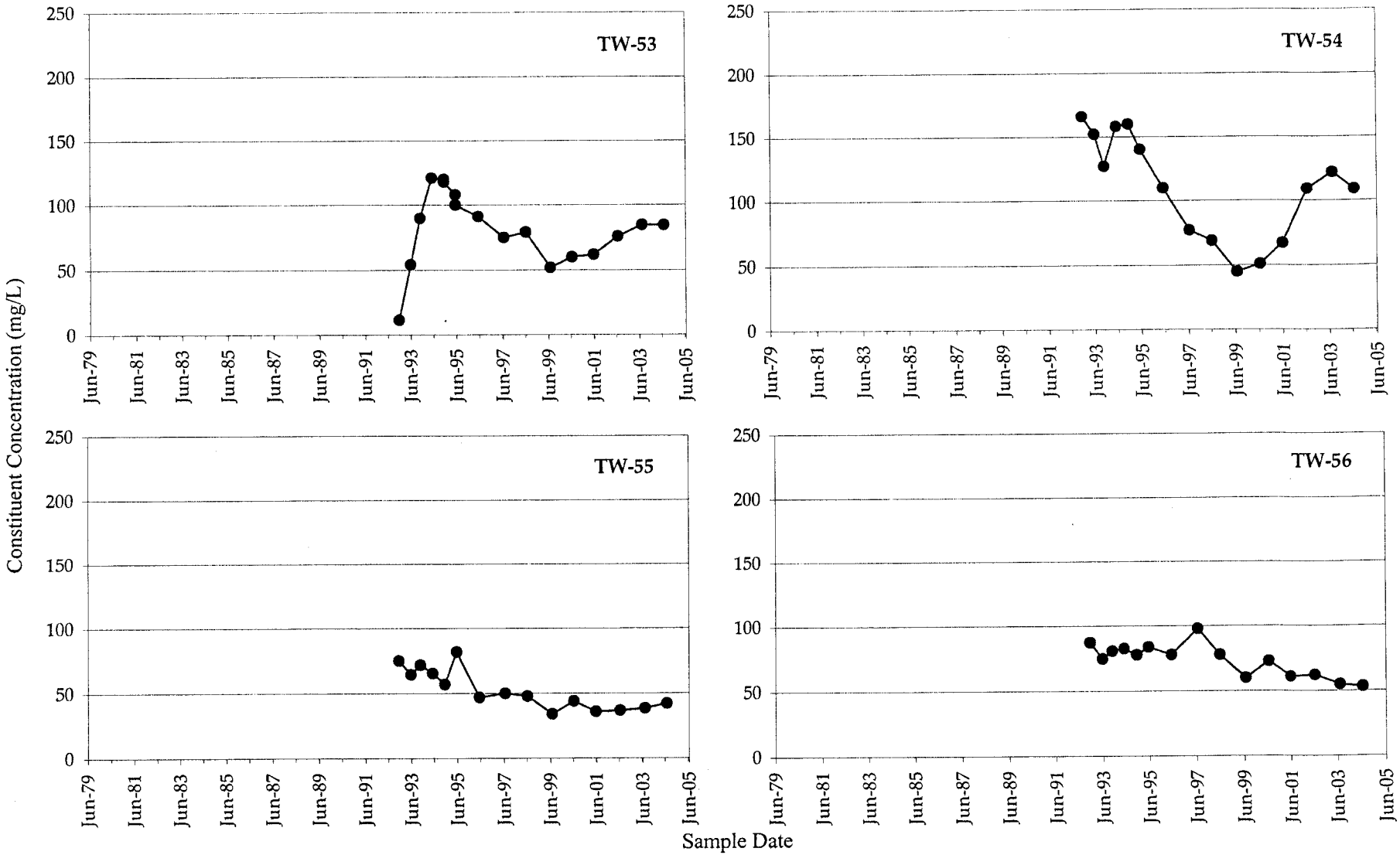
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Chloride in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-02

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

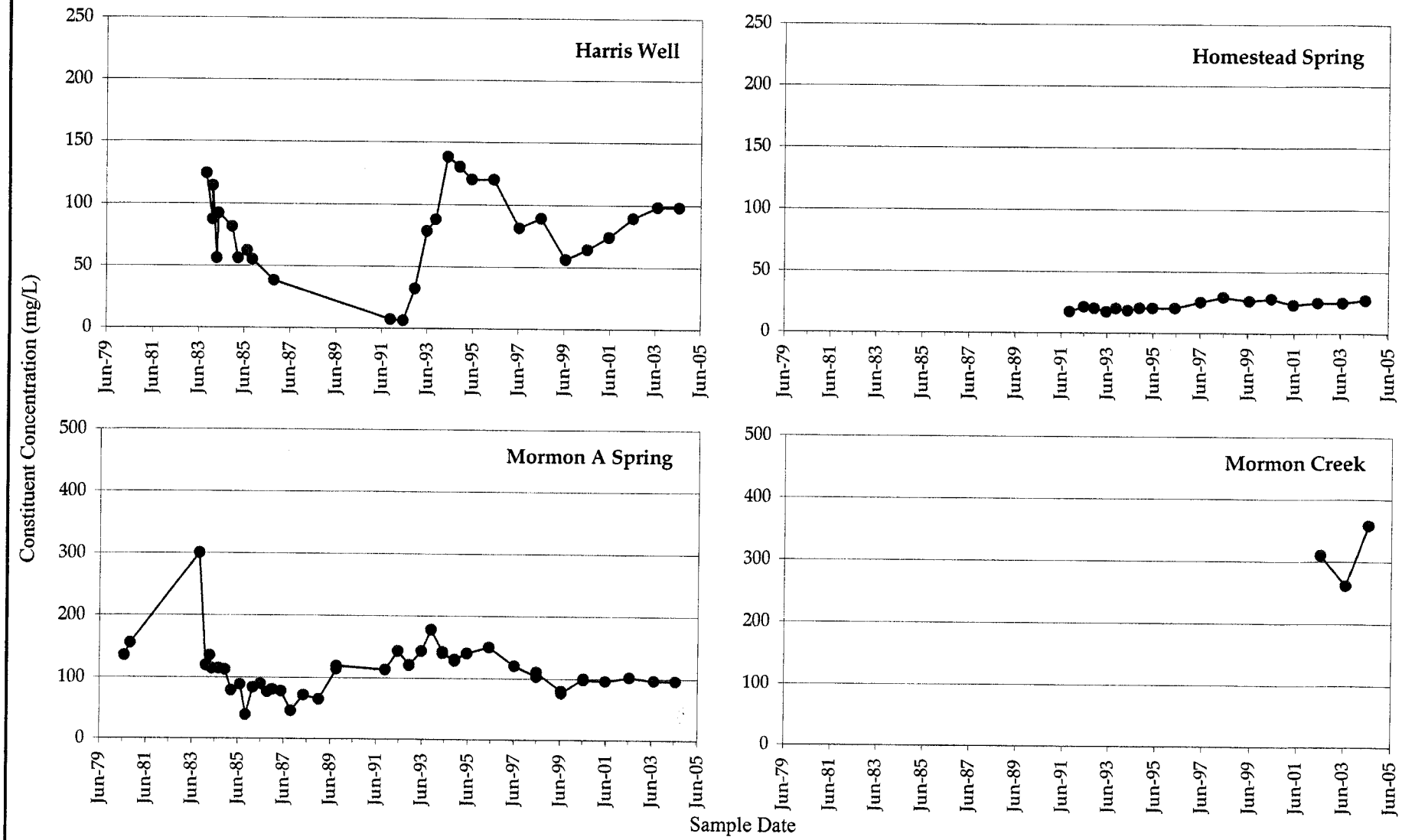
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Chloride in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-03

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

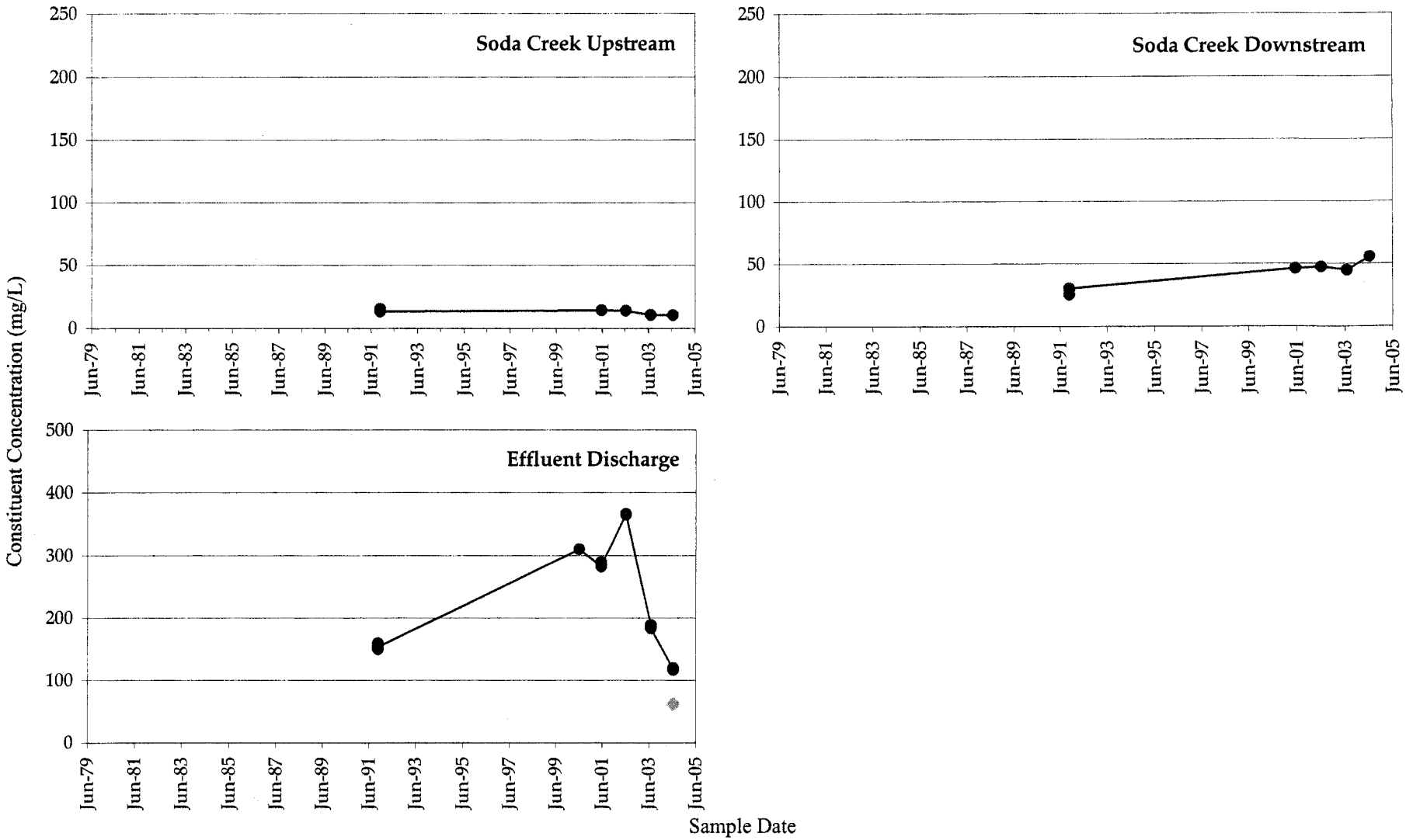
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Chloride in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-04

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

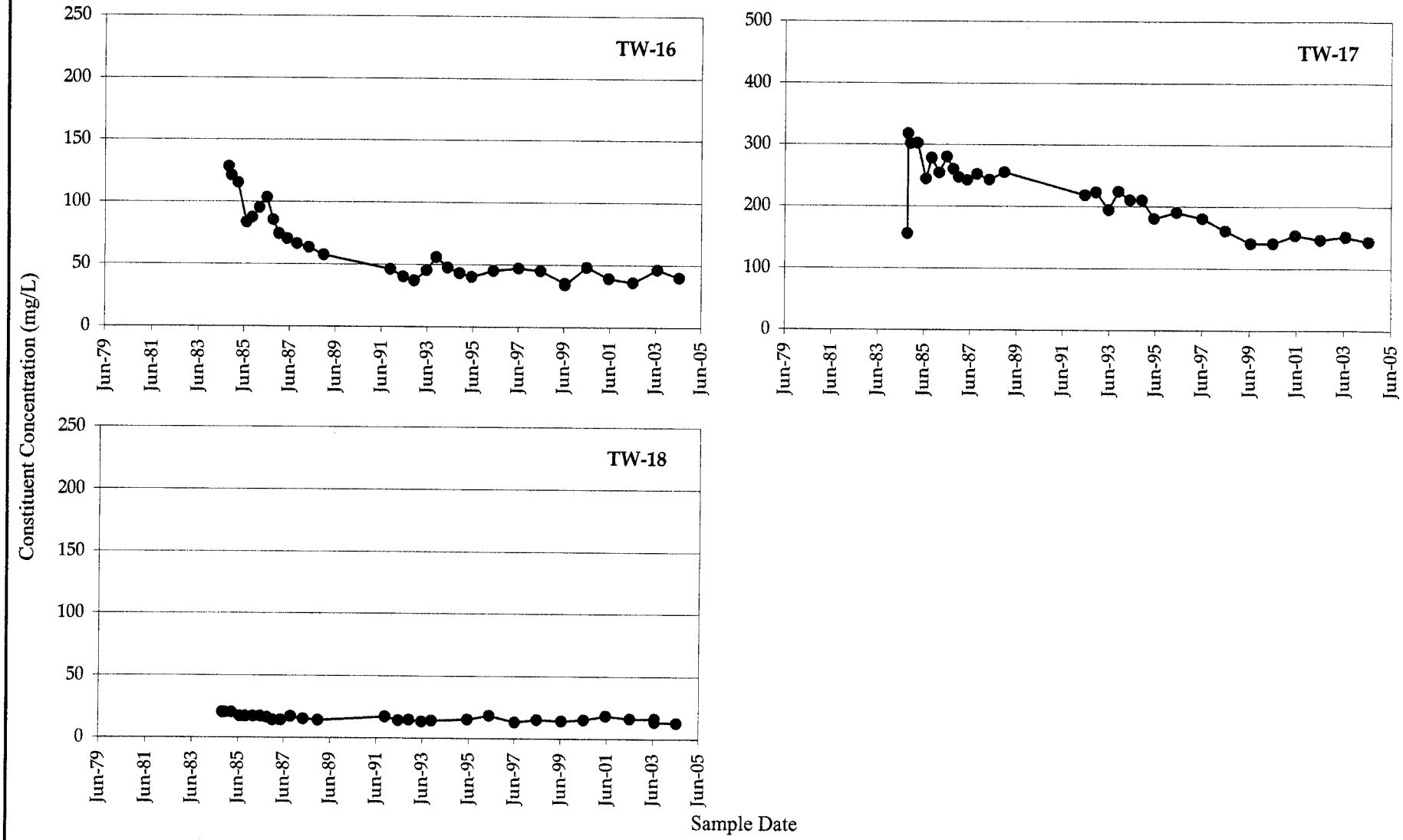
Pond Inlet

Remediation goals shown for point of compliance locations

Chloride in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-05

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

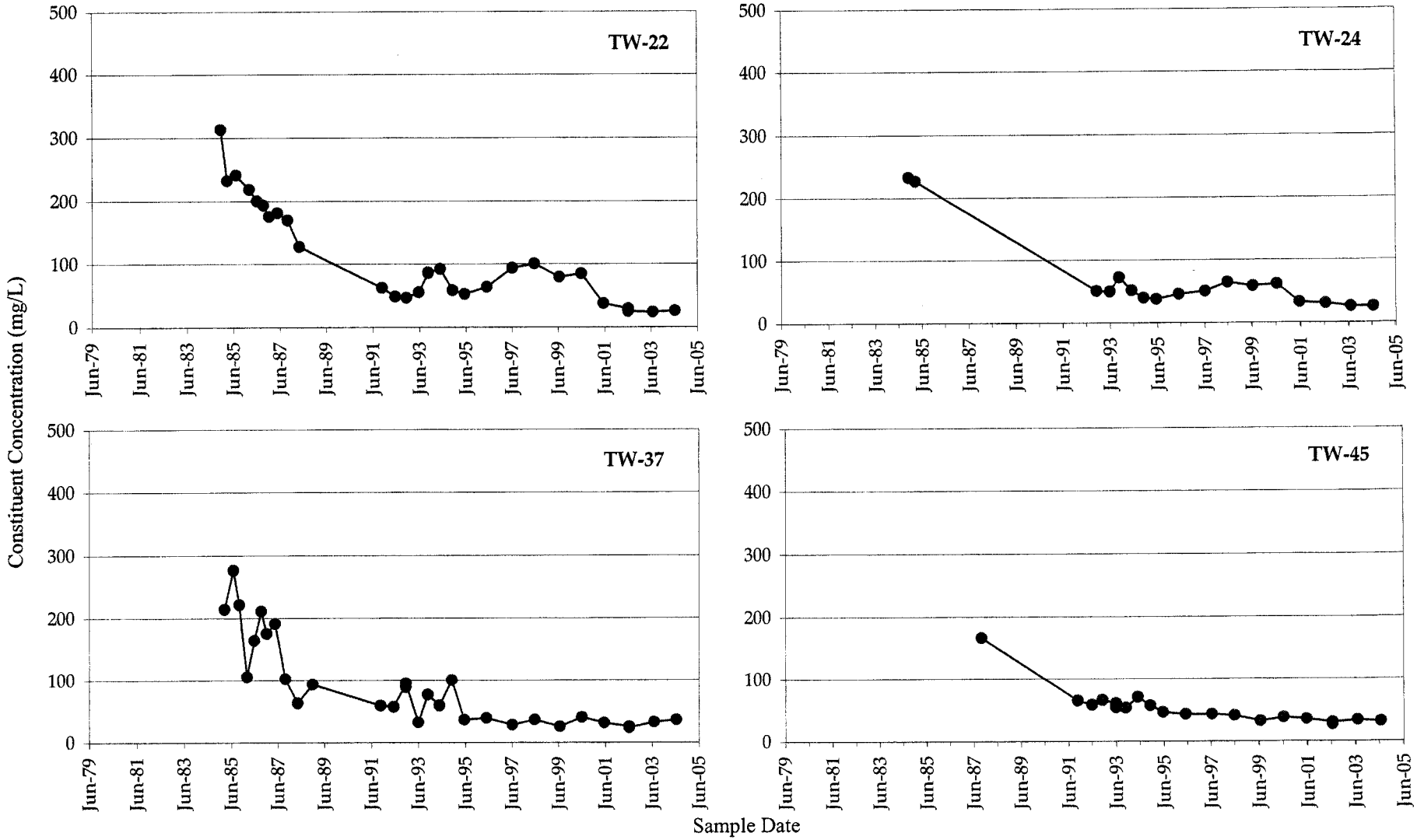
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Chloride in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-06

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

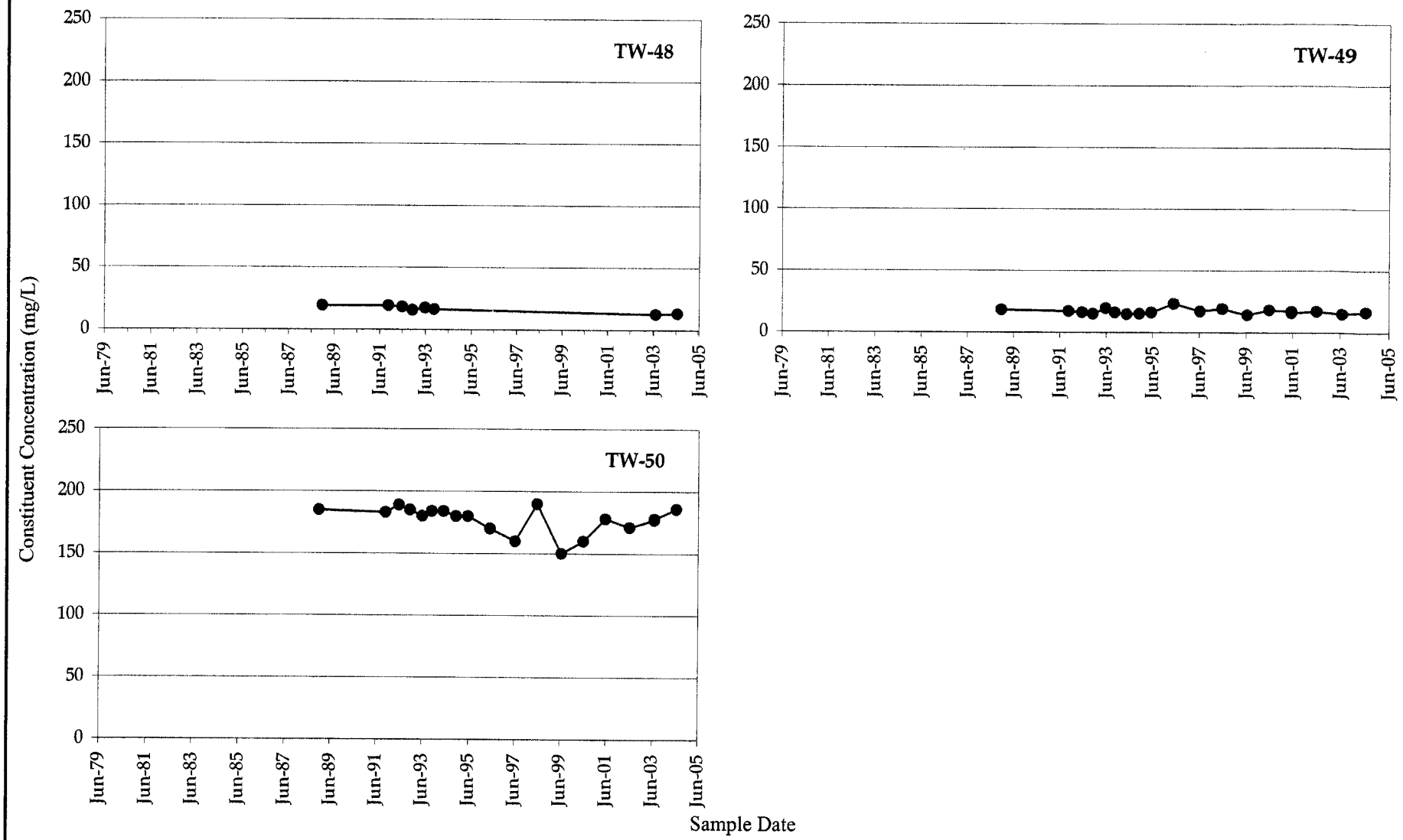
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Chloride in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-07

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

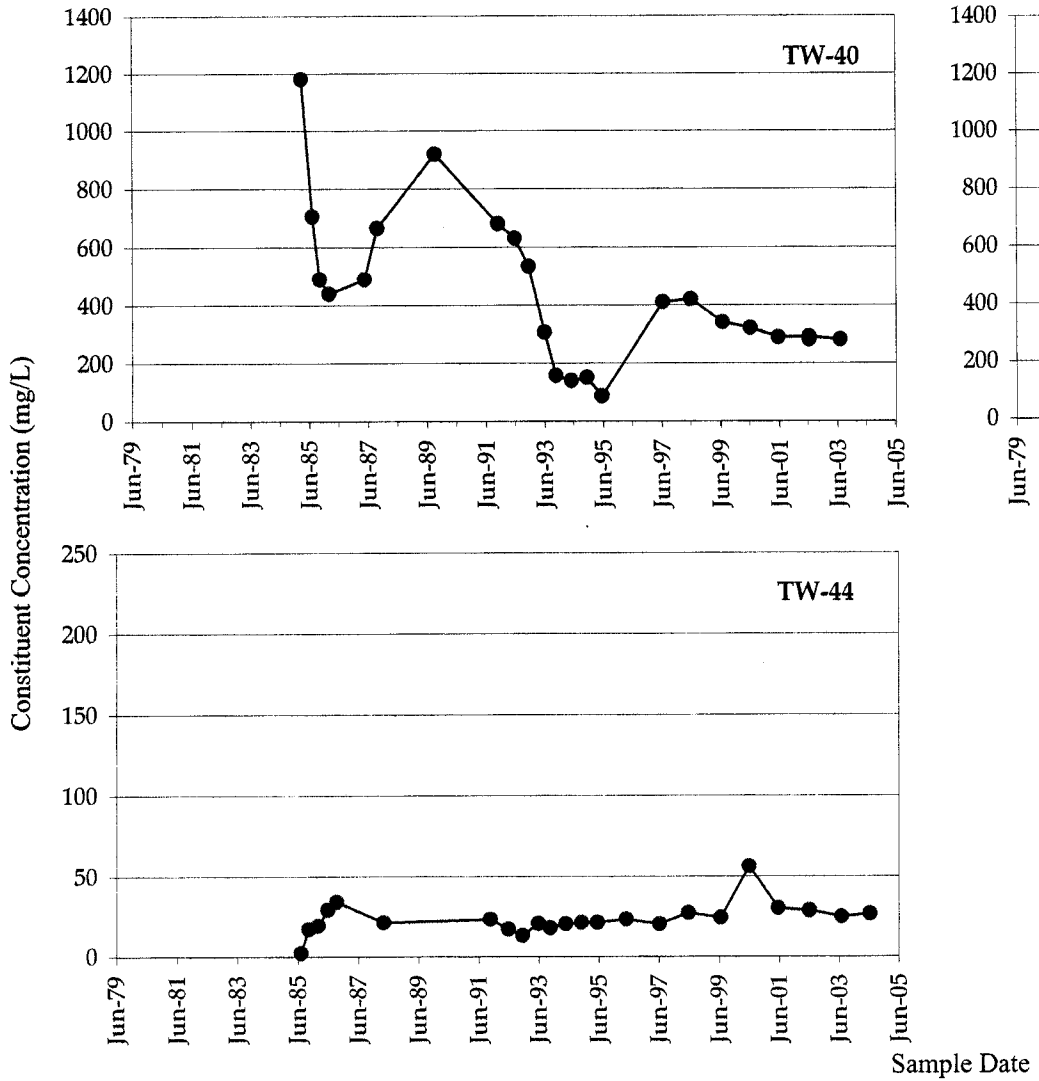
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Chloride in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	**F-08**

File Name: App G Chloride Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

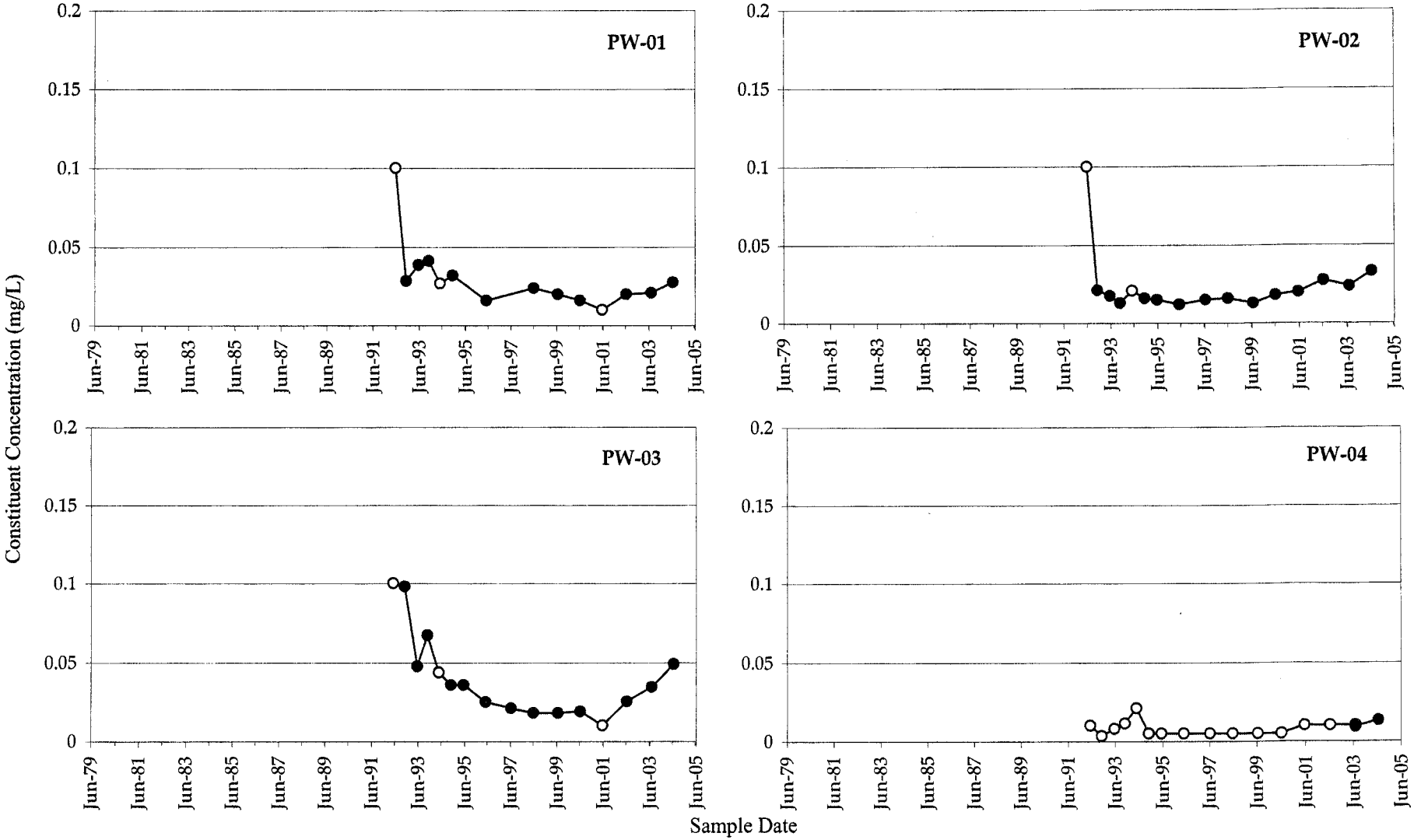
Chloride in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	F-09

File Name: App G Chloride Charts 2004.xls

APPENDIX G

TIME-HISTORY GRAPHS FOR MOLYBDENUM



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

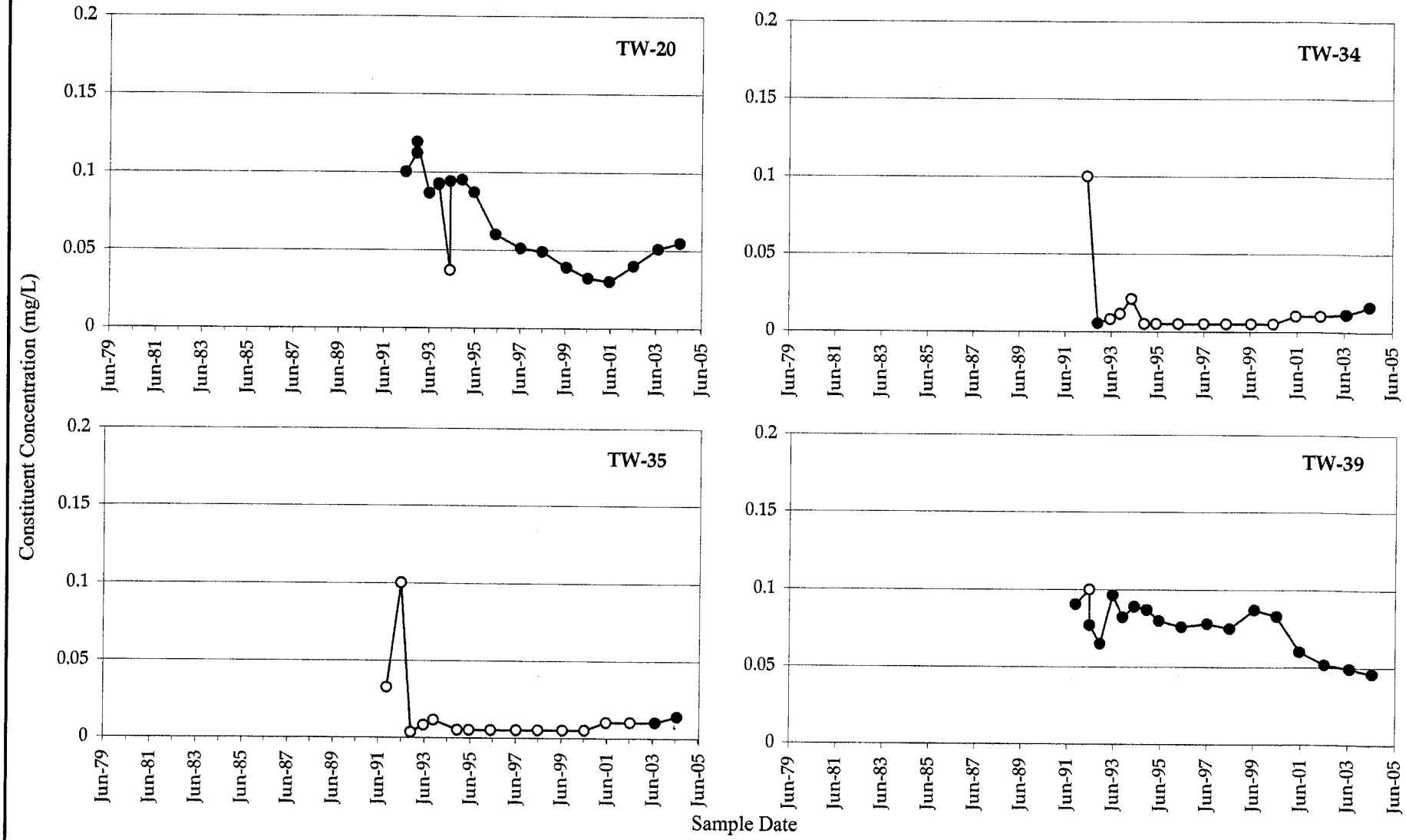
Non-Detects

Remediation goals shown for point of compliance locations

Molybdenum in Production Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-01

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

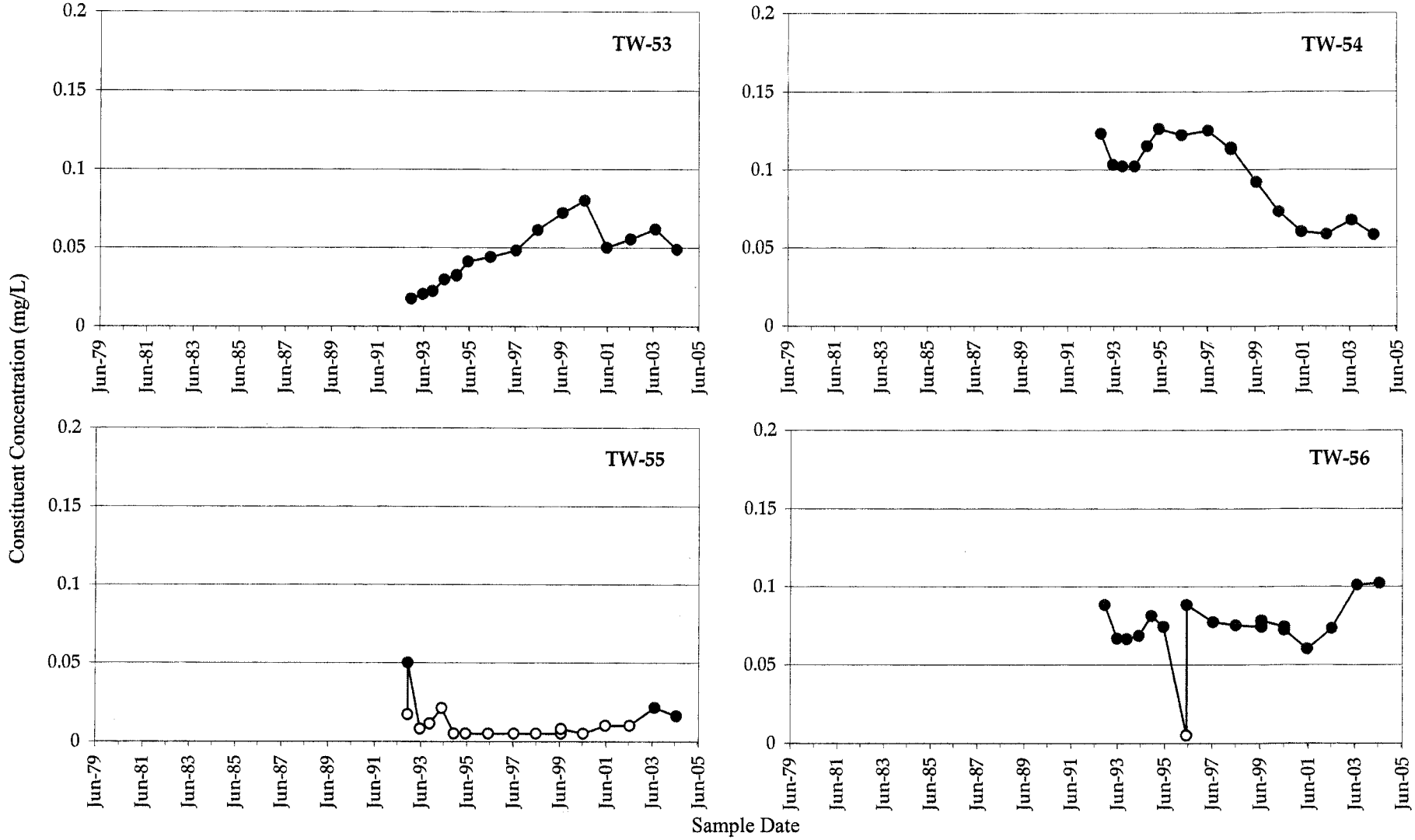
Non-Detects

Remediation goals shown for point of compliance locations

Molybdenum in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-02

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

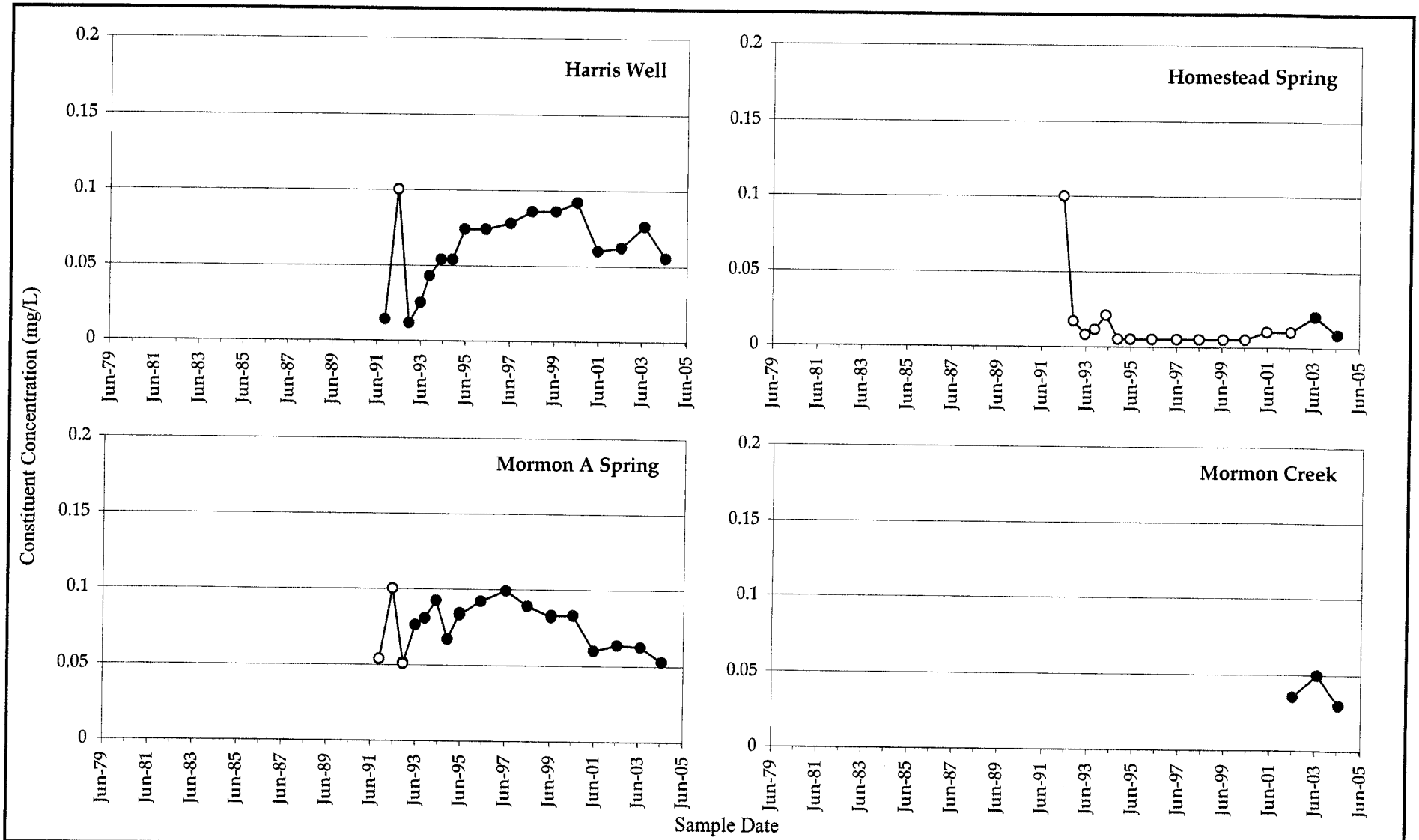
Non-Detects

Remediation goals shown for point of compliance locations

Molybdenum in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-03

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

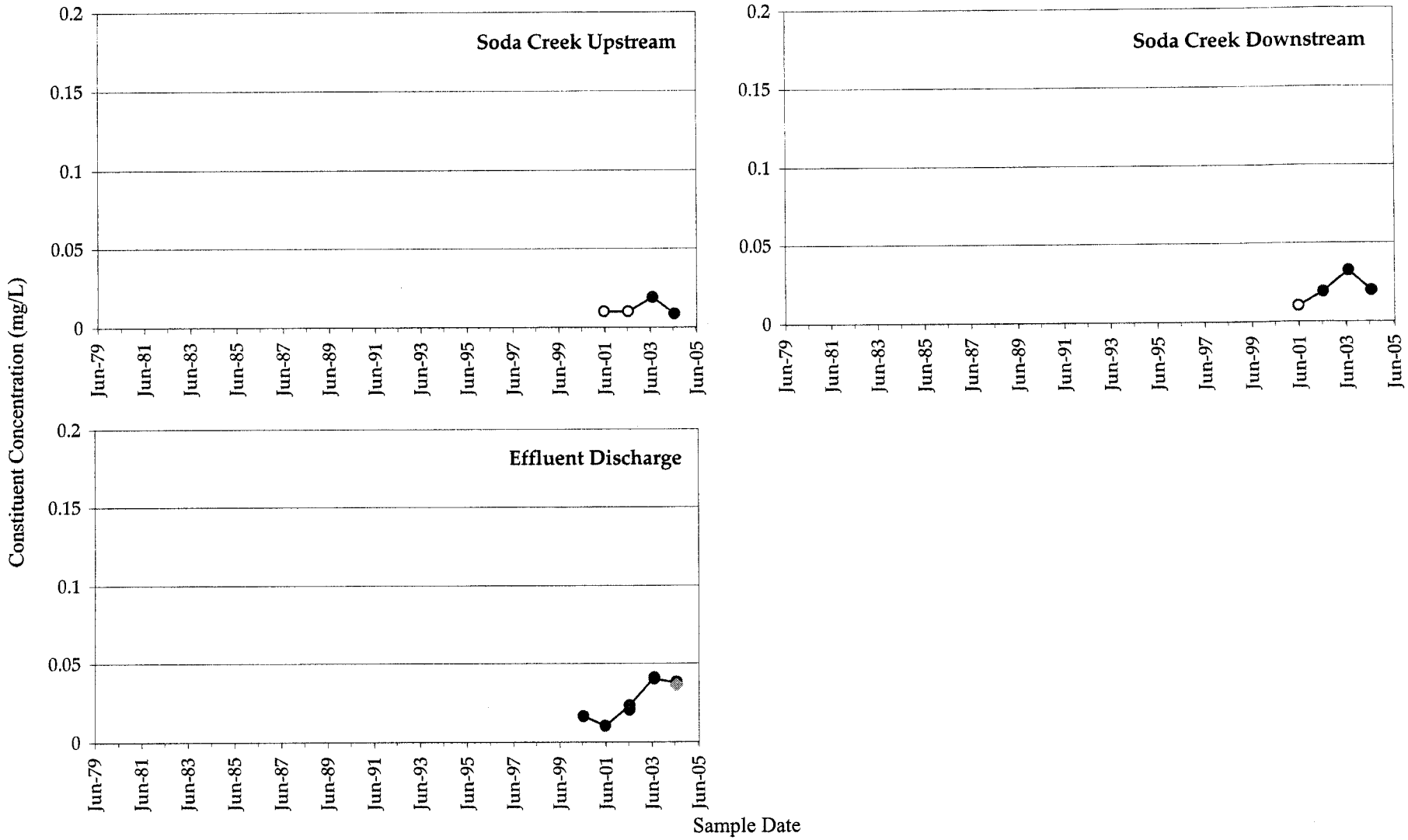
Non-Detects

Remediation goals shown for point of compliance locations

Molybdenum in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-04

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

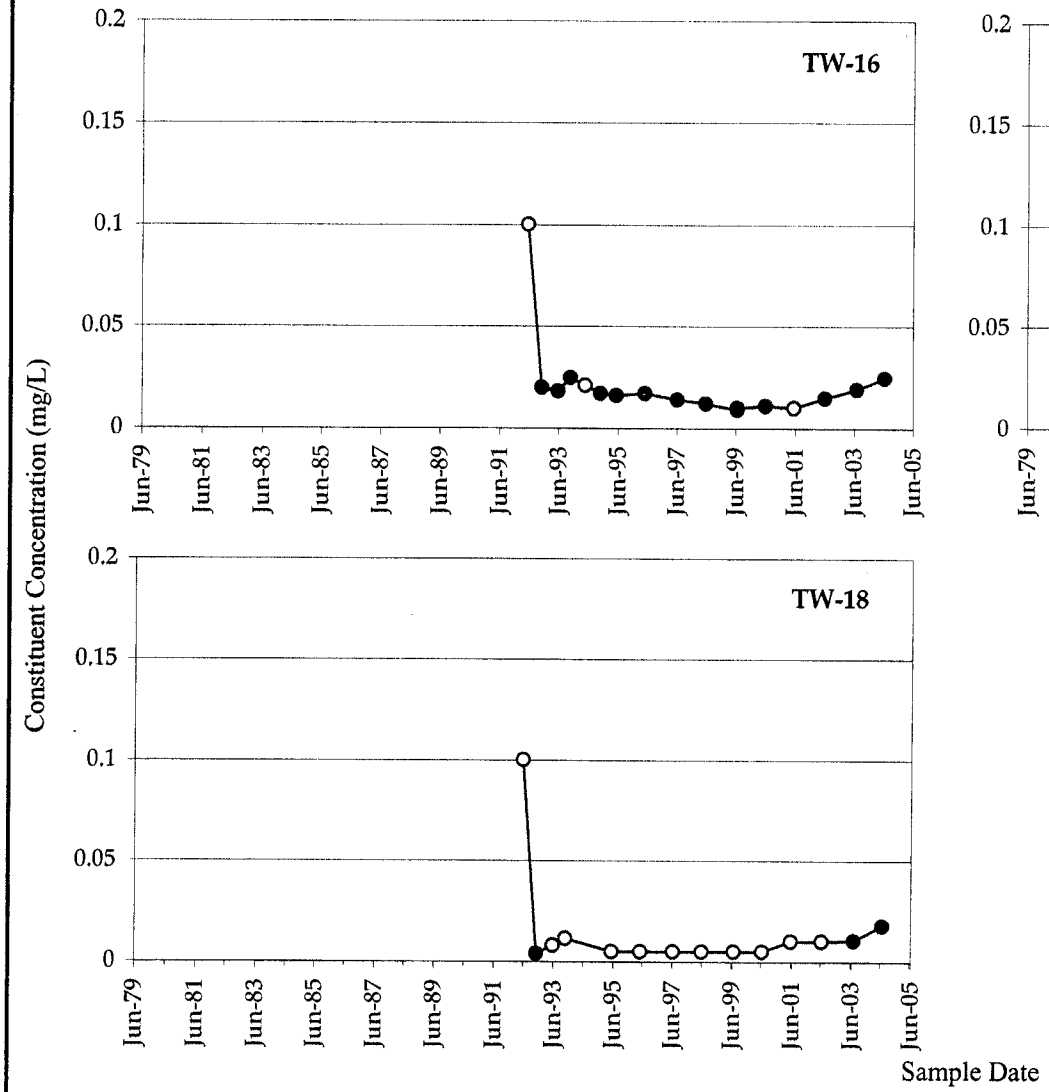
Constituent Concentration (mg/L)
Non-Detects
Pond Inlet

Remediation goals shown for point of compliance locations

Molybdenum in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-05

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

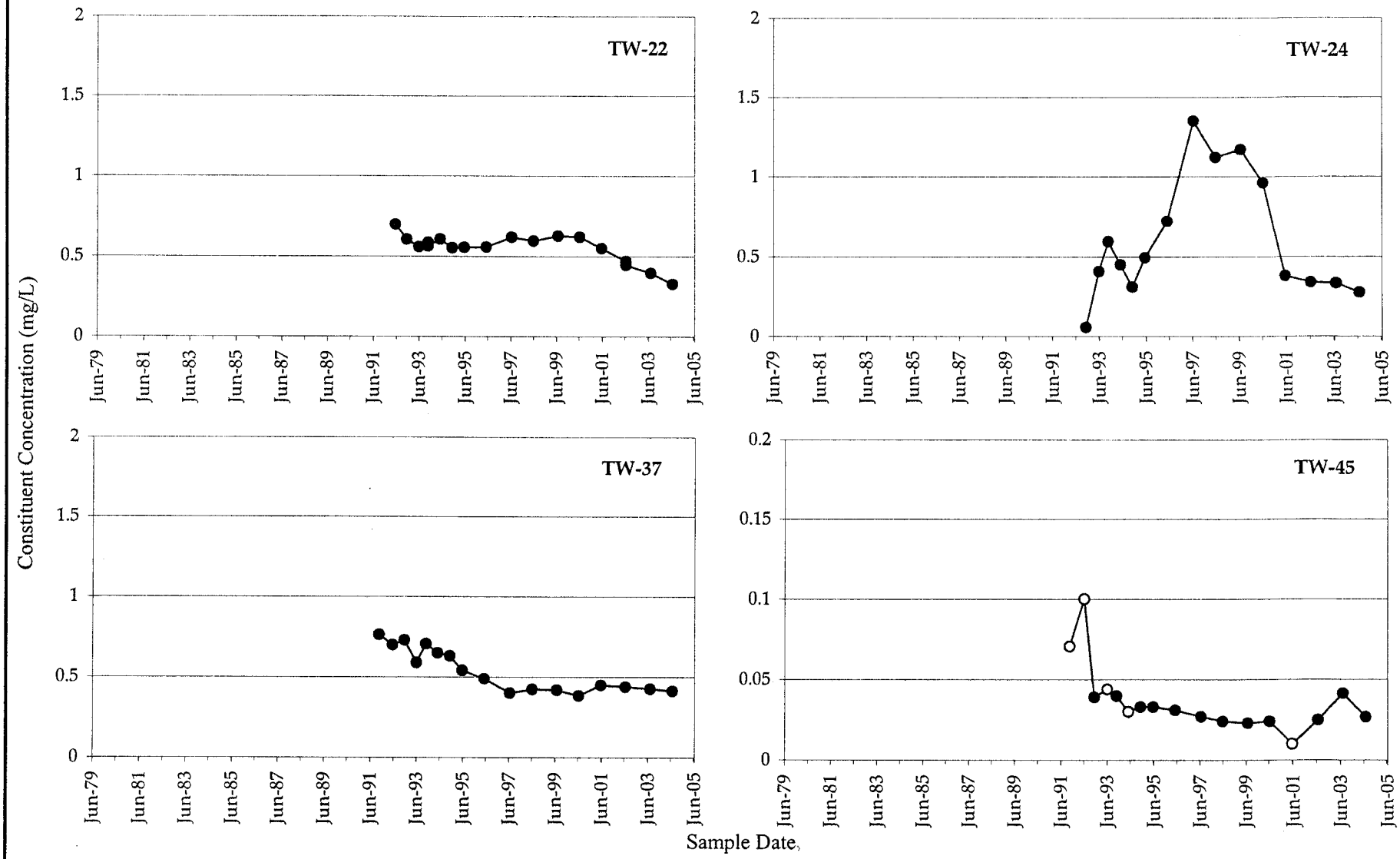
Non-Detects

Remediation goals shown for point of compliance locations

Molybdenum in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-06

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

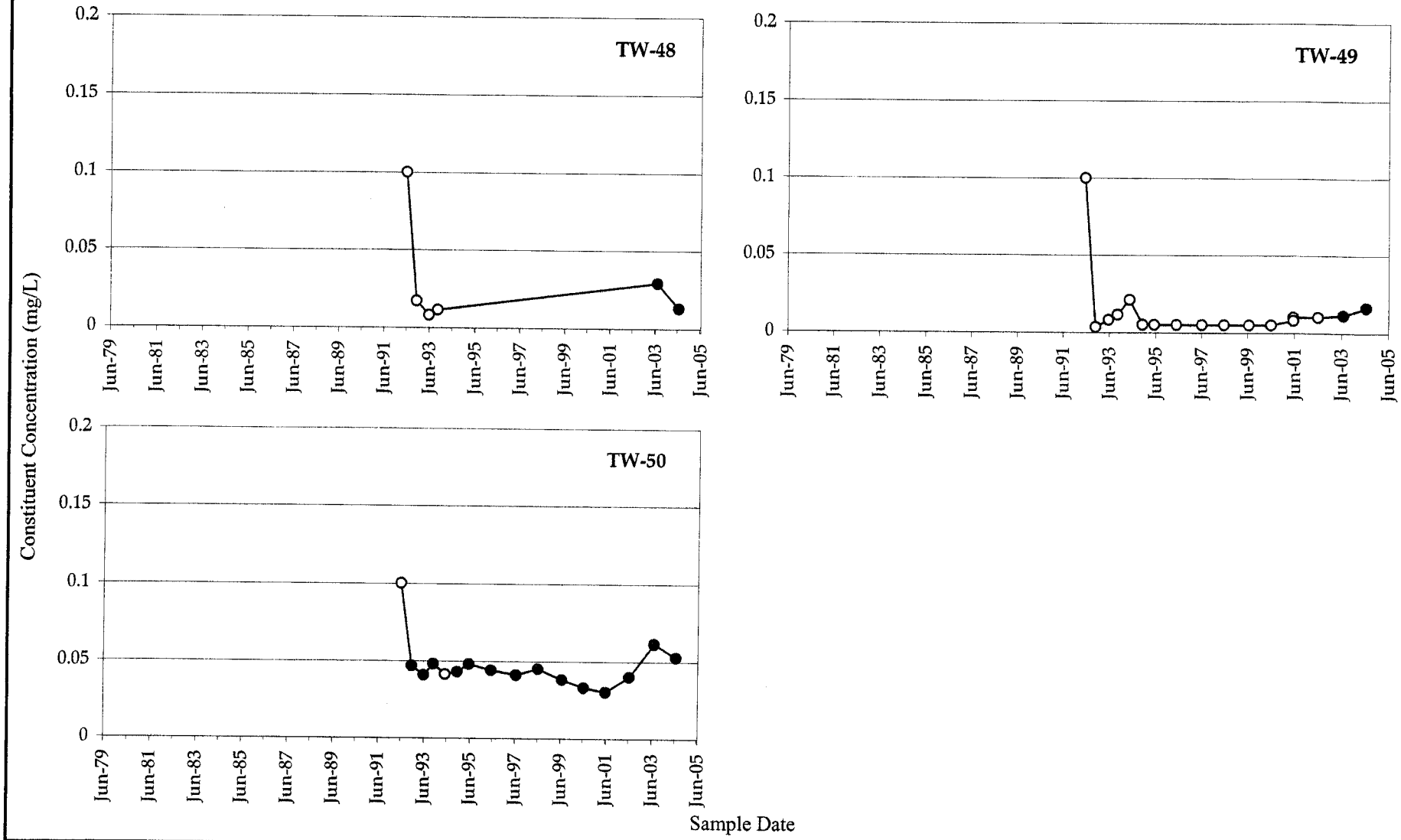
Non-Detects

Remediation goals shown for point of compliance locations

Molybdenum in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-07

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

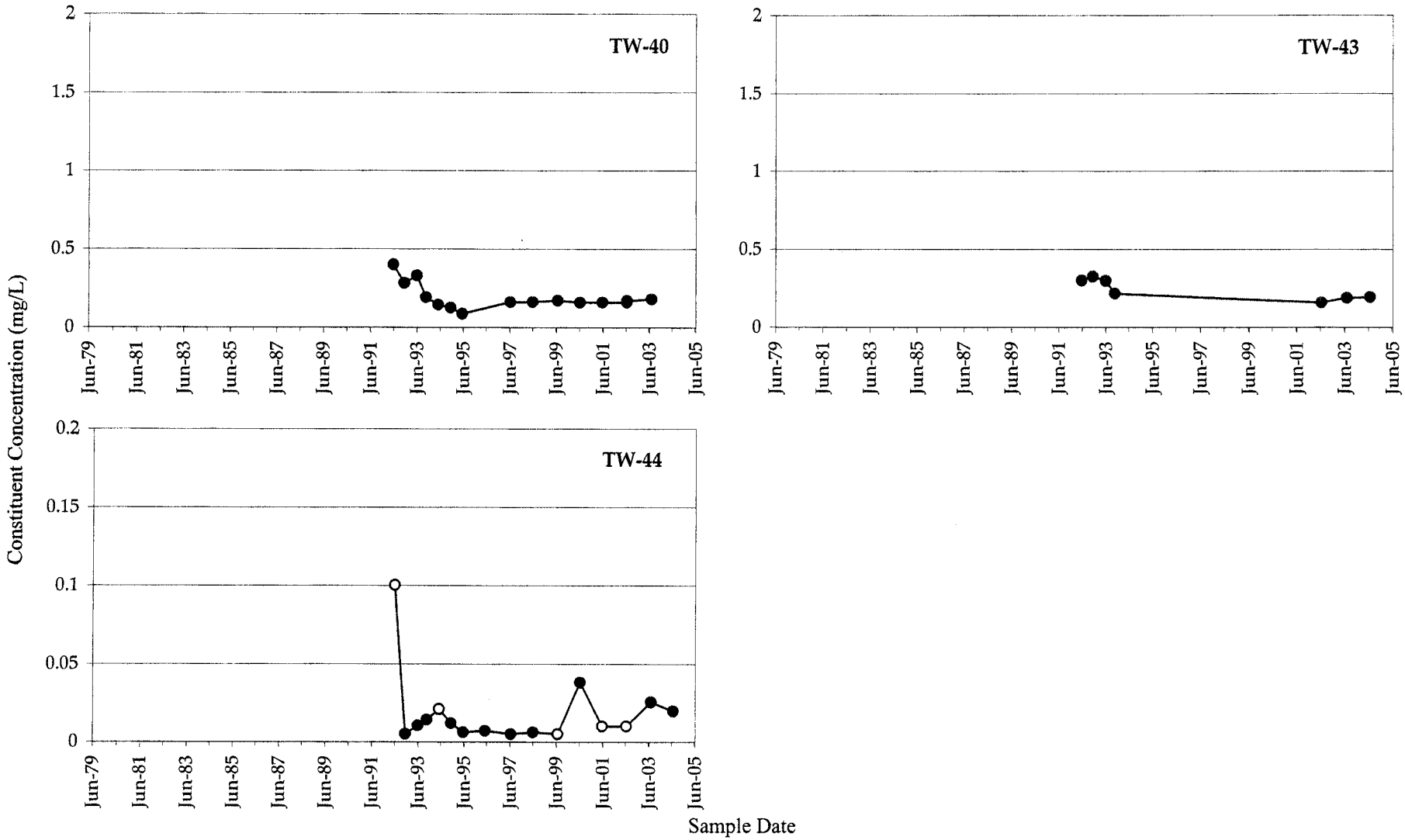
Non-Detects

Remediation goals shown for point of compliance locations

Molybdenum in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-08

File Name: App G Molybdenum Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Non-Detects

Remediation goals shown for point of compliance locations

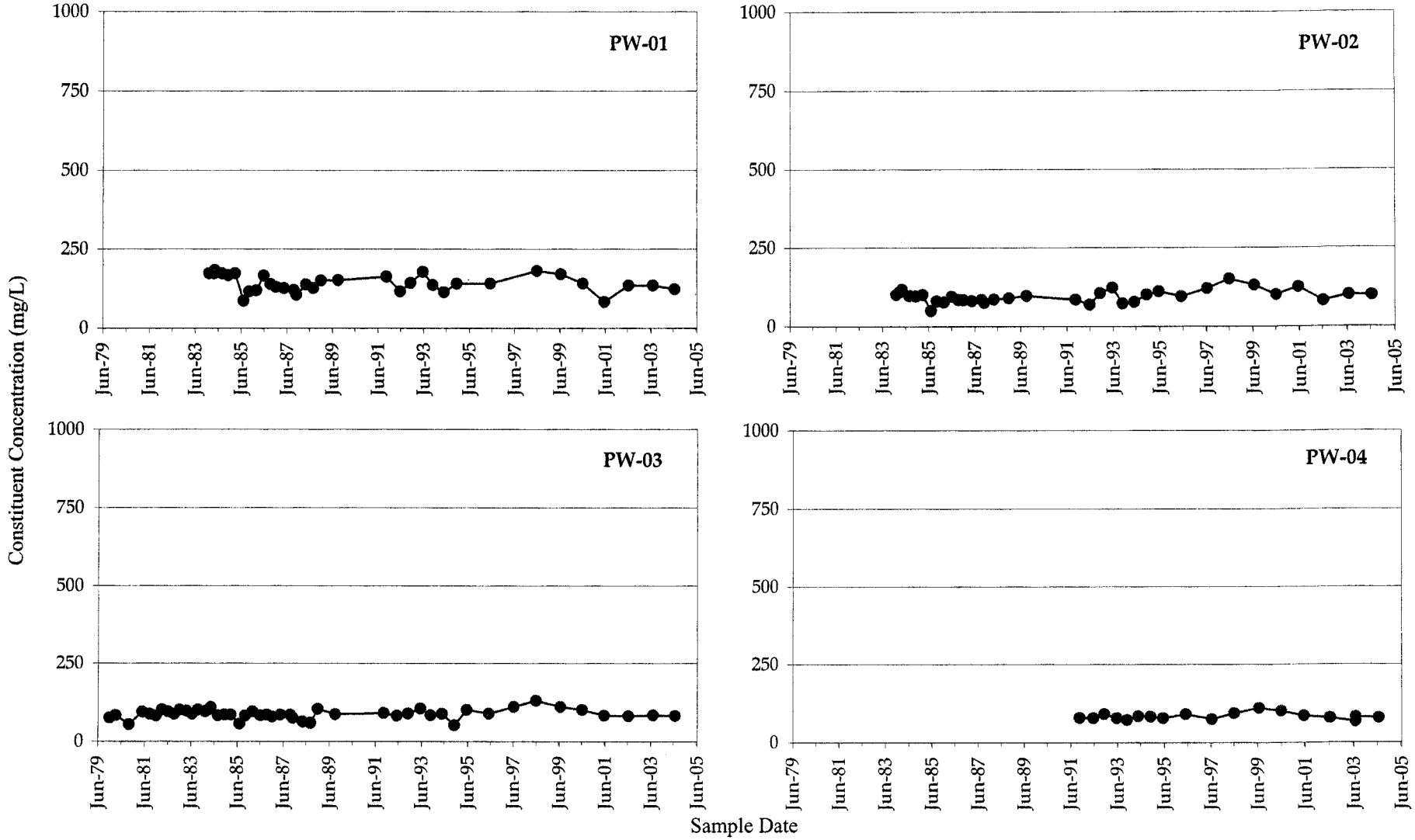
Molybdenum in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	G-09

File Name: App G Molybdenum Charts 2004.xls

APPENDIX H

TIME-HISTORY GRAPHS FOR SULFATE



Golder Associates

Monsanto Groundwater Monitoring

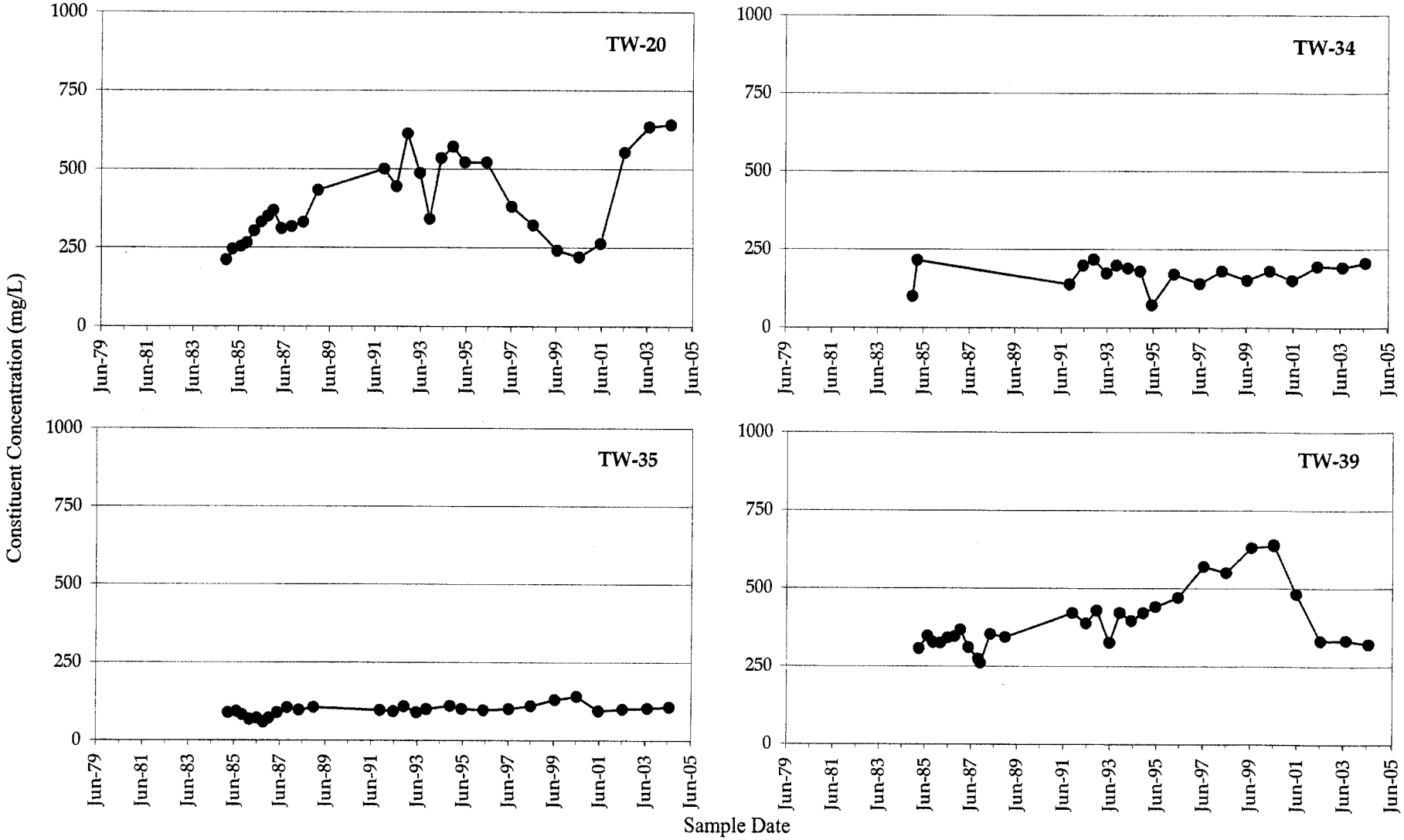
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in Production Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	H-01

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

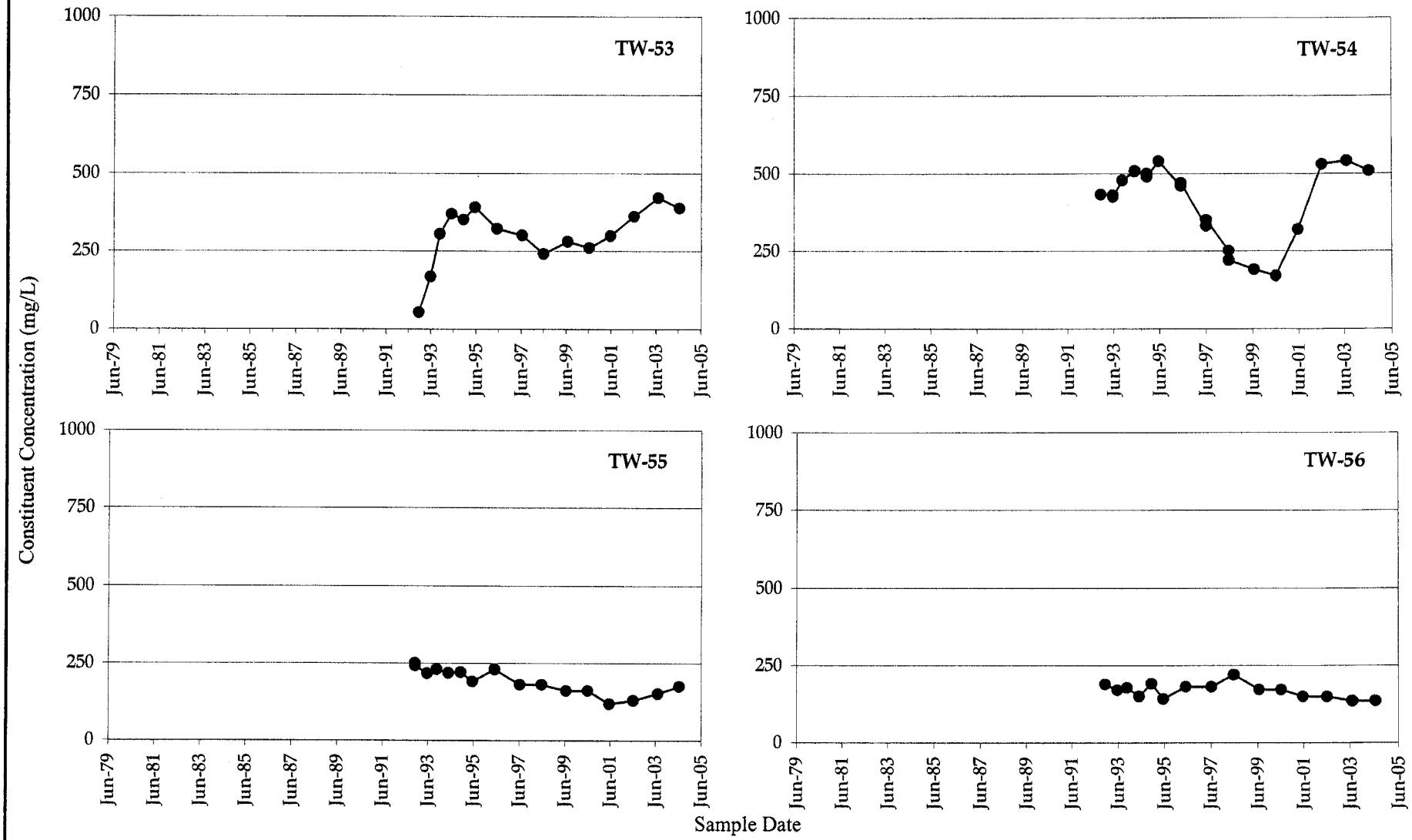
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in South Fenceline Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	H-02

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

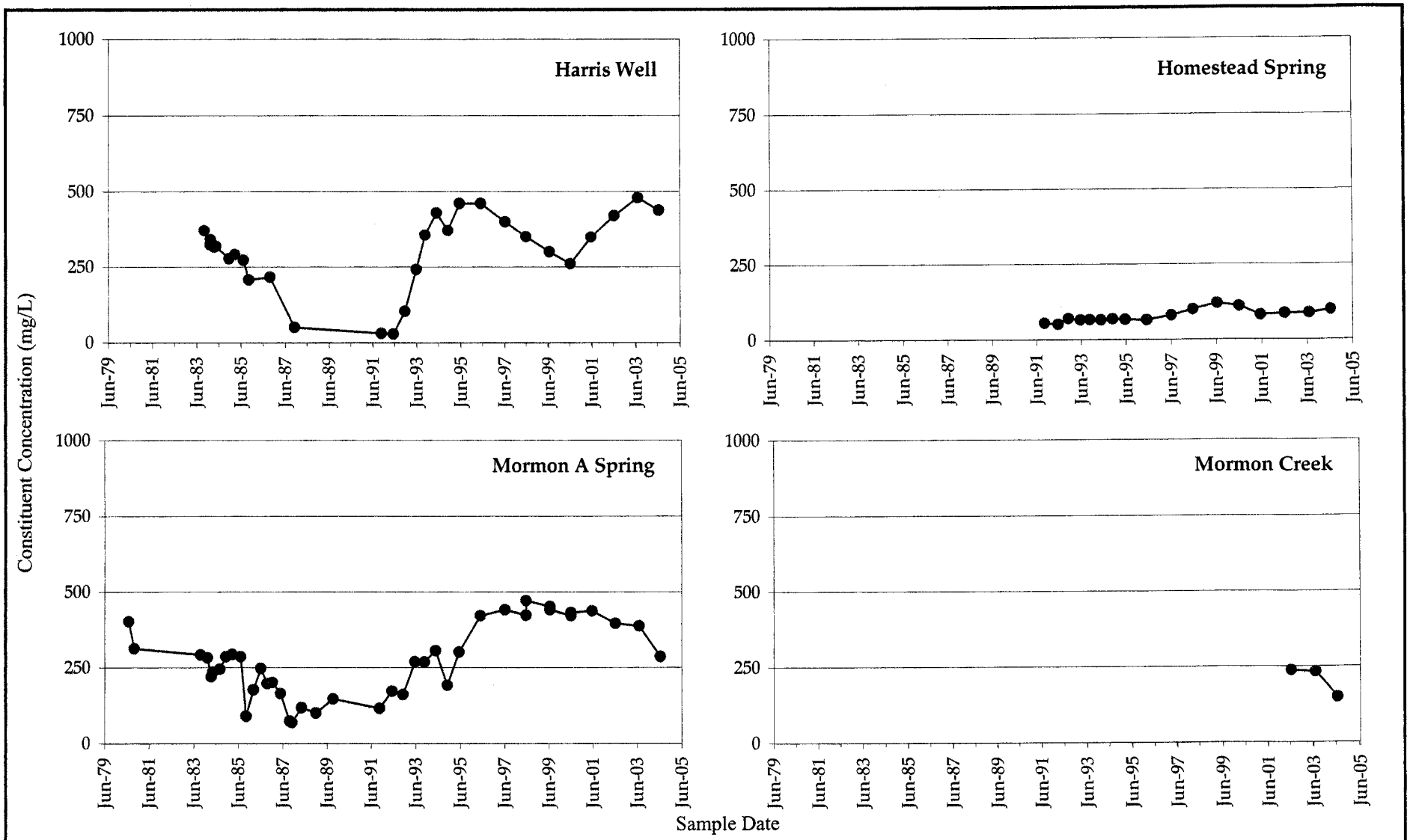
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in Southern Boundary Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	H-03

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

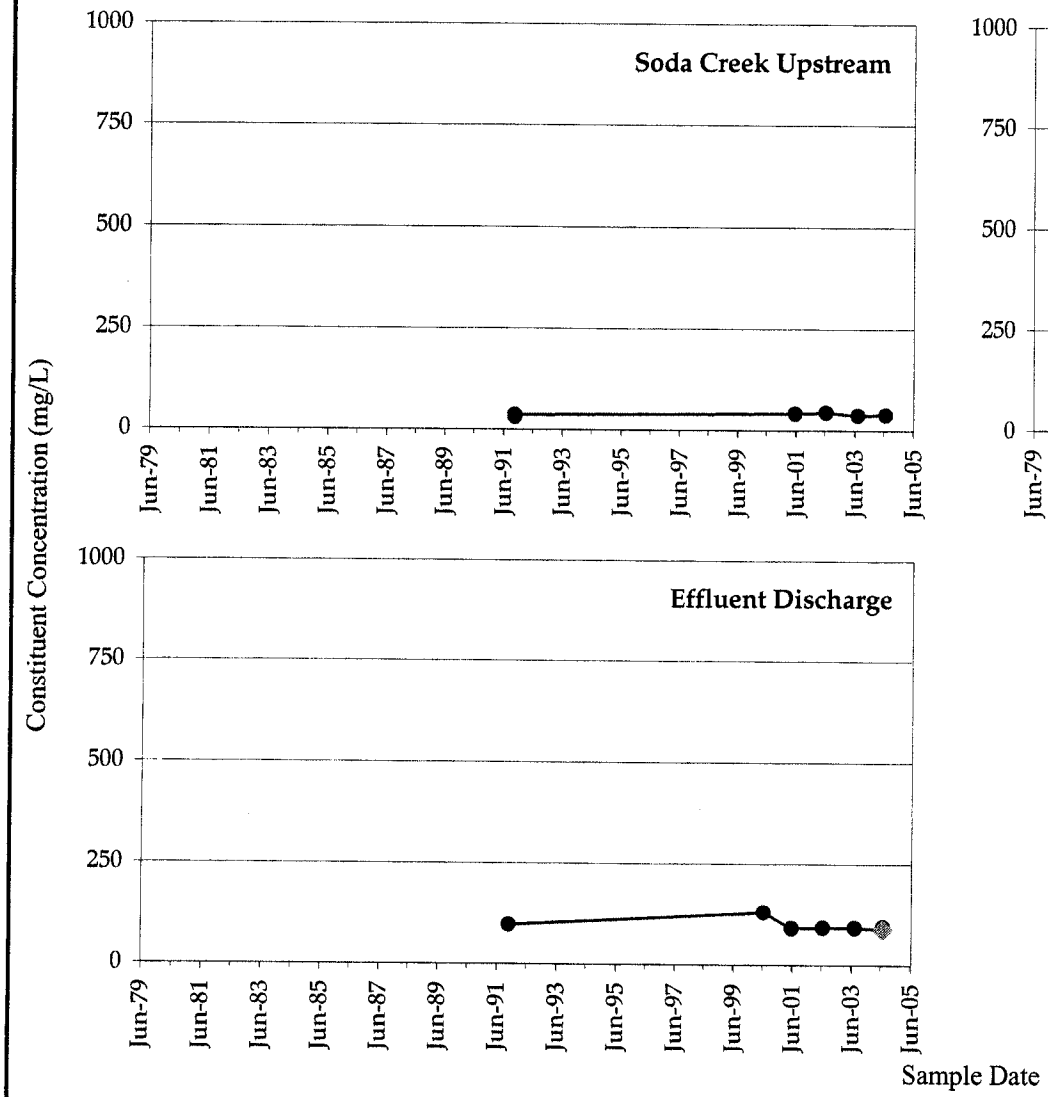
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in Harris Well and Springs South of Plant

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	**H-04**

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

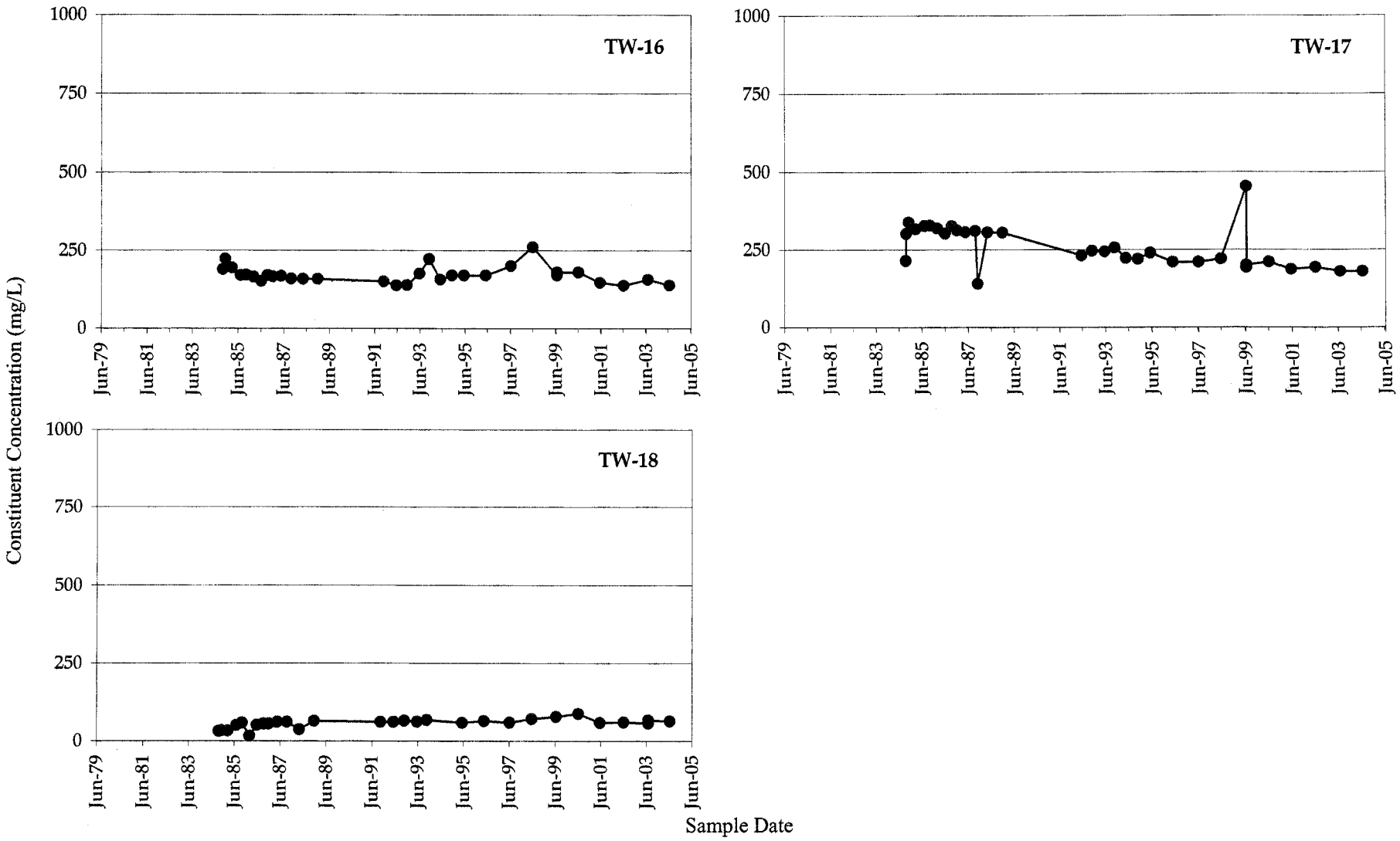
Pond Inlet

Remediation goals shown for point of compliance locations

Sulfate in Soda Creek and Treatment Plant Effluent

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	H-05

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

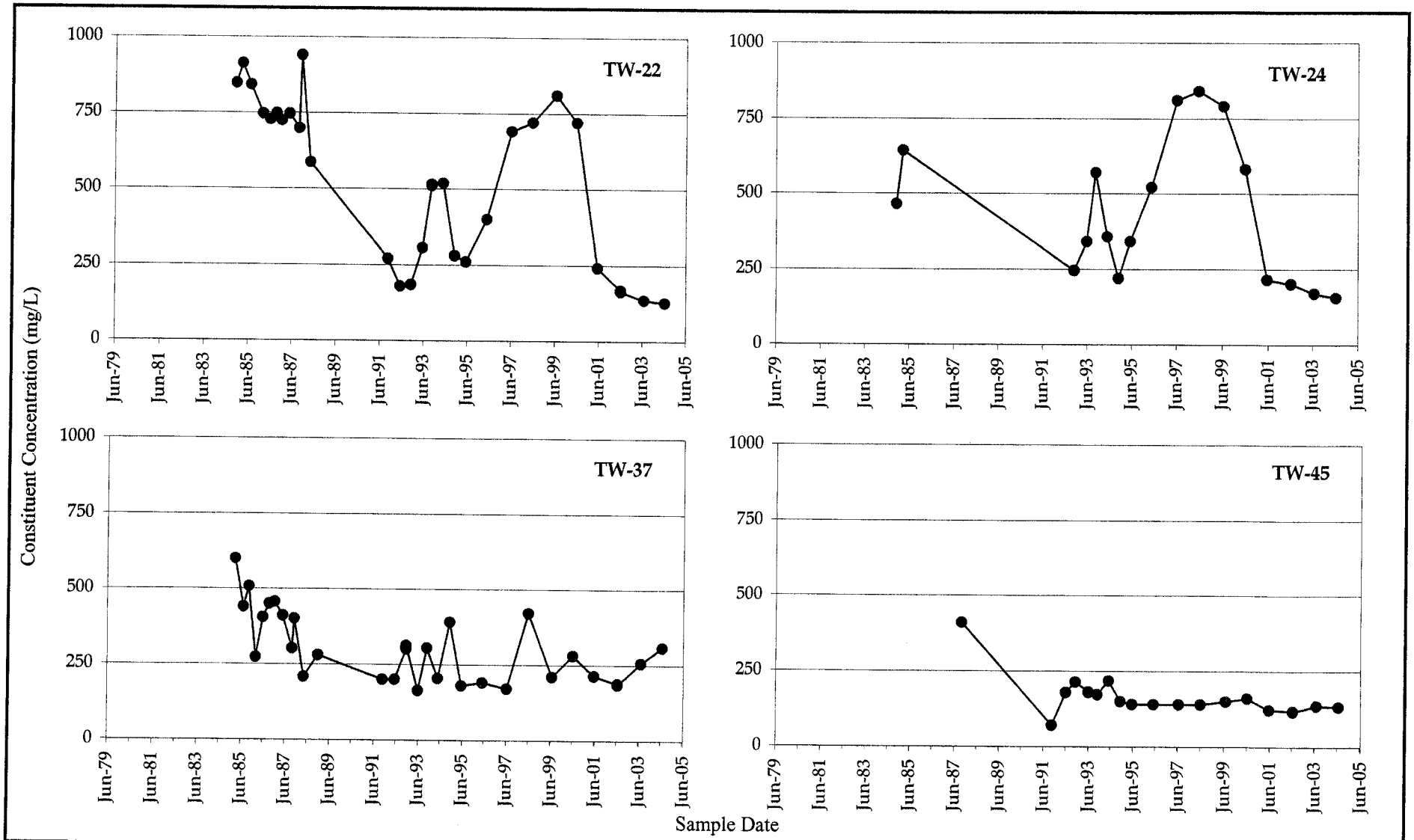
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in NW Pond Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	**H-06**

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

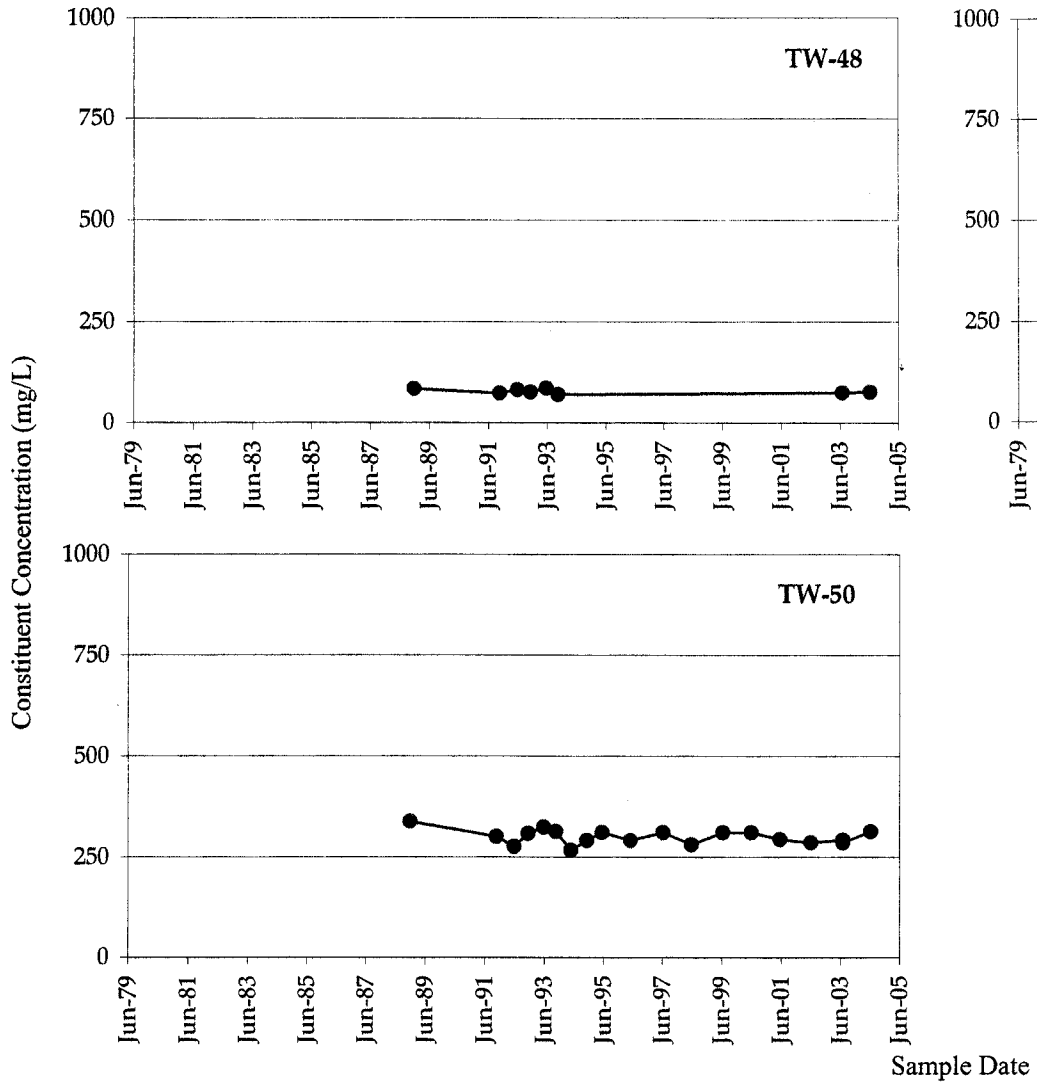
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in Underflow Solids Pond Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	**H-07**

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

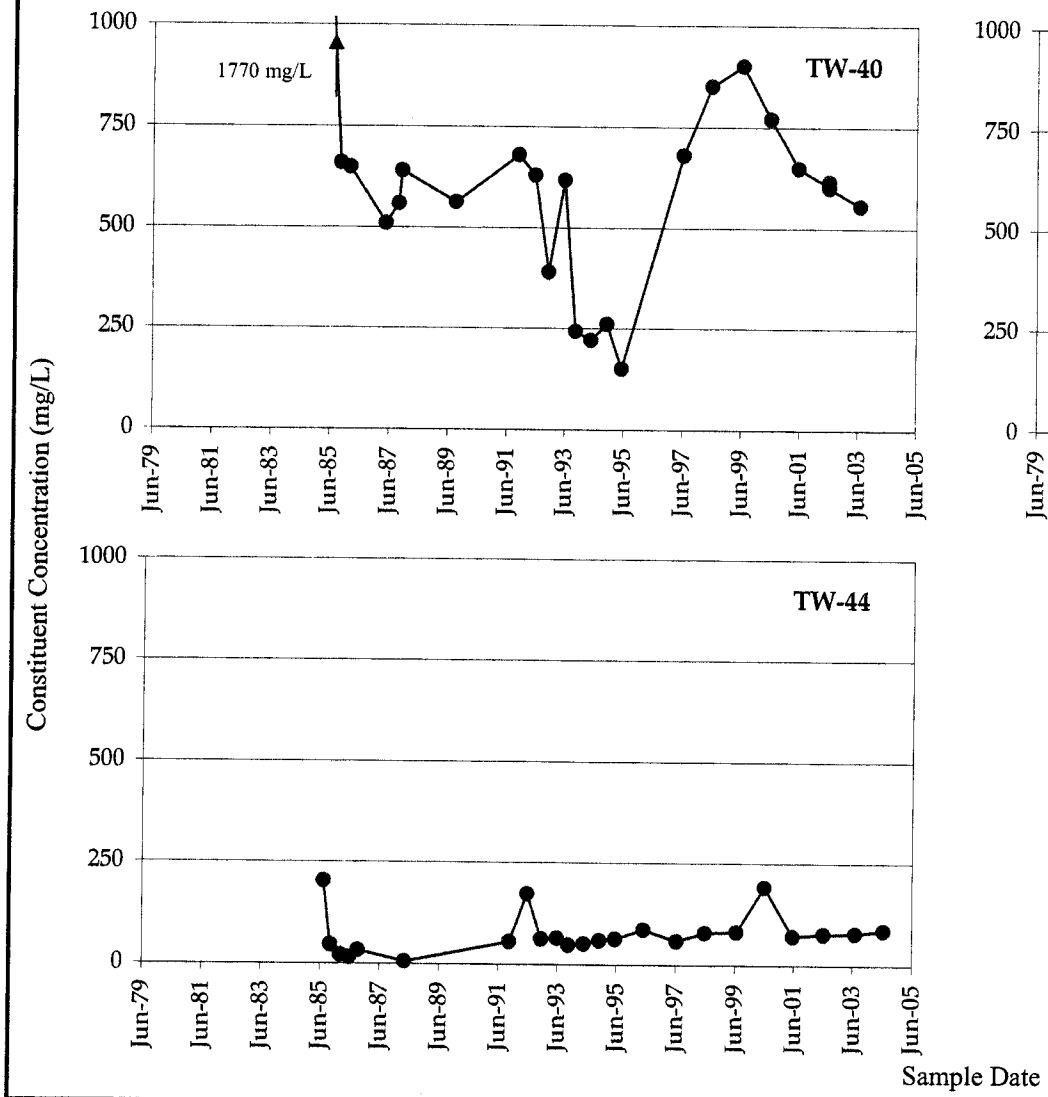
Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in Underflow Solids Piles Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	**H-08**

File Name: App H Sulfate Charts 2004.xls



Golder Associates

Monsanto Groundwater Monitoring

Constituent Concentration (mg/L)

Remediation goals shown for point of compliance locations

Sulfate in Hydroclarifier Area Wells

JOB NUMBER:	913-1101.605	DATE:	1-Sep-04
DRAWN BY:	KAS	FIGURE NO.:	H-09

File Name: App H Sulfate Charts 2004.xls

APPENDIX I

DATA VALIDATION SUMMARY FOR GROUNDWATER QUALITY MONITORING SAMPLE RESULTS

MEMORANDUM

TO: Monsanto Groundwater Sampling

August 27, 2004
Project File No. 913-1101.605

FR: Tom Stapp, Golder Associates Inc.

RE: DATA VALIDATION SUMMARY FOR GROUNDWATER QUALITY MONITORING SAMPLE RESULTS

---

1. INTRODUCTION

This memo presents the results of data validation on Sample Delivery Group (SDG's) #111628, #111645, #111674, #111702, and #111726 prepared by SVL Analytical, Kellogg, Idaho, and #GT78 prepared by Analytical Resources Inc. of Seattle, Washington. The data has been collected in association with work performed at the Monsanto Soda Springs Elemental Phosphorus Plant, in Soda Springs, Idaho as outlined in the remedial investigation Work Plan (GAI, 1992). Data- base identifications and sampling information are provided in Attachment 5.

Data validation was conducted in accordance with USEPA Contract Laboratory Program, National Functional Guidelines for Inorganic Data Review (EPA 2002), Golder Associates Inc., Technical Procedure TP-2.2-12 "Analytical Data Management" (GAI 1995), and applicable analytical methods. The data review process provides information on analytical limitations of the data based on specific quality control (QC) criteria outlined in the referenced documents. Attachments 1 through 5 provide the following information as indicated below:

Attachment 1. Glossary of Data Reporting Qualifiers
Attachment 2. Summary of Data Qualified
Attachment 3. Annotated Laboratory Reports
Attachment 4. Laboratory Narrative and Chain-of-Custody Documentation
Attachment 5. Supporting Documentation

2. SAMPLE HANDLING AND CUSTODY REQUIREMENTS

Custody of samples being sent off site for analysis were controlled and documented in accordance with technical procedure TP-1.2-23, "Chain-of-Custody." Unique sample identification numbers were recorded on the Chain-of-Custody form, associated with unique sample locations, matrix type, and sample collection dates. The analyses required for each sample were also noted on the Chain-of-Custody form as a means of specifying the analysis to be performed by the laboratory.

2.1 General Chemistry –Acceptable

Sample custody was maintained throughout sample collection, transport, and laboratory receipt. Laboratory narrative and cooler receipt information indicated acceptable conditions were found for all SDGs with the exception of out of limit cooler temperatures for SDG #111726 at 14 deg. C., #111674 at 8.8 deg. C., and #111645 at 8.3 deg. C. A temperature range of 4 degrees Celcius (+/- 2 degrees) is recommended per Standard Methods guidance for sample collection and handling, however the temperatures recorded are not considered a gross exceedance and qualification is not applied.

2.2 Metals - Acceptable

Sample custody was maintained throughout sample collection, transport, and laboratory receipt. Laboratory narrative and cooler receipt information indicated acceptable conditions were found for all SDGs with the exception of out of limit cooler temperatures for SDG #111726 at 14 deg. C., #111674 at 8.8 deg. C., and #111645 at 8.3 deg. C. A temperature range of 4 degrees Celcius (+/- 2 degrees) is recommended per Standard Methods guidance for sample collection and handling, however the temperatures recorded are not considered a gross exceedance and qualification is not applied.

3. HOLDING TIMES

3.1 General Chemistry - Not Acceptable / Qualification Required

Analyses were performed within the recommended maximum holding time with the exception of analyses for total dissolved solids for a single sample. The associated result is qualified as estimated (J/UJ). A qualification summary, annotated sample results and supporting documentation are provided in Attachments 2, 3 and 5 respectively.

3.2 Metals - Acceptable

All analyses were performed within the recommended maximum holding time.

4. CALIBRATION/INSTRUMENT PERFORMANCE MONITORING

Compliance requirements for satisfactory instrument calibration and performance monitoring were not evaluated for the SDGs associated with this report. The data packages provided did not include calibration monitoring data.

4.1 General Chemistry - Acceptable

Continuing calibration information provided by QC tests such as laboratory control samples exhibited acceptable performance.

4.2 Metals - Acceptable

Continuing calibration information provided by QC tests such as laboratory control samples exhibited acceptable performance.

5. BLANKS

The assessment of blank analysis results is to determine the existence and magnitude of contamination resulting from laboratory activities. In addition, the evaluation of field blanks are assessed to monitor field related activities. Field blank data are discussed in Section 8.

5.1 General Chemistry - Acceptable

Goals for blank analyses were met for all SDGs with the exception of specific conductivity detections associated with SDGs #111628, #111674, #111702, and #111726. However, sample results are greater than 10 times the blank value and qualification is not applied. Other method blanks were analyzed at the required frequency and were target analyte free.

5.2 Metals - Acceptable

Goals for blank analyses were met for all SDGs. Method blanks were analyzed at the required frequency and were target analyte free.

6. SYSTEM MONITORING

System monitoring serves as a monitor for specific portions of the overall performance of the analytical method. System monitoring includes instrument checks, sample batch checks, and individual sample performance checks. Data for laboratory control samples (LCS) were provided in order to evaluate the accuracy and performance of the analytical method. Performance criteria ensures instrument sensitivity and responses are stable throughout the analysis.

6.1 General Chemistry - Acceptable

Laboratory Control Sample. Goals for LCS recovery were met.

6.2 Metals - Acceptable

Laboratory Control Sample. Goals for LCS recovery were met.

7. PRECISION AND ACCURACY

Precision and accuracy of the analytical method are examined for each sample batch of twenty or fewer samples of a particular matrix. Precision measurements include relative percent difference (RPD) of laboratory duplicates, matrix spike and matrix spike duplicates (MS/MSD), and laboratory control sample (LCS) and LCS duplicates or blank spikes and blank spike duplicates. Accuracy measurements include percent recovery calculations of MS/MSD, LCS/LCSD and system monitoring compounds as appropriate. In the case of ICP analysis, serial dilutions may be included as a test of whether significant physical or chemical interference exist due to sample matrix, which therefore may affect analytical accuracy. The acceptability of precision and accuracy measurements must be within established control limits which are determined from method expected criteria and /or laboratory applied studies of instrument response.

7.1 General Chemistry - Acceptable

Accuracy and Precision. A matrix spike and a sample duplicate analysis was performed for each SDG as appropriate. Goals for accuracy and precision were met.

7.2 Metals – Not Acceptable – Qualification Required

Accuracy and Precision. A matrix spike and a sample duplicate analysis was performed for each SDG as appropriate. Goals for accuracy and precision were met with the exception of Se results associated with SDGs #111628 and #111726. A qualification summary, annotated sample results and supporting documentation are provided in Attachments 2, 3 and 5 respectively.

8. FIELD QUALITY CONTROL SAMPLES

Blind field duplicate samples, field split samples and field blanks were collected to give an indication of overall field sampling precision and overall performance. The field duplicate results may have more variability than laboratory duplicates, which measures only analytical or method precision. As such, qualification of associated sample results is not applied based upon differences between field duplicate results. The field blank was

analyzed to determine the existence and magnitude of contamination resulting from field activities. However, qualification of associated samples based upon equipment blank contamination is not applied. A summary of sample results and locations selected for field duplicate comparison, field split comparison and field blank analysis are provided in Attachment 5.

8.1 General Chemistry – Not Acceptable

Field Blanks. Trace amounts of chloride, ammonia, and response for conductivity, were detected in the Deionized Water blank (sample 40036). Trace amounts of ammonia, conductivity, fluoride, chloride, nitrate/nitrite, and phosphorus were detected in the Equipment water blank (sample 40053). See Attachment 5 (Table 5.1) for summary tables of field blank contaminants associated with the indicated samples.

Field Duplicate. Precision goals were achieved for all analytes. See Attachment 5 (Table 5.3) for a field duplicate comparison of the indicated samples.

Field Splits. A field split comparison of general chemistry and metal analytes was performed between SVL Analytical, Inc. and Analytical Resources, Inc. Precision goals were achieved for all analytes with the exception of total phosphorus for sample TW-35, and total phosphorus and fluoride in sample TW-20. A summary of analyte comparisons is presented in Table 5.4. Qualification of field split results is not applied according to data validation guidelines, due to out of limit precision criteria.

8.2 Metals – Not Acceptable

Field Duplicate. Precision goals were achieved for all analytes with the exception of molybdenum in sampleTW-11 (ID # 40028 and 40029). See Attachment 5 (Table 5.3) for a field duplicate comparison of the indicated samples. Qualification of field duplicate results is not applied according to data validation guidelines, due to out of limit precision criteria.

Field Splits. A field split comparison of metal analytes was performed. Precision goals were achieved for all analytes. A summary of analyte comparisons is presented in Table 5.4.

Field Blanks. Metal analytes calcium, magnesium, and iron were detected in the Equipment water blank (sample 40053). See Attachment 5 for summary tables of field blanks associated with this sampling round.

9. OVERALL ASSESSMENT

Overall assessment was performed on the entire data package. Review of the data results was performed in conjunction with the governing plan.

9.1 General Chemistry - Acceptable

Detection Limits. Detection limit goals were met for all results.

Target Analyte Identification and Quantitation. Sample results were not supported by raw data in these data packages. The data packages are equivalent to a Tier I deliverable and raw data is not typically provided.

Completeness. The data package was complete for the requested analyses. A total of fifty-one (51) samples were validated for this data validation report with a total of 652 determinations reported, all of which were deemed valid. This results in a completeness of 100 percent, which meets normal work plan objectives of 90%.

9.3 Metals - Acceptable

Detection Limits. Detection limit goals were met for all results.

Target Analyte Identification and Quantitation. Sample results were not supported by raw data in these data packages. The data packages are equivalent to a Tier I deliverable and raw data is not typically provided.

Completeness. The data package was complete for the requested analyses. A total of fifty-one (51) samples were validated for this data validation report with a total of 540 determinations reported, all of which were deemed valid. This results in a completeness of 100 percent, which meets normal work plan objectives of 90%.

10. DATA VALIDATION AND USABILITY

Data were validated by Golder personnel, based on the applicable elements of the USEPA Functional Guidelines for Inorganic Data Review (EPA 2002), USEPA Contract Laboratory Program, Golder technical procedure TP-2.2-12 "Analytical Data Management" (Golder 1995), applicable reference method requirements as appropriate, and the Environmental Monitoring Plan.

Validation/verification and data management activities were organized by analytical fraction (i.e. Metals, or General Chemistry). All hard copy or electronic deliverable data were reviewed against chain-of-custody for verification of sample identification and analyses requested. Any incorrect data or discrepancies noted in the verification were resolved with project management and/or the data generator. Any corrections to the original data were noted on the batch log and corrected data sheets or electronic deliverables were issued if necessary. After the completion of data validation/verification any qualifiers or other comments noted in the validation/verification process assigned to the

data were entered into the qualifier or comment section of the database as appropriate. A glossary of data qualifiers is provided in Attachment 1.

The analytical data resulting from analysis of groundwater quality monitoring in support of the Phase II Remedial Investigation Work Plan for the Monsanto Soda Springs Elemental Phosphorus Plant are acceptable for their intended use. Limitations and sources of existing data are stated and clearly identified where applicable. Validated data are included in Attachment 3.

11. REFERENCES

GAI 1992, Golder Associates, Inc. Phase II Remedial Investigation Work Plan for the Monsanto Soda Springs Elemental Phosphorus Plant, Rev. 0, July 22, 1992.

EPA 2002, USEPA Contract Laboratory Program, National Functional Guidelines for Inorganic Data Review, EPA-540/R-01-008, July 2002.

GAI 1995, Golder Associates, Inc. Technical Procedure TP-2.2-12 "Analytical Data Management, Golder Associates, Inc., Redmond, Washington, 1995.

ATTACHMENT 1

GLOSSARY OF DATA QUALIFIERS

GLOSSARY OF DATA QUALIFIERS

INORGANIC:

U: The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.

B: The associated value is greater than the instrument detection limit but less than the associated quantitation limit.

J: The associated value is an estimated quantity.

R: The data are unusable. (Note: Analyte may or may not be present)

UJ: The material was analyzed for, but not detected. The associated value is an estimate and may be inaccurate or imprecise

ATTACHMENT 2

SUMMARY OF DATA QUALIFICATIONS

DATA QUALIFICATION SUMMARY

SDG: GT78 (ARI) and 111628, 111645, 111674, 111702, 111726 / SVL Analytical	PROJECT: 913-1101	DATE: August 27, 2004	PAGE 1 OF 1
COMPOUND/ ANALYTE	QUALIFIER	SAMPLES AFFECTED	REASON
GENERAL CHEMISTRY			
TDS	J/UJ	TW-57 (#40048)	Holding Time exceeded
METALS			
Selenium	J	TW-29, TW-45 (#40001, 40045)	Matrix Spike recovery out of limit (74%, both)

ATTACHMENT 3

ANNOTATED LABORATORY REPORTS

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: 40017
SAMPLE

Lab Sample ID: GT78A
LIMS ID: 04-9778
Matrix: Water
Data Release Authorized:
Reported: 07/08/04

QC Report No: GT78-Golder Associates Inc.
Project: Monsanto/Soda Springs, ID
913-1101.605
Date Sampled: 06/23/04
Date Received: 06/24/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3020A	06/28/04	7131A	06/30/04	7440-43-9	Cadmium	0.0002	0.0002	U
3010A	06/28/04	6010B	07/06/04	**7439-95-4**	**Magnesium**	0.05	**263**	
3010A	06/28/04	6010B	07/06/04	**7439-96-5**	**Manganese**	0.001	**0.137**	
3010A	06/28/04	6010B	07/06/04	**7439-98-7**	**Molybdenum**	0.005	**0.009**	
7740	06/28/04	7740	07/06/04	7782-49-2	Selenium	0.002	0.002	U
3010A	06/28/04	6010B	07/06/04	7440-62-2	Vanadium	0.003	0.003	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: 40027
SAMPLE

Lab Sample ID: GT78B
LIMS ID: 04-9779
Matrix: Water
Data Release Authorized:
Reported: 07/08/04

QC Report No: GT78-Golder Associates Inc.
Project: Monsanto/Soda Springs, ID
913-1101.605
Date Sampled: 06/23/04
Date Received: 06/24/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3020A	06/28/04	7131A	06/30/04	**7440-43-9**	**Cadmium**	0.004	**0.010**	
3010A	06/28/04	6010B	07/06/04	**7439-95-4**	**Magnesium**	0.05	**138**	
3010A	06/28/04	6010B	07/06/04	7439-96-5	Manganese	0.001	0.001	U
3010A	06/28/04	6010B	07/06/04	**7439-98-7**	**Molybdenum**	0.005	**0.052**	
7740	06/28/04	7740	07/06/04	**7782-49-2**	**Selenium**	0.04	**0.38**	
3010A	06/28/04	6010B	07/06/04	**7440-62-2**	**Vanadium**	0.003	**0.008**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: 40030
SAMPLE

Lab Sample ID: GT78C
LIMS ID: 04-9780
Matrix: Water
Data Release Authorized:
Reported: 07/08/04

QC Report No: GT78-Golder Associates Inc.
Project: Monsanto/Soda Springs, ID
913-1101.605
Date Sampled: 06/23/04
Date Received: 06/24/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3020A	06/28/04	7131A	06/30/04	7440-43-9	Cadmium	0.0002	0.0002	U
3010A	06/28/04	6010B	07/06/04	**7439-95-4**	**Magnesium**	0.05	**37.9**	
3010A	06/28/04	6010B	07/06/04	7439-96-5	Manganese	0.001	0.001	U
3010A	06/28/04	6010B	07/06/04	**7439-98-7**	**Molybdenum**	0.005	**0.009**	
7740	06/28/04	7740	07/06/04	**7782-49-2**	**Selenium**	0.002	**0.002**	
3010A	06/28/04	6010B	07/06/04	7440-62-2	Vanadium	0.003	0.003	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: 40032
SAMPLE

Lab Sample ID: GT78D
LIMS ID: 04-9781
Matrix: Water
Data Release Authorized
Reported: 07/08/04

QC Report No: GT78-Golder Associates Inc.
Project: Monsanto/Soda Springs, ID
913-1101.605
Date Sampled: 06/23/04
Date Received: 06/24/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3020A	06/28/04	7131A	06/30/04	7440-43-9	Cadmium	0.0002	0.0002	U
3010A	06/28/04	6010B	07/06/04	**7439-95-4**	**Magnesium**	0.05	**37.9**	
3010A	06/28/04	6010B	07/06/04	**7439-96-5**	**Manganese**	0.001	**0.050**	
3010A	06/28/04	6010B	07/06/04	**7439-98-7**	**Molybdenum**	0.005	**0.725**	
7740	06/28/04	7740	07/06/04	**7782-49-2**	**Selenium**	0.002	**0.002**	
3010A	06/28/04	6010B	07/06/04	**7440-62-2**	**Vanadium**	0.003	**0.861**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: 40035
SAMPLE

Lab Sample ID: GT78E
LIMS ID: 04-9782
Matrix: Water
Data Release Authorized:
Reported: 07/08/04

QC Report No: GT78-Golder Associates Inc.
Project: Monsanto/Soda Springs, ID
913-1101.605
Date Sampled: 06/23/04
Date Received: 06/24/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3020A	06/28/04	7131A	06/30/04	7440-43-9	Cadmium	0.0002	0.0002	U
3010A	06/28/04	6010B	07/06/04	**7439-95-4**	**Magnesium**	0.05	**41.4**	
3010A	06/28/04	6010B	07/06/04	**7439-96-5**	**Manganese**	0.001	**0.005**	
3010A	06/28/04	6010B	07/06/04	**7439-98-7**	**Molybdenum**	0.005	**0.056**	
7740	06/28/04	7740	07/06/04	**7782-49-2**	**Selenium**	0.002	**0.002**	
3010A	06/28/04	6010B	07/06/04	**7440-62-2**	**Vanadium**	0.003	**0.622**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: METHOD BLANK

Lab Sample ID: GT78MB
LIMS ID: 04-9778
Matrix: Water
Data Release Authorized:
Reported: 07/08/04

QC Report No: GT78-Golder Associates Inc.
Project: Monsanto/Soda Springs, ID
913-1101.605
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3020A	06/28/04	7131A	06/30/04	7440-43-9	Cadmium	0.0002	0.0002	U
3010A	06/28/04	6010B	07/06/04	7439-95-4	Magnesium	0.05	0.05	U
3010A	06/28/04	6010B	07/06/04	7439-96-5	Manganese	0.001	0.001	U
3010A	06/28/04	6010B	07/06/04	7439-98-7	Molybdenum	0.005	0.005	U
7740	06/28/04	7740	07/06/04	7782-49-2	Selenium	0.002	0.002	U
3010A	06/28/04	6010B	07/06/04	7440-62-2	Vanadium	0.003	0.003	U

U-Analyte undetected at given RL
RL-Reporting Limit

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-085
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40045
Sample Collected: 6/24/04 16:03
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394512

Matrix: WATER

Determination	Result Q	Units	Dilution	Method	Analyzed
ALKALINITY	1040	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1850	umhos/cm		120.1	6/29/04
HCO3, CaCO3	1040	mg CaCO3/L		2320B	7/01/04
TDS	1050	mg/L		160.1	6/30/04
Calcium	136	mg/L		6010B	7/12/04
Chloride	30.9	mg/L	10	300.0	7/10/04
Fluoride	0.33	mg/L		300.0	7/10/04
Hardness	1010	mg CaCO3/L		2340B	7/12/04
Magnesium	164	mg/L		6010B	7/12/04
Ammonia as N	0.780	mg/L		350.1	7/09/04
NO2+NO3-N	<0.020	mg/L		353.2	7/01/04
Phosphorus-Total	0.400	mg/L		365.2	7/02/04
Sulfate, SO4	132	mg/L	10	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	0.0043	mg/L		6010B	7/12/04
Iron	12.5	mg/L		6010B	7/12/04
Manganese	0.469	mg/L		6010B	7/12/04
Molybdenum	0.0266	mg/L		6010B	7/12/04
Selenium	<0.0030 UJ	mg/L		7740	7/12/04
Vanadium	<0.0050	mg/L		6010B	7/12/04
Zinc	0.0530	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40046
Sample Collected: 6/24/04 17:20
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394513

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	436	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	804	umhos/cm		120.1	6/29/04
HCO3, CaCO3	436	mg CaCO3/L		2320B	7/01/04
TDS	425	mg/L		160.1	6/30/04
Calcium	109	mg/L		6010B	7/12/04
Chloride	11.7	mg/L	5	300.0	7/10/04
Fluoride	0.24	mg/L		300.0	7/10/04
Hardness	441	mg CaCO3/L		2340B	7/12/04
Magnesium	40.7	mg/L		6010B	7/12/04
Ammonia as N	0.040	mg/L		350.1	7/09/04
NO2+NO3-N	1.50	mg/L		353.2	7/01/04
Phosphorus-Total	0.050	mg/L		365.2	7/02/04
Sulfate, SO4	38.0	mg/L	5	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	<0.0020	mg/L		6010B	7/12/04
Iron	0.038	mg/L		6010B	7/12/04
Manganese	<0.0020	mg/L		6010B	7/12/04
Molybdenum	0.0097	mg/L		6010B	7/12/04
Selenium	<0.0030	mg/L		7740	7/12/04
Vanadium	<0.0050	mg/L		6010B	7/12/04
Zinc	0.0121	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Certificate: WA DOE NO. C074; DOH NO. 05

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40047
Sample Collected: 6/24/04 18:05
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394514

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	903	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1690	umhos/cm		120.1	6/29/04
HCO3, CaCO3	903	mg CaCO3/L		2320B	7/01/04
TDS	1020	mg/L		160.1	6/30/04
Calcium	160	mg/L		6010B	7/12/04
Chloride	24.9	mg/L	10	300.0	7/10/04
Fluoride	4.99	mg/L		300.0	7/10/04
Hardness	837	mg CaCO3/L		2340B	7/12/04
Magnesium	106	mg/L		6010B	7/12/04
Ammonia as N	0.980	mg/L		350.1	7/09/04
NO2+NO3-N	4.32	mg/L		353.2	7/01/04
Phosphorus-Total	0.360	mg/L		365.2	7/02/04
Sulfate, SO4	156	mg/L	10	300.0	7/10/04
Aluminum	0.084	mg/L		6010B	7/12/04
Cadmium	0.315	mg/L		6010B	7/12/04
Iron	<0.020	mg/L		6010B	7/12/04
Manganese	0.329	mg/L		6010B	7/12/04
Molybdenum	0.276	mg/L		6010B	7/12/04
Selenium	0.352	mg/L	10	7740	7/12/04
Vanadium	0.102	mg/L		6010B	7/12/04
Zinc	2.48	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40048
Sample Collected: 6/25/04 8:44
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394515

Matrix: WATER

Determination	Result	Q	Units	Dilution	Method	Analyzed
ALKALINITY	954		mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0		mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1570		umhos/cm		120.1	6/29/04
HCO3, CaCO3	954		mg CaCO3/L		2320B	7/01/04
TDS	875	J	mg/L		160.1	7/15/04
Calcium	176		mg/L		6010B	7/12/04
Chloride	14.5		mg/L	10	300.0	7/10/04
Fluoride	0.15		mg/L		300.0	7/10/04
Hardness	864		mg CaCO3/L		2340B	7/12/04
Magnesium	103		mg/L		6010B	7/12/04
Ammonia as N	<0.010		mg/L		350.1	7/09/04
NO2+NO3-N	1.26		mg/L		353.2	7/01/04
Phosphorus-Total	0.220		mg/L		365.2	7/02/04
Sulfate, SO4	75.8		mg/L	10	300.0	7/10/04
Aluminum	<0.020		mg/L		6010B	7/12/04
Cadmium	<0.0020		mg/L		6010B	7/12/04
Iron	0.023		mg/L		6010B	7/12/04
Manganese	<0.0020		mg/L		6010B	7/12/04
Molybdenum	<0.0080		mg/L		6010B	7/12/04
Selenium	<0.0030		mg/L		7740	7/12/04
Vanadium	<0.0050		mg/L		6010B	7/12/04
Zinc	<0.0050		mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 0

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40049
Sample Collected: 6/25/04 9:10
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394516

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	758	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1450	umhos/cm		120.1	6/29/04
HCO3, CaCO3	758	mg CaCO3/L		2320B	7/01/04
TDS	900	mg/L		160.1	6/30/04
Calcium	127	mg/L		6010B	7/12/04
Chloride	27.0	mg/L	10	300.0	7/10/04
Fluoride	0.25	mg/L		300.0	7/10/04
Hardness	788	mg CaCO3/L		2340B	7/12/04
Magnesium	114	mg/L		6010B	7/12/04
Ammonia as N	0.020	mg/L		350.1	7/09/04
NO2+NO3-N	7.29	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.180	mg/L		365.2	7/02/04
Sulfate, SO4	98.1	mg/L	10	300.0	7/10/04
Aluminum	0.267	mg/L		6010B	7/12/04
Cadmium	<0.0020	mg/L		6010B	7/12/04
Iron	0.252	mg/L		6010B	7/12/04
Manganese	0.0060	mg/L		6010B	7/12/04
Molybdenum	0.0084	mg/L		6010B	7/12/04
Selenium	0.0230	mg/L		7740	7/12/04
Vanadium	0.0079	mg/L		6010B	7/12/04
Zinc	<0.0050	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40050
Sample Collected: 6/25/04 9:25
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394517

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	917	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1670	umhos/cm		120.1	6/29/04
HCO3, CaCO3	917	mg CaCO3/L		2320B	7/01/04
TDS	955	mg/L		160.1	6/30/04
Calcium	127	mg/L		6010B	7/12/04
Chloride	55.4	mg/L	10	300.0	7/10/04
Fluoride	0.47	mg/L		300.0	7/10/04
Hardness	857	mg CaCO3/L		2340B	7/12/04
Magnesium	131	mg/L		6010B	7/12/04
Ammonia as N	0.050	mg/L		350.1	7/09/04
NO2+NO3-N	0.420	mg/L		353.2	7/01/04
Phosphorus-Total	0.030	mg/L		365.2	7/02/04
Sulfate, SO4	69.8	mg/L	10	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	<0.0020	mg/L		6010B	7/12/04
Iron	0.297	mg/L		6010B	7/12/04
Manganese	0.102	mg/L		6010B	7/12/04
Molybdenum	0.0198	mg/L		6010B	7/12/04
Selenium	0.0400	mg/L		7740	7/12/04
Vanadium	<0.0050	mg/L		6010B	7/12/04
Zinc	0.0143	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 0

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40051
Sample Collected: 6/25/04 9:45
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394518

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	500	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1140	umhos/cm		120.1	6/29/04
HCO3, CaCO3	500	mg CaCO3/L		2320B	7/01/04
TDS	630	mg/L		160.1	6/30/04
Calcium	121	mg/L		6010B	7/12/04
Chloride	61.0	mg/L	10	300.0	7/10/04
Fluoride	0.33	mg/L		300.0	7/10/04
Hardness	520	mg CaCO3/L		2340B	7/12/04
Magnesium	52.8	mg/L		6010B	7/12/04
Ammonia as N	0.040	mg/L		350.1	7/09/04
NO2+NO3-N	3.46	mg/L		353.2	7/01/04
Phosphorus-Total	0.970	mg/L		365.2	7/02/04
Sulfate, SO4	87.8	mg/L	10	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	0.0074	mg/L		6010B	7/12/04
Iron	<0.020	mg/L		6010B	7/12/04
Manganese	<0.0020	mg/L		6010B	7/12/04
Molybdenum	0.0358	mg/L		6010B	7/12/04
Selenium	0.0170	mg/L		7740	7/12/04
Vanadium	0.0838	mg/L		6010B	7/12/04
Zinc	0.0148	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40052
Sample Collected: 6/25/04 10:58
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394519

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	588	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1880	umhos/cm		120.1	6/29/04
HCO3, CaCO3	588	mg CaCO3/L		2320B	7/01/04
TDS	1270	mg/L		160.1	6/30/04
Calcium	184	mg/L		6010B	7/12/04
Chloride	98.2	mg/L	25	300.0	7/10/04
Fluoride	2.00	mg/L		300.0	7/10/04
Hardness	937	mg CaCO3/L		2340B	7/12/04
Magnesium	116	mg/L		6010B	7/12/04
Ammonia as N	0.020	mg/L		350.1	7/09/04
NO2+NO3-N	6.09	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.180	mg/L		365.2	7/02/04
Sulfate, SO4	437	mg/L	25	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	<0.0020	mg/L		6010B	7/12/04
Iron	0.604	mg/L		6010B	7/12/04
Manganese	0.0039	mg/L		6010B	7/12/04
Molybdenum	0.0554	mg/L		6010B	7/12/04
Selenium	0.273	mg/L	10	7740	7/12/04
Vanadium	<0.0050	mg/L		6010B	7/12/04
Zinc	<0.0050	mg/L		6010B	7/12/04

Reviewed By: [signature] Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0E
Certificate: WA DOE NO. C074; DOH NO. C

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40053
Sample Collected: 6/25/04 10:02
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394520

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	<1.0	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	2.00	umhos/cm		120.1	6/29/04
HCO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
TDS	<10	mg/L		160.1	6/30/04
Calcium	0.159	mg/L		6010B	7/12/04
Chloride	0.28	mg/L		300.0	7/10/04
Fluoride	0.28	mg/L		300.0	7/10/04
Hardness	0.636	mg CaCO3/L		2340B	7/12/04
Magnesium	0.058	mg/L		6010B	7/12/04
Ammonia as N	0.030	mg/L		350.1	7/09/04
NO2+NO3-N	0.030	mg/L		353.2	7/01/04
Phosphorus-Total	0.040	mg/L		365.2	7/02/04
Sulfate, SO4	<0.30	mg/L		300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	<0.0020	mg/L		6010B	7/12/04
Iron	0.025	mg/L		6010B	7/12/04
Manganese	<0.0020	mg/L		6010B	7/12/04
Molybdenum	<0.0080	mg/L		6010B	7/12/04
Selenium	<0.0030	mg/L		7740	7/12/04
Vanadium	<0.0050	mg/L		6010B	7/12/04
Zinc	<0.0050	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-089
Certificate: WA DOE NO. C074; DOH NO. 05(

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40054
Sample Collected: 6/25/04 11:16
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394521

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	924	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1540	umhos/cm		120.1	6/29/04
HCO3, CaCO3	924	mg CaCO3/L		2320B	7/01/04
TDS	905	mg/L		160.1	6/30/04
Calcium	119	mg/L		6010B	7/12/04
Chloride	14.2	mg/L	5	300.0	7/10/04
Fluoride	0.54	mg/L		300.0	7/10/04
Hardness	829	mg CaCO3/L		2340B	7/12/04
Magnesium	129	mg/L		6010B	7/12/04
Ammonia as N	0.060	mg/L		350.1	7/09/04
NO2+NO3-N	1.46	mg/L		353.2	7/01/04
Phosphorus-Total	0.180	mg/L		365.2	7/02/04
Sulfate, SO4	60.5	mg/L	5	300.0	7/10/04
Aluminum	0.023	mg/L		6010B	7/12/04
Cadmium	0.0036	mg/L		6010B	7/12/04
Iron	0.077	mg/L		6010B	7/12/04
Manganese	0.0179	mg/L		6010B	7/12/04
Molybdenum	0.0219	mg/L		6010B	7/12/04
Selenium	0.0560	mg/L		7740	7/12/04
Vanadium	0.0051	mg/L		6010B	7/12/04
Zinc	0.0694	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 1080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0
Certificate: WA DOE NO. C074; DOH NO.

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40055
Sample Collected: 6/25/04 11:29
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394522

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	502	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1330	umhos/cm		120.1	6/29/04
HCO3, CaCO3	502	mg CaCO3/L		2320B	7/01/04
TDS	720	mg/L		160.1	6/30/04
Calcium	115	mg/L		6010B	7/12/04
Chloride	117	mg/L	25	300.0	7/13/04
Fluoride	0.37	mg/L		300.0	7/10/04
Hardness	508	mg CaCO3/L		2340B	7/12/04
Magnesium	53.5	mg/L		6010B	7/12/04
Ammonia as N	0.050	mg/L		350.1	7/09/04
NO2+NO3-N	3.27	mg/L		353.2	7/01/04
Phosphorus-Total	0.930	mg/L		365.2	7/02/04
Sulfate, SO4	88.2	mg/L	10	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	0.0062	mg/L		6010B	7/12/04
Iron	<0.020	mg/L		6010B	7/12/04
Manganese	<0.0020	mg/L		6010B	7/12/04
Molybdenum	0.0376	mg/L		6010B	7/12/04
Selenium	0.0170	mg/L		7740	7/12/04
Vanadium	0.0814	mg/L		6010B	7/12/04
Zinc	0.0148	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40056
Sample Collected: 6/25/04 11:30
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394523

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	514	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	7.6	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1340	umhos/cm		120.1	6/29/04
HCO3, CaCO3	506	mg CaCO3/L		2320B	7/01/04
TDS	764	mg/L		160.1	6/30/04
Calcium	116	mg/L		6010B	7/12/04
Chloride	119	mg/L	25	300.0	7/13/04
Fluoride	0.37	mg/L		300.0	7/10/04
Hardness	512	mg CaCO3/L		2340B	7/12/04
Magnesium	54.0	mg/L		6010B	7/12/04
Ammonia as N	0.050	mg/L		350.1	7/09/04
NO2+NO3-N	3.28	mg/L		353.2	7/01/04
Phosphorus-Total	0.930	mg/L		365.2	7/02/04
Sulfate, SO4	92.9	mg/L	10	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	0.0063	mg/L		6010B	7/12/04
Iron	<0.020	mg/L		6010B	7/12/04
Manganese	<0.0020	mg/L		6010B	7/12/04
Molybdenum	0.0379	mg/L		6010B	7/12/04
Selenium	0.0170	mg/L		7740	7/12/04
Vanadium	0.0834	mg/L		6010B	7/12/04
Zinc	0.0159	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-08
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40057
Sample Collected: 6/25/04 11:31
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394524

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	505	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1350	umhos/cm		120.1	6/29/04
HCO3, CaCO3	505	mg CaCO3/L		2320B	7/01/04
TDS	770	mg/L		160.1	6/30/04
Calcium	116	mg/L		6010B	7/12/04
Chloride	116	mg/L	25	300.0	7/13/04
Fluoride	0.35	mg/L		300.0	7/10/04
Hardness	509	mg CaCO3/L		2340B	7/12/04
Magnesium	53.6	mg/L		6010B	7/12/04
Ammonia as N	0.060	mg/L		350.1	7/09/04
NO2+NO3-N	3.29	mg/L		353.2	7/01/04
Phosphorus-Total	0.930	mg/L		365.2	7/02/04
Sulfate, SO4	93.7	mg/L	5	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	0.0063	mg/L		6010B	7/12/04
Iron	<0.020	mg/L		6010B	7/12/04
Manganese	<0.0020	mg/L		6010B	7/12/04
Molybdenum	0.0370	mg/L		6010B	7/12/04
Selenium	0.0190	mg/L		7740	7/12/04
Vanadium	0.0829	mg/L		6010B	7/12/04
Zinc	0.0153	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Phone: (208)784-1258 ▪ Fax: (208)783-0891

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40058
Sample Collected: 6/25/04 11:40
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394525

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	530	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	916	umhos/cm		120.1	6/29/04
HCO3, CaCO3	530	mg CaCO3/L		2320B	7/01/04
TDS	537	mg/L		160.1	6/30/04
Calcium	71.6	mg/L		6010B	7/12/04
Chloride	10.2	mg/L	2	300.0	7/10/04
Fluoride	0.28	mg/L		300.0	7/10/04
Hardness	460	mg CaCO3/L		2340B	7/12/04
Magnesium	68.3	mg/L		6010B	7/12/04
Ammonia as N	0.050	mg/L		350.1	7/09/04
NO2+NO3-N	0.090	mg/L		353.2	7/01/04
Phosphorus-Total	0.080	mg/L		365.2	7/02/04
Sulfate, SO4	38.4	mg/L	2	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	<0.0020	mg/L		6010B	7/12/04
Iron	0.554	mg/L		6010B	7/12/04
Manganese	0.0677	mg/L		6010B	7/12/04
Molybdenum	0.0084	mg/L		6010B	7/12/04
Selenium	<0.0030	mg/L		7740	7/12/04
Vanadium	<0.0050	mg/L		6010B	7/12/04
Zinc	<0.0050	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40059
Sample Collected: 6/25/04 12:05
Sample Receipt : 6/28/04
Date of Report : 7/15/04

SVL JOB: 111726
SAMPLE: 394526

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	602	mg CaCO3/L		2320B	7/01/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	7/01/04
Spec. Cond.	1480	umhos/cm		120.1	6/29/04
HCO3, CaCO3	602	mg CaCO3/L		2320B	7/01/04
TDS	922	mg/L		160.1	6/30/04
Calcium	155	mg/L		6010B	7/12/04
Chloride	55.7	mg/L	25	300.0	7/10/04
Fluoride	0.36	mg/L		300.0	7/10/04
Hardness	761	mg CaCO3/L		2340B	7/12/04
Magnesium	91.0	mg/L		6010B	7/12/04
Ammonia as N	0.210	mg/L		350.1	7/09/04
NO2+NO3-N	5.05	mg/L		353.2	7/01/04
Phosphorus-Total	0.110	mg/L		365.2	7/02/04
Sulfate, SO4	227	mg/L	25	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/12/04
Cadmium	<0.0020	mg/L		6010B	7/12/04
Iron	0.027	mg/L		6010B	7/12/04
Manganese	<0.0020	mg/L		6010B	7/12/04
Molybdenum	0.0857	mg/L		6010B	7/12/04
Selenium	0.0470	mg/L		7740	7/12/04
Vanadium	<0.0050	mg/L		6010B	7/12/04
Zinc	0.324	mg/L		6010B	7/12/04

Reviewed By: _____ Date 7/15/04
7/15/04 10:39

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GOLDER ASSOCIATES

SVL JOB No: 111726

Analyte	Method	Matrix	Units	Prep Blank	True—LCS—Found		LCS %R	Analysis Date
Aluminum	6010B	WATER	mg/L	<0.020	1.00	1.06	106.0	7/12/04
Calcium	6010B	WATER	mg/L	<0.040	20.0	19.7	98.5	7/12/04
Cadmium	6010B	WATER	mg/L	<0.0020	1.00	1.04	104.0	7/12/04
Iron	6010B	WATER	mg/L	<0.020	10.0	10.4	104.0	7/12/04
Hardness	2340B	WATER	mg/L	<0.265	132	134	101.5	7/12/04
Magnesium	6010B	WATER	mg/L	<0.040	20.0	20.7	103.5	7/12/04
Manganese	6010B	WATER	mg/L	<0.0020	1.00	1.03	103.0	7/12/04
Molybdenum	6010B	WATER	mg/L	<0.0080	1.00	1.06	106.0	7/12/04
Vanadium	6010B	WATER	mg/L	<0.0050	1.00	1.08	108.0	7/12/04
Zinc	6010B	WATER	mg/L	<0.0050	1.00	1.03	103.0	7/12/04
Selenium	7740	WATER	mg/L	<0.0030	0.0500	0.0480	96.0	7/12/04
Chloride	300.0	WATER	mg/L	<0.20	5.00	4.94	98.8	7/10/04
Fluoride	300.0	WATER	mg/L	<0.10	2.50	2.49	99.6	7/10/04
Sulfate, SO4	300.0	WATER	mg/L	<0.30	10.0	9.93	99.3	7/10/04
ALKALINITY	2320B	WATER	mg/L	<1.0	94.9	101	106.4	7/01/04
Spec. Cond.	120.1	WATER	umhos/cm	0.036	478	443	92.7	6/29/04
TDS	160.1	WATER	mg/L	<10	250	241	96.4	6/30/04
Ammonia as N	350.1	WATER	mg/L	<0.010	9.32	9.26	99.4	7/09/04
NO2+NO3-N	353.2	WATER	mg/L	<0.020	14.1	15.1	107.1	7/01/04
Phosphorus-Total	365.2	WATER	mg/L	<0.010	2.53	2.62	103.6	7/02/04

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GOLDER ASSOCIATES

SVL JOB No: 111726

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	SPK ADD	%R	Analysis Date
Al	6010B	W	1	mg/L	<0.020	1.06	M	1.9	1.08	1.00	108.0	7/12/04
Al	6010B	W	2	mg/L	<0.020	N/A		N/A	1.08	1.00	108.0	7/12/04
Ca	6010B	W	1	mg/L	136	152	M	0.0	152	20.0	80.0	7/12/04
Ca	6010B	W	2	mg/L	115	N/A		N/A	140	20.0	125.0	7/12/04
Cd	6010B	W	1	mg/L	0.0043	1.03	M	1.9	1.05	1.00	104.6	7/12/04
Cd	6010B	W	2	mg/L	0.0062	N/A		N/A	1.04	1.00	103.4	7/12/04
Fe	6010B	W	1	mg/L	12.5	23.0	M	0.4	23.1	10.0	106.0	7/12/04
Fe	6010B	W	2	mg/L	<0.020	N/A		N/A	10.5	10.0	105.0	7/12/04
Hdns	2340B	W	1	mg/L	1010	1120	M	0.0	1120	132	83.3	7/12/04
Hdns	2340B	W	2	mg/L	508	N/A		N/A	649	132	106.8	7/12/04
Mg	6010B	W	1	mg/L	164	180	M	0.6	179	20.0	75.0	7/12/04
Mg	6010B	W	2	mg/L	53.5	N/A		N/A	72.8	20.0	96.5	7/12/04
Mn	6010B	W	1	mg/L	0.469	1.50	M	0.7	1.51	1.00	104.1	7/12/04
Mn	6010B	W	2	mg/L	<0.0020	N/A		N/A	1.03	1.00	103.0	7/12/04
Mo	6010B	W	1	mg/L	0.0266	1.06	M	0.0	1.06	1.00	103.3	7/12/04
Mo	6010B	W	2	mg/L	0.0376	N/A		N/A	1.08	1.00	104.2	7/12/04
V	6010B	W	1	mg/L	<0.0050	1.08	M	1.8	1.10	1.00	110.0	7/12/04
V	6010B	W	2	mg/L	0.0814	N/A		N/A	1.18	1.00	109.9	7/12/04
Zn	6010B	W	1	mg/L	0.0530	1.06	M	1.9	1.08	1.00	102.7	7/12/04
Zn	6010B	W	2	mg/L	0.0148	N/A		N/A	1.04	1.00	102.5	7/12/04
Se	7740	W	1	mg/L	<0.0030	0.0370	M	0.0	0.0370	0.0500	74.0	7/12/04
Se	7740	W	2	mg/L	0.0170	N/A		N/A	0.0550	0.0500	76.0	7/12/04
Cl	300.0	W	1	mg/L	30.9	31.8		2.9	52.7	20.0	109.0	7/10/04
Cl	300.0	W	2	mg/L	117	N/A		N/A	170	50.0	106.0	7/13/04
F	300.0	W	1	mg/L	0.33	0.34		3.0	2.16	2.00	91.5	7/10/04
F	300.0	W	2	mg/L	0.37	N/A		N/A	2.13	2.00	88.0	7/10/04
SO4	300.0	W	1	mg/L	132	135		2.2	187	50.0	110.0	7/10/04
SO4	300.0	W	2	mg/L	88.2	N/A		N/A	140	50.0	103.6	7/10/04
ALK	2320B	W	1	mg/L	1040	1080		3.8	N/A	N/A	N/A	7/01/04
CO3	2320B	W	1	mg/L	<1.0	<1.0		UDL	N/A	N/A	N/A	7/01/04
HCO3	2320B	W	1	mg/L	1040	1080		3.8	N/A	N/A	N/A	7/01/04
COND	120.1	W	1	umhos/c	1850	1850		0.0	N/A	N/A	N/A	6/29/04
TDS	160.1	W	1	mg/L	1050	1060		0.9	N/A	N/A	N/A	6/30/04
NH3-N	350.1	W	1	mg/L	0.780	0.780		0.0	1.84	1.00	106.0	7/09/04
NH3-N	350.1	W	2	mg/L	0.050	N/A		N/A	1.11	1.00	106.0	7/09/04
NO2NO3	353.2	W	1	mg/L	<0.020	<0.020		UDL	1.05	1.00	105.0	7/01/04
NO2NO3	353.2	W	2	mg/L	3.27	N/A		N/A	4.25	1.00	98.0	7/01/04
P-TOT	365.2	W	1	mg/L	0.400	0.400		0.0	0.900	0.500	100.0	7/02/04
P-TOT	365.2	W	2	mg/L	0.930	N/A		N/A	1.36	0.500	86.0	7/02/04

LEGEND:
RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.
RPD% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.
SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added
QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.
Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 394512 Client Sample ID: 40045
QC Sample 2: SVL SAM No.: 394522 Client Sample ID: 40055

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-089
Certificate: WA DOE NO. C074; DOH NO. 05

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40037
Sample Collected: 6/23/04 17:10
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394171

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	445	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	1130	umhos/cm		120.1	6/29/04
HCO3, CaCO3	445	mg CaCO3/L		2320B	6/30/04
TDS	644	mg/L		160.1	6/29/04
Calcium	115	mg/L		6010B	7/11/04
Chloride	53.4	mg/L	10	300.0	7/10/04
Fluoride	0.24	mg/L		300.0	7/10/04
Hardness	556	mg CaCO3/L		2340B	7/11/04
Magnesium	65.4	mg/L		6010B	7/11/04
Ammonia as N	0.050	mg/L		350.1	6/30/04
NO2+NO3-N	6.47	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.080	mg/L		365.2	7/01/04
Sulfate, SO4	134	mg/L	10	300.0	7/10/04
Aluminum	0.028	mg/L		6010B	7/11/04
Cadmium	<0.0020	mg/L		6010B	7/11/04
Iron	0.090	mg/L		6010B	7/11/04
Manganese	0.0198	mg/L		6010B	7/11/04
Molybdenum	0.102	mg/L		6010B	7/11/04
Selenium	<0.0030	mg/L		7740	7/11/04
Vanadium	<0.0050	mg/L		6010B	7/11/04
Zinc	0.0148	mg/L		6010B	7/11/04

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ053B CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-
Certificate: WA DOE NO. C074; DOH NO.

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40038
Sample Collected: 6/23/04 15:19
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394172

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	729	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	1860	umhos/cm		120.1	6/29/04
HCO3, CaCO3	729	mg CaCO3/L		2320B	6/30/04
TDS	930	mg/L		160.1	6/29/04
Calcium	149	mg/L		6010B	7/11/04
Chloride	95.9	mg/L	10	300.0	7/10/04
Fluoride	1.94	mg/L		300.0	7/10/04
Hardness	944	mg CaCO3/L		2340B	7/11/04
Magnesium	139	mg/L		6010B	7/11/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	6.66	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.330	mg/L		365.2	7/01/04
Sulfate, SO4	285	mg/L	25	300.0	7/13/04
Aluminum	<0.020	mg/L		6010B	7/11/04
Cadmium	0.0115	mg/L		6010B	7/11/04
Iron	<0.020	mg/L		6010B	7/11/04
Manganese	<0.0020	mg/L		6010B	7/11/04
Molybdenum	0.0528	mg/L		6010B	7/11/04
Selenium	0.232	mg/L	5	7740	7/11/04
Vanadium	0.0151	mg/L		6010B	7/11/04
Zinc	0.158	mg/L		6010B	7/11/04

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40039
Sample Collected: 6/23/04 15:30
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394173

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	702	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	2360	umhos/cm		120.1	6/29/04
HCO3, CaCO3	702	mg CaCO3/L		2320B	6/30/04
TDS	1320	mg/L		160.1	6/29/04
Calcium	108	mg/L		6010B	7/11/04
Chloride	358	mg/L	50	300.0	7/13/04
Fluoride	1.00	mg/L		300.0	7/10/04
Hardness	784	mg CaCO3/L		2340B	7/11/04
Magnesium	125	mg/L		6010B	7/11/04
Ammonia as N	0.010	mg/L		350.1	6/30/04
NO2+NO3-N	1.48	mg/L		353.2	6/28/04
Phosphorus-Total	0.170	mg/L		365.2	7/01/04
Sulfate, SO4	147	mg/L	25	300.0	7/10/04
Aluminum	0.049	mg/L		6010B	7/11/04
Cadmium	0.0034	mg/L		6010B	7/11/04
Iron	0.300	mg/L		6010B	7/11/04
Manganese	0.0240	mg/L		6010B	7/11/04
Molybdenum	0.0300	mg/L		6010B	7/11/04
Selenium	0.124	mg/L	2	7740	7/11/04
Vanadium	0.0079	mg/L		6010B	7/11/04
Zinc	0.0344	mg/L		6010B	7/11/04

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Phone: (208)784-1258 ▪ Fax: (208)783-08

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40040
Sample Collected: 6/23/04 17:37
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 11170
SAMPLE: 39417-

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	1720	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	1640	umhos/cm		120.1	6/29/04
HCO3, CaCO3	1720	mg CaCO3/L		2320B	6/30/04
TDS	1030	mg/L		160.1	6/29/04
Calcium	189	mg/L		6010B	7/11/04
Chloride	42.1	mg/L	10	300.0	7/10/04
Fluoride	0.23	mg/L		300.0	7/10/04
Hardness	941	mg CaCO3/L		2340B	7/11/04
Magnesium	114	mg/L		6010B	7/11/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	2.69	mg/L		353.2	6/28/04
Phosphorus-Total	0.130	mg/L		365.2	7/01/04
Sulfate, SO4	174	mg/L	10	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/11/04
Cadmium	<0.0020	mg/L		6010B	7/11/04
Iron	<0.020	mg/L		6010B	7/11/04
Manganese	<0.0020	mg/L		6010B	7/11/04
Molybdenum	0.0160	mg/L		6010B	7/11/04
Selenium	0.0600	mg/L		7740	7/11/04
Vanadium	<0.0050	mg/L		6010B	7/11/04
Zinc	<0.0050	mg/L		6010B	7/11/04

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Certificate: WA DOE NO. C074; DOH NO. 0

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40042
Sample Collected: 6/23/04 17:06
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394176

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	646	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	1880	umhos/cm		120.1	6/29/04
HCO3, CaCO3	646	mg CaCO3/L		2320B	6/30/04
TDS	1220	mg/L		160.1	6/29/04
Calcium	176	mg/L		6010B	7/11/04
Chloride	84.3	mg/L	25	300.0	7/10/04
Fluoride	1.74	mg/L		300.0	7/10/04
Hardness	961	mg CaCO3/L		2340B	7/11/04
Magnesium	127	mg/L		6010B	7/11/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	5.35	mg/L		353.2	6/28/04
Phosphorus-Total	0.160	mg/L		365.2	7/01/04
Sulfate, SO4	388	mg/L	25	300.0	7/10/04
Aluminum	0.036	mg/L		6010B	7/11/04
Cadmium	<0.0020	mg/L		6010B	7/11/04
Iron	0.046	mg/L		6010B	7/11/04
Manganese	0.0032	mg/L		6010B	7/11/04
Molybdenum	0.0487	mg/L		6010B	7/11/04
Selenium	0.222	mg/L	5	7740	7/11/04
Vanadium	<0.0050	mg/L		6010B	7/11/04
Zinc	0.0235	mg/L		6010B	7/11/04

TIME ON SAMPLE READS, 19:06

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Phone: (208)784-1258 ▪ Fax: (208)783-089

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40041
Sample Collected: 6/23/04 18:20
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394175

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	594	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	2040	umhos/cm		120.1	6/29/04
HCO3, CaCO3	594	mg CaCO3/L		2320B	6/30/04
TDS	1370	mg/L		160.1	6/29/04
Calcium	193	mg/L		6010B	7/11/04
Chloride	109	mg/L	25	300.0	7/10/04
Fluoride	2.23	mg/L		300.0	7/10/04
Hardness	1020	mg CaCO3/L		2340B	7/11/04
Magnesium	131	mg/L		6010B	7/11/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	7.05	mg/L	2	353.2	7/02/04
Phosphorus-Total	0.250	mg/L		365.2	7/01/04
Sulfate, SO4	508	mg/L	25	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/11/04
Cadmium	0.0023	mg/L		6010B	7/11/04
Iron	0.025	mg/L		6010B	7/11/04
Manganese	<0.0020	mg/L		6010B	7/11/04
Molybdenum	0.0581	mg/L		6010B	7/11/04
Selenium	0.374	mg/L	10	7740	7/11/04
Vanadium	0.0052	mg/L		6010B	7/11/04
Zinc	0.0891	mg/L		6010B	7/11/04

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-085
Certificate: WA DOE NO. C074; DOH NO. 05

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40043
Sample Collected: 6/24/04 12:20
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394178

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	1550	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	2290	umhos/cm		120.1	6/29/04
HCO3, CaCO3	1550	mg CaCO3/L		2320B	6/30/04
TDS	1210	mg/L		160.1	6/29/04
Calcium	54.9	mg/L		6010B	7/11/04
Chloride	17.4	mg/L	5	300.0	7/10/04
Fluoride	<0.50*	mg/L		300.0	7/10/04
Hardness	1400	mg CaCO3/L		2340B	7/11/04
Magnesium	307	mg/L		6010B	7/11/04
Ammonia as N	0.730	mg/L		350.1	6/30/04
NO2+NO3-N	<0.020	mg/L		353.2	6/28/04
Phosphorus-Total	0.970	mg/L		365.2	7/01/04
Sulfate, SO4	76.6	mg/L	5	300.0	7/10/04
Aluminum	0.448	mg/L		6010B	7/11/04
Cadmium	<0.0020	mg/L		6010B	7/11/04
Iron	7.39	mg/L		6010B	7/11/04
Manganese	0.109	mg/L		6010B	7/11/04
Molybdenum	0.0143	mg/L		6010B	7/11/04
Selenium	<0.0030	mg/L		7740	7/11/04
Vanadium	<0.0050	mg/L		6010B	7/11/04
Zinc	<0.0050	mg/L		6010B	7/11/04

*Elevated detection limit due to matrix interference.

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40024
Sample Collected: 6/24/04 12:42
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394177

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	504	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	1240	umhos/cm		120.1	6/29/04
HCO3, CaCO3	504	mg CaCO3/L		2320B	6/30/04
TDS	779	mg/L		160.1	6/29/04
Calcium	118	mg/L		6010B	7/11/04
Chloride	44.6	mg/L	10	300.0	7/10/04
Fluoride	0.33	mg/L		300.0	7/10/04
Hardness	672	mg CaCO3/L		2340B	7/11/04
Magnesium	91.8	mg/L		6010B	7/11/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	0.100	mg/L		353.2	6/28/04
Phosphorus-Total	0.060	mg/L		365.2	7/01/04
Sulfate, SO4	206	mg/L	10	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/11/04
Cadmium	<0.0020	mg/L		6010B	7/11/04
Iron	0.842	mg/L		6010B	7/11/04
Manganese	0.236	mg/L		6010B	7/11/04
Molybdenum	0.0160	mg/L		6010B	7/11/04
Selenium	<0.030*	mg/L	10	7740	7/11/04
Vanadium	<0.0050	mg/L		6010B	7/11/04
Zinc	<0.0050	mg/L		6010B	7/11/04

*Elevated detection limit due to matrix interference.

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GOLDER ASSOCIATES

SVL JOB No: 111702

Analyte	Method	Matrix	Units	Prep Blank	True—LCS	—Found	LCS %R	Analysis Date
Aluminum	6010B	WATER	mg/L	<0.020	1.00	1.07	107.0	7/11/04
Calcium	6010B	WATER	mg/L	<0.040	20.0	20.1	100.5	7/11/04
Cadmium	6010B	WATER	mg/L	<0.0020	1.00	0.970	97.0	7/11/04
Iron	6010B	WATER	mg/L	<0.020	10.0	10.4	104.0	7/11/04
Hardness	2340B	WATER	mg/L	<0.265	132	133	100.8	7/11/04
Magnesium	6010B	WATER	mg/L	<0.040	20.0	20.1	100.5	7/11/04
Manganese	6010B	WATER	mg/L	<0.0020	1.00	0.990	99.0	7/11/04
Molybdenum	6010B	WATER	mg/L	<0.0080	1.00	1.03	103.0	7/11/04
Vanadium	6010B	WATER	mg/L	<0.0050	1.00	1.03	103.0	7/11/04
Zinc	6010B	WATER	mg/L	<0.0050	1.00	0.923	92.3	7/11/04
Selenium	7740	WATER	mg/L	<0.0030	0.0500	0.0500	100.0	7/11/04
Chloride	300.0	WATER	mg/L	<0.20	5.00	4.94	98.8	7/10/04
Fluoride	300.0	WATER	mg/L	<0.10	2.50	2.49	99.6	7/10/04
Sulfate, SO4	300.0	WATER	mg/L	<0.30	10.0	9.93	99.3	7/10/04
ALKALINITY	2320B	WATER	mg/L	<1.0	22.5	26.9	119.6	6/30/04
Spec. Cond.	120.1	WATER	umhos/cm	0.036	478	443	92.7	6/29/04
TDS	160.1	WATER	mg/L	<10	250	235	94.0	6/29/04
Ammonia as N	350.1	WATER	mg/L	<0.010	9.32	9.28	99.6	6/30/04
NO2+NO3-N	353.2	WATER	mg/L	<0.020	14.1	15.0	106.4	6/28/04
Phosphorus-Total	365.2	WATER	mg/L	<0.010	2.53	2.64	104.3	7/01/04

LEGEND:

LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40044
Sample Collected: 6/24/04 13:50
Sample Receipt : 6/25/04
Date of Report : 7/15/04

SVL JOB: 111702
SAMPLE: 394179

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	483	mg CaCO3/L		2320B	6/30/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/30/04
Spec. Cond.	3120	umhos/cm		120.1	6/29/04
HCO3, CaCO3	483	mg CaCO3/L		2320B	6/30/04
TDS	2010	mg/L		160.1	6/29/04
Calcium	289	mg/L		6010B	7/11/04
Chloride	360	mg/L	50	300.0	7/10/04
Fluoride	4.52	mg/L		300.0	7/10/04
Hardness	1260	mg CaCO3/L		2340B	7/11/04
Magnesium	132	mg/L		6010B	7/11/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	15.7	mg/L	5	353.2	7/01/04
Phosphorus-Total	3.89	mg/L		365.2	7/01/04
Sulfate, SO4	760	mg/L	50	300.0	7/10/04
Aluminum	<0.020	mg/L		6010B	7/11/04
Cadmium	1.99	mg/L		6010B	7/11/04
Iron	<0.020	mg/L		6010B	7/11/04
Manganese	0.0069	mg/L		6010B	7/11/04
Molybdenum	0.194	mg/L		6010B	7/11/04
Selenium	1.13	mg/L	10	7740	7/11/04
Vanadium	0.0814	mg/L		6010B	7/11/04
Zinc	2.33	mg/L		6010B	7/11/04

Reviewed By: _____ Date 7/15/04
7/15/04 11:30

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40011
Sample Collected: 6/22/04 15:01
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393860

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	526	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	2410	umhos/cm		120.1	6/29/04
HCO3, CaCO3	526	mg CaCO3/L		2320B	6/29/04
TDS	1370	mg/L		160.1	6/29/04
Calcium	140	mg/L		6010B	7/10/04
Chloride	368	mg/L	50	300.0	7/01/04
Fluoride	0.72	mg/L	5	300.0	7/02/04
Hardness	892	mg CaCO3/L		2340B	7/10/04
Magnesium	132	mg/L		6010B	7/10/04
Ammonia as N	1.18	mg/L		350.1	6/30/04
NO2+NO3-N	5.93	mg/L	2	353.2	6/28/04
Phosphorus-Total	0.540	mg/L		365.2	7/01/04
Sulfate, SO4	321	mg/L	50	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	0.042	mg/L		6010B	7/10/04
Manganese	0.647	mg/L		6010B	7/10/04
Molybdenum	0.152	mg/L		6010B	7/10/04
Selenium	0.296	mg/L	20	7740	7/09/04
Vanadium	0.0059	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:47

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GOLDER ASSOCIATES

SVL JOB No: 111702

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	SPK ADD	%R	Analysis Date
Al	6010B	W	1	mg/L	0.028	1.13	M	0.9	1.14	1.00	111.2	7/11/04
Ca	6010B	W	1	mg/L	115	134	M	0.0	134	20.0	95.0	7/11/04
Cd	6010B	W	1	mg/L	<0.0020	0.955	M	0.4	0.951	1.00	95.1	7/11/04
Fe	6010B	W	1	mg/L	0.090	10.1	M	2.9	10.4	10.0	103.1	7/11/04
Hdns	2340B	W	1	mg/L	556	686	M	0.1	685	132	97.7	7/11/04
Mg	6010B	W	1	mg/L	65.4	85.2	M	0.1	85.1	20.0	98.5	7/11/04
Mn	6010B	W	1	mg/L	0.0198	0.975	M	2.5	1.00	1.00	98.0	7/11/04
Mo	6010B	W	1	mg/L	0.102	1.14	M	1.8	1.12	1.00	101.8	7/11/04
V	6010B	W	1	mg/L	<0.0050	1.05	M	1.0	1.04	1.00	104.0	7/11/04
Zn	6010B	W	1	mg/L	0.0148	0.905	M	1.0	0.896	1.00	88.1	7/11/04
Se	7740	W	1	mg/L	<0.0030	0.0490	M	10.8	0.0440	0.0500	88.0	7/11/04
Cl	300.0	W	1	mg/L	53.4	53.5		0.2	74.1	20.0	103.5	7/10/04
F	300.0	W	1	mg/L	0.24	0.24		0.0	2.06	2.00	91.0	7/10/04
SO4	300.0	W	1	mg/L	134	134		0.0	185	50.0	102.0	7/10/04
ALK	2320B	W	1	mg/L	445	443		0.5	N/A	N/A	N/A	6/30/04
CO3	2320B	W	1	mg/L	<1.0	<1.0		UDL	N/A	N/A	N/A	6/30/04
HCO3	2320B	W	1	mg/L	445	443		0.5	N/A	N/A	N/A	6/30/04
COND	120.1	W	1	umhos/c	1130	1120		0.9	N/A	N/A	N/A	6/29/04
TDS	160.1	W	1	mg/L	644	675		4.7	N/A	N/A	N/A	6/29/04
NH3-N	350.1	W	1	mg/L	0.050	0.050		0.0	1.08	1.00	103.0	6/30/04
NO2NO3	353.2	W	1	mg/L	6.47	6.79		4.8	8.26	2.00	89.5	7/01/04
P-TOT	365.2	W	1	mg/L	0.080	0.080		0.0	0.590	0.500	102.0	7/01/04

LEGEND:

RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

RPD% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

SPIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 394171 Client Sample ID: 40037

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40020
Sample Collected: 6/22/04 18:30
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393862

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	865	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1670	umhos/cm		120.1	6/29/04
HCO3, CaCO3	865	mg CaCO3/L		2320B	6/29/04
TDS	999	mg/L		160.1	6/29/04
Calcium	147	mg/L		6010B	7/10/04
Chloride	24.8	mg/L	5	300.0	7/02/04
Fluoride	3.37	mg/L	5	300.0	7/02/04
Hardness	819	mg CaCO3/L		2340B	7/10/04
Magnesium	110	mg/L		6010B	7/10/04
Ammonia as N	1.94	mg/L		350.1	6/30/04
NO2+NO3-N	3.77	mg/L		353.2	6/28/04
Phosphorus-Total	0.500	mg/L		365.2	7/01/04
Sulfate, SO4	127	mg/L	25	300.0	7/01/04
Aluminum	0.022	mg/L		6010B	7/10/04
Cadmium	0.0244	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	0.933	mg/L		6010B	7/10/04
Molybdenum	0.328	mg/L		6010B	7/10/04
Selenium	0.245	mg/L	20	7740	7/09/04
Vanadium	0.0061	mg/L		6010B	7/10/04
Zinc	0.0950	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

Certificate: WA DOE NO. C074; DOH NO. 050
SVL ANALYTICAL, INC.
ne Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40019
Sample Collected: 6/22/04 16:43
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393861

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	391	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1370	umhos/cm		120.1	6/29/04
HCO3, CaCO3	391	mg CaCO3/L		2320B	6/29/04
TDS	906	mg/L		160.1	6/29/04
Calcium	121	mg/L		6010B	7/10/04
Chloride	35.8	mg/L	5	300.0	7/02/04
Fluoride	11.8	mg/L	5	300.0	7/02/04
Hardness	589	mg CaCO3/L		2340B	7/10/04
Magnesium	69.4	mg/L		6010B	7/10/04
Ammonia as N	1.11	mg/L		350.1	6/30/04
NO2+NO3-N	8.91	mg/L	2	353.2	7/01/04
Phosphorus-Total	1.38	mg/L		365.2	7/01/04
Sulfate, SO4	307	mg/L	50	300.0	7/01/04
Aluminum	0.263	mg/L		6010B	7/10/04
Cadmium	0.399	mg/L		6010B	7/10/04
Iron	0.233	mg/L		6010B	7/10/04
Manganese	0.768	mg/L		6010B	7/10/04
Molybdenum	0.412	mg/L		6010B	7/10/04
Selenium	0.445	mg/L	20	7740	7/09/04
Vanadium	0.0630	mg/L		6010B	7/10/04
Zinc	2.87	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40022
Sample Collected: 6/22/04 19:25
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393864

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	616	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1330	umhos/cm		120.1	6/29/04
HCO3, CaCO3	616	mg CaCO3/L		2320B	6/29/04
TDS	756	mg/L		160.1	6/29/04
Calcium	142	mg/L		6010B	7/10/04
Chloride	47.7	mg/L	10	300.0	7/01/04
Fluoride	0.37	mg/L		300.0	7/01/04
Hardness	644	mg CaCO3/L		2340B	7/10/04
Magnesium	70.5	mg/L		6010B	7/10/04
Ammonia as N	1.09	mg/L		350.1	6/30/04
NO2+NO3-N	3.80	mg/L		353.2	6/28/04
Phosphorus-Total	0.050	mg/L		365.2	7/01/04
Sulfate, SO4	105	mg/L	10	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	0.269	mg/L		6010B	7/10/04
Manganese	0.0748	mg/L		6010B	7/10/04
Molybdenum	0.240	mg/L		6010B	7/10/04
Selenium	<0.0030	mg/L		7740	7/09/04
Vanadium	<0.0050	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40021
Sample Collected: 6/22/04 18:45
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393863

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	785	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1930	umhos/cm		120.1	6/29/04
HCO3, CaCO3	785	mg CaCO3/L		2320B	6/29/04
TDS	1180	mg/L		160.1	6/29/04
Calcium	162	mg/L		6010B	7/10/04
Chloride	132	mg/L	25	300.0	7/01/04
Fluoride	0.23	mg/L		300.0	7/01/04
Hardness	985	mg CaCO3/L		2340B	7/10/04
Magnesium	141	mg/L		6010B	7/10/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	6.63	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.520	mg/L		365.2	7/01/04
Sulfate, SO4	210	mg/L	25	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	<0.0020	mg/L		6010B	7/10/04
Molybdenum	0.0225	mg/L		6010B	7/10/04
Selenium	0.209	mg/L	20	7740	7/09/04
Vanadium	0.0071	mg/L		6010B	7/10/04
Zinc	0.0155	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40016
Sample Collected: 6/23/04 8:05
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393866

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	1300	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	2180	umhos/cm		120.1	6/29/04
HCO3, CaCO3	1300	mg CaCO3/L		2320B	6/29/04
TDS	1250	mg/L		160.1	6/29/04
Calcium	61.8	mg/L		6010B	7/10/04
Chloride	39.3	mg/L	5	300.0	7/01/04
Fluoride	<0.10	mg/L		300.0	7/01/04
Hardness	1270	mg CaCO3/L		2340B	7/10/04
Magnesium	271	mg/L		6010B	7/10/04
Ammonia as N	0.210	mg/L		350.1	6/30/04
NO2+NO3-N	<0.020	mg/L		353.2	6/28/04
Phosphorus-Total	0.520	mg/L		365.2	7/01/04
Sulfate, SO4	107	mg/L	5	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	5.40	mg/L		6010B	7/10/04
Manganese	0.146	mg/L		6010B	7/10/04
Molybdenum	0.0139	mg/L		6010B	7/10/04
Selenium	<0.0030	mg/L		7740	7/09/04
Vanadium	<0.0050	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40018
Sample Collected: 6/23/04 8:15
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393867

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	633	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1800	umhos/cm		120.1	6/29/04
HCO3, CaCO3	633	mg CaCO3/L		2320B	6/29/04
TDS	1170	mg/L		160.1	6/29/04
Calcium	117	mg/L		6010B	7/10/04
Chloride	95.1	mg/L	25	300.0	7/01/04
Fluoride	1.96	mg/L		300.0	7/01/04
Hardness	844	mg CaCO3/L		2340B	7/10/04
Magnesium	134	mg/L		6010B	7/10/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	4.22	mg/L		353.2	6/28/04
Phosphorus-Total	0.360	mg/L		365.2	7/01/04
Sulfate, SO4	321	mg/L	25	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	0.0119	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	<0.0020	mg/L		6010B	7/10/04
Molybdenum	0.0459	mg/L		6010B	7/10/04
Selenium	0.105	mg/L	20	7740	7/09/04
Vanadium	0.0116	mg/L		6010B	7/10/04
Zinc	0.170	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40025
Sample Collected: 6/23/04 8:36
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393868

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	499	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	2160	umhos/cm		120.1	6/29/04
HCO3, CaCO3	499	mg CaCO3/L		2320B	6/29/04
TDS	1530	mg/L		160.1	6/29/04
Calcium	210	mg/L		6010B	7/10/04
Chloride	139	mg/L	50	300.0	7/01/04
Fluoride	1.67	mg/L	2	300.0	7/02/04
Hardness	1070	mg CaCO3/L		2340B	7/10/04
Magnesium	132	mg/L		6010B	7/10/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	8.16	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.260	mg/L		365.2	7/01/04
Sulfate, SO4	640	mg/L	50	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	0.0094	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	<0.0020	mg/L		6010B	7/10/04
Molybdenum	0.0547	mg/L		6010B	7/10/04
Selenium	0.392	mg/L	20	7740	7/09/04
Vanadium	0.0077	mg/L		6010B	7/10/04
Zinc	0.117	mg/L		6010B	7/10/04

Reviewed By: [signature] Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40026
Sample Collected: 6/23/04 8:35
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393869

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	502	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	2200	umhos/cm		120.1	6/29/04
HCO3, CaCO3	502	mg CaCO3/L		2320B	6/29/04
TDS	1530	mg/L		160.1	6/29/04
Calcium	213	mg/L		6010B	7/10/04
Chloride	140	mg/L	50	300.0	7/01/04
Fluoride	1.70	mg/L	2	300.0	7/02/04
Hardness	1080	mg CaCO3/L		2340B	7/10/04
Magnesium	133	mg/L		6010B	7/10/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	8.49	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.260	mg/L		365.2	7/01/04
Sulfate, SO4	644	mg/L	50	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	0.0095	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	<0.0020	mg/L		6010B	7/10/04
Molybdenum	0.0564	mg/L		6010B	7/10/04
Selenium	0.372	mg/L	20	7740	7/09/04
Vanadium	0.0078	mg/L		6010B	7/10/04
Zinc	0.122	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40028
Sample Collected: 6/23/04 10:00
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393870

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	441	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1110	umhos/cm		120.1	6/29/04
HCO3, CaCO3	441	mg CaCO3/L		2320B	6/29/04
TDS	620	mg/L		160.1	6/29/04
Calcium	90.7	mg/L		6010B	7/10/04
Chloride	43.3	mg/L	10	300.0	7/01/04
Fluoride	0.12	mg/L		300.0	7/01/04
Hardness	368	mg CaCO3/L		2340B	7/10/04
Magnesium	34.3	mg/L		6010B	7/10/04
Ammonia as N	2.22	mg/L	2	350.1	6/30/04
NO2+NO3-N	3.85	mg/L		353.2	6/28/04
Phosphorus-Total	0.060	mg/L		365.2	7/01/04
Sulfate, SO4	116	mg/L	10	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	<0.0020	mg/L		6010B	7/10/04
Molybdenum	0.0123	mg/L		6010B	7/10/04
Selenium	<0.0030	mg/L		7740	7/09/04
Vanadium	<0.0050	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40029
Sample Collected: 6/23/04 10:01
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393871

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	451	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1100	umhos/cm		120.1	6/29/04
HCO3, CaCO3	451	mg CaCO3/L		2320B	6/29/04
TDS	622	mg/L		160.1	6/29/04
Calcium	95.6	mg/L		6010B	7/10/04
Chloride	43.6	mg/L	10	300.0	7/01/04
Fluoride	<0.10	mg/L		300.0	7/01/04
Hardness	391	mg CaCO3/L		2340B	7/10/04
Magnesium	37.0	mg/L		6010B	7/10/04
Ammonia as N	2.26	mg/L		350.1	6/30/04
NO2+NO3-N	3.75	mg/L		353.2	6/28/04
Phosphorus-Total	0.060	mg/L		365.2	7/01/04
Sulfate, SO4	116	mg/L	10	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	<0.0020	mg/L		6010B	7/10/04
Molybdenum	0.0122	mg/L		6010B	7/10/04
Selenium	<0.0030	mg/L		7740	7/09/04
Vanadium	<0.0050	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40031
Sample Collected: 6/23/04 10:13
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393872

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	429	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1180	umhos/cm		120.1	6/29/04
HCO3, CaCO3	429	mg CaCO3/L		2320B	6/29/04
TDS	605	mg/L		160.1	6/29/04
Calcium	97.3	mg/L		6010B	7/10/04
Chloride	52.9	mg/L	10	300.0	7/01/04
Fluoride	0.13	mg/L		300.0	7/01/04
Hardness	394	mg CaCO3/L		2340B	7/10/04
Magnesium	36.7	mg/L		6010B	7/10/04
Ammonia as N	18.1	mg/L	10	350.1	6/30/04
NO2+NO3-N	7.39	mg/L	2	353.2	7/01/04
Phosphorus-Total	0.760	mg/L		365.2	7/01/04
Sulfate, SO4	139	mg/L	10	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	0.020	mg/L		6010B	7/10/04
Manganese	0.0508	mg/L		6010B	7/10/04
Molybdenum	0.729	mg/L		6010B	7/10/04
Selenium	<0.0030	mg/L		7740	7/09/04
Vanadium	0.874	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
ne Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40036
Sample Collected: 6/23/04 12:12
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393873

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	<1.0	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1760	umhos/cm		120.1	6/29/04
HCO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
TDS	<10	mg/L		160.1	6/29/04
Calcium	<0.040	mg/L		6010B	7/10/04
Chloride	0.24	mg/L		300.0	7/01/04
Fluoride	<0.10	mg/L		300.0	7/01/04
Hardness	<0.265	mg CaCO3/L		2340B	7/10/04
Magnesium	<0.040	mg/L		6010B	7/10/04
Ammonia as N	0.030	mg/L		350.1	6/30/04
NO2+NO3-N	<0.020	mg/L		353.2	6/28/04
Phosphorus-Total	<0.010	mg/L		365.2	7/01/04
Sulfate, SO4	<0.30	mg/L		300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	<0.020	mg/L		6010B	7/10/04
Manganese	<0.0020	mg/L		6010B	7/10/04
Molybdenum	<0.0080	mg/L		6010B	7/10/04
Selenium	<0.030	mg/L		7740	7/09/04
Vanadium	<0.0050	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40033
Sample Collected: 6/23/04 13:06
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393874

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	445	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	876	umhos/cm		120.1	6/29/04
HCO3, CaCO3	445	mg CaCO3/L		2320B	6/29/04
TDS	483	mg/L		160.1	6/29/04
Calcium	115	mg/L		6010B	7/10/04
Chloride	18.7	mg/L	5	300.0	7/02/04
Fluoride	0.14	mg/L		300.0	7/02/04
Hardness	453	mg CaCO3/L		2340B	7/10/04
Magnesium	40.5	mg/L		6010B	7/10/04
Ammonia as N	0.050	mg/L		350.1	6/30/04
NO2+NO3-N	2.31	mg/L		353.2	6/28/04
Phosphorus-Total	0.240	mg/L		365.2	7/01/04
Sulfate, SO4	41.4	mg/L	5	300.0	7/02/04
Aluminum	0.209	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	0.198	mg/L		6010B	7/10/04
Manganese	0.0079	mg/L		6010B	7/10/04
Molybdenum	0.0580	mg/L		6010B	7/10/04
Selenium	<0.0030	mg/L		7740	7/09/04
Vanadium	0.645	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
ne Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40034
Sample Collected: 6/23/04 13:07
Sample Receipt : 6/24/04
Date of Report : 7/13/04

SVL JOB: 111674
SAMPLE: 393875

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	443	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	836	umhos/cm		120.1	6/29/04
HCO3, CaCO3	443	mg CaCO3/L		2320B	6/29/04
TDS	474	mg/L		160.1	6/29/04
Calcium	112	mg/L		6010B	7/10/04
Chloride	18.8	mg/L	5	300.0	7/02/04
Fluoride	0.16	mg/L		300.0	7/02/04
Hardness	445	mg CaCO3/L		2340B	7/10/04
Magnesium	39.9	mg/L		6010B	7/10/04
Ammonia as N	0.050	mg/L		350.1	6/30/04
NO2+NO3-N	2.32	mg/L		353.2	6/28/04
Phosphorus-Total	0.240	mg/L		365.2	7/01/04
Sulfate, SO4	41.2	mg/L	5	300.0	7/02/04
Aluminum	0.145	mg/L		6010B	7/10/04
Cadmium	<0.0020	mg/L		6010B	7/10/04
Iron	0.129	mg/L		6010B	7/10/04
Manganese	0.0048	mg/L		6010B	7/10/04
Molybdenum	0.0574	mg/L		6010B	7/10/04
Selenium	<0.0030	mg/L		7740	7/09/04
Vanadium	0.629	mg/L		6010B	7/10/04
Zinc	<0.0050	mg/L		6010B	7/10/04

Reviewed By: _____ Date 7/13/04
7/13/04 10:48

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

/L ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GOLDER ASSOCIATES

SVL JOB No: 111674

Analyte	Method	Matrix	Units	Prep Blank	True—LCS—Found		LCS %R	Analysis Date
Aluminum	6010B	WATER	mg/L	<0.020	1.00	1.05	105.0	7/10/04
Calcium	6010B	WATER	mg/L	<0.040	20.0	19.9	99.5	7/10/04
Cadmium	6010B	WATER	mg/L	<0.0020	1.00	0.987	98.7	7/10/04
Iron	6010B	WATER	mg/L	<0.020	10.0	10.1	101.0	7/10/04
Hardness	2340B	WATER	mg/L	<0.265	132	131	99.2	7/10/04
Magnesium	6010B	WATER	mg/L	<0.040	20.0	19.7	98.5	7/10/04
Manganese	6010B	WATER	mg/L	<0.0020	1.00	1.01	101.0	7/10/04
Molybdenum	6010B	WATER	mg/L	<0.0080	1.00	1.05	105.0	7/10/04
Vanadium	6010B	WATER	mg/L	<0.0050	1.00	1.05	105.0	7/10/04
Zinc	6010B	WATER	mg/L	<0.0050	1.00	1.00	100.0	7/10/04
Selenium	7740	WATER	mg/L	<0.0030	0.0500	0.0500	100.0	7/09/04
Chloride	300.0	WATER	mg/L	<0.20	5.00	4.85	97.0	7/01/04
Fluoride	300.0	WATER	mg/L	<0.10	2.50	2.51	100.4	7/01/04
Sulfate, SO4	300.0	WATER	mg/L	<0.30	10.0	9.73	97.3	7/01/04
ALKALINITY	2320B	WATER	mg/L	<1.0	22.5	23.5	104.4	6/29/04
Spec. Cond.	120.1	WATER	umhos/cm	0.036	478	443	92.7	6/29/04
TDS	160.1	WATER	mg/L	<10	250	235	94.0	6/29/04
Ammonia as N	350.1	WATER	mg/L	<0.010	9.32	9.28	99.6	6/30/04
NO2+NO3-N	353.2	WATER	mg/L	<0.020	14.1	15.0	106.4	6/28/04
Phosphorus-Total	365.2	WATER	mg/L	<0.010	2.53	2.64	104.3	7/01/04

LEGEND:
LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

VL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

Client :GOLDER ASSOCIATES

SVL JOB No: 111674

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	SPK ADD	%R	Analysis Date
l	6010B	W	1	mg/L	<0.020	1.09	M	0.9	1.10	1.00	110.0	7/10/04
Al	6010B	W	2	mg/L	<0.020	N/A		N/A	1.10	1.00	110.0	7/10/04
Ca	6010B	W	1	mg/L	140	162	M	2.5	158	20.0	90.0	7/10/04
a	6010B	W	2	mg/L	90.7	N/A		N/A	114	20.0	116.5	7/10/04
d	6010B	W	1	mg/L	<0.0020	0.932	M	1.3	0.920	1.00	92.0	7/10/04
Cd	6010B	W	2	mg/L	<0.0020	N/A		N/A	0.953	1.00	95.3	7/10/04
Fe	6010B	W	1	mg/L	0.042	9.83	M	0.5	9.78	10.0	97.4	7/10/04
e	6010B	W	2	mg/L	<0.020	N/A		N/A	9.89	10.0	98.9	7/10/04
ins	2340B	W	1	mg/L	892	1030	M	2.0	1010	132	89.4	7/10/04
dns	2340B	W	2	mg/L	368	N/A		N/A	517	132	112.9	7/10/04
Mg	6010B	W	1	mg/L	132	152	M	0.7	151	20.0	95.0	7/10/04
J	6010B	W	2	mg/L	34.3	N/A		N/A	56.5	20.0	111.0	7/10/04
	6010B	W	1	mg/L	0.647	1.63	M	0.6	1.62	1.00	97.3	7/10/04
Mn	6010B	W	2	mg/L	<0.0020	N/A		N/A	0.991	1.00	99.1	7/10/04
Mo	6010B	W	1	mg/L	0.152	1.18	M	3.4	1.14	1.00	98.8	7/10/04
	6010B	W	2	mg/L	0.0123	N/A		N/A	1.03	1.00	101.8	7/10/04
	6010B	W	1	mg/L	0.0059	1.05	M	2.9	1.02	1.00	101.4	7/10/04
V	6010B	W	2	mg/L	<0.0050	N/A		N/A	1.05	1.00	105.0	7/10/04
Zn	6010B	W	1	mg/L	<0.0050	0.934	M	3.3	0.904	1.00	90.4	7/10/04
	6010B	W	2	mg/L	<0.0050	N/A		N/A	0.958	1.00	95.8	7/10/04
	7740	W	1	mg/L	0.296	0.339	M	3.5	0.351	0.0500	110.0	7/09/04
Se	7740	W	2	mg/L	<0.0030	N/A		N/A	0.0450	0.0500	90.0	7/09/04
Cl	300.0	W	1	mg/L	368	368		0.0	449	100	81.0	7/01/04
	300.0	W	2	mg/L	43.3	N/A		N/A	61.8	20.0	92.5	7/01/04
	300.0	W	1	mg/L	0.72	0.64		11.8	10.4	10.0	96.8	7/02/04
F	300.0	W	2	mg/L	0.12	N/A		N/A	1.88	2.00	88.0	7/01/04
SO4	300.0	W	1	mg/L	321	323		0.6	571	250	100.0	7/01/04
4	300.0	W	2	mg/L	116	N/A		N/A	167	50.0	102.0	7/01/04
K	2320B	W	1	mg/L	526	536		1.9	N/A	N/A	N/A	6/29/04
CO3	2320B	W	1	mg/L	<1.0	<1.0		UDL	N/A	N/A	N/A	6/29/04
HCO3	2320B	W	1	mg/L	526	536		1.9	N/A	N/A	N/A	6/29/04
ND	120.1	W	1	umhos/c	2410	2400		0.4	N/A	N/A	N/A	6/29/04
S	160.1	W	1	mg/L	1370	1480		7.7	N/A	N/A	N/A	6/29/04
NH3-N	350.1	W	1	mg/L	1.18	1.17		0.9	2.17	1.00	99.0	6/30/04
3-N	350.1	W	2	mg/L	2.22	N/A		N/A	4.21	2.00	99.5	6/30/04
2NO3	353.2	W	1	mg/L	5.93	5.64		5.0	7.50	2.00	78.5	6/28/04
2NO3	353.2	W	2	mg/L	3.85	N/A		N/A	4.78	1.00	93.0	6/28/04
P-TOT	365.2	W	1	mg/L	0.540	0.540		0.0	1.02	0.500	96.0	7/01/04
TOT	365.2	W	2	mg/L	0.060	N/A		N/A	0.560	0.500	100.0	7/01/04

LEGEND:

RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

D% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

IKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

C Sample 1: SVL SAM No.: 393860 Client Sample ID: 40011

C Sample 2: SVL SAM No.: 393870 Client Sample ID: 40028

VL ANALYTICAL, INC.
ne Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40007
Sample Collected: 6/21/04 15:28
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393530

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	582	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1100	umhos/cm		120.1	6/28/04
HCO3, CaCO3	582	mg CaCO3/L		2320B	6/29/04
TDS	573	mg/L		160.1	6/28/04
Calcium	126	mg/L		6010B	7/08/04
Chloride	16.3	mg/L	2	300.0	7/02/04
Fluoride	0.19	mg/L		300.0	7/01/04
Hardness	580	mg CaCO3/L		2340B	7/08/04
Magnesium	64.5	mg/L		6010B	7/08/04
Ammonia as N	0.020	mg/L		350.1	6/30/04
NO2+NO3-N	3.38	mg/L		353.2	6/28/04
Phosphorus-Total	0.120	mg/L		365.2	6/23/04
Sulfate, SO4	80.9	mg/L	10	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/08/04
Cadmium	<0.0020	mg/L		6010B	7/08/04
Iron	0.035	mg/L		6010B	7/08/04
Manganese	<0.0020	mg/L		6010B	7/08/04
Molybdenum	0.0162	mg/L		6010B	7/08/04
Selenium	<0.0030	mg/L		7740	7/07/04
Vanadium	<0.0050	mg/L		6010B	7/08/04
Zinc	<0.0050	mg/L		6010B	7/08/04

Reviewed By: _____ Date 7/9/04
7/09/04 14:05

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

Certificate: WA DOE NO. C074; DOH NO. 050
L ANALYTICAL, INC.
Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-089

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40008
Sample Collected: 6/21/04 15:58
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393531

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	411	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1540	umhos/cm		120.1	6/28/04
HCO3, CaCO3	411	mg CaCO3/L		2320B	6/29/04
TDS	981	mg/L		160.1	6/28/04
Calcium	127	mg/L		6010B	7/08/04
Chloride	113	mg/L	25	300.0	7/02/04
Fluoride	3.95	mg/L		300.0	7/02/04
Hardness	586	mg CaCO3/L		2340B	7/08/04
Magnesium	65.0	mg/L		6010B	7/08/04
Ammonia as N	<0.010	mg/L		350.1	6/30/04
NO2+NO3-N	7.46	mg/L	2	353.2	7/01/04
Phosphorus-Total	8.28	mg/L		365.2	6/23/04
Sulfate, SO4	252	mg/L	25	300.0	7/02/04
Aluminum	0.020	mg/L		6010B	7/08/04
Cadmium	0.0032	mg/L		6010B	7/08/04
Iron	0.021	mg/L		6010B	7/08/04
Manganese	<0.0020	mg/L		6010B	7/08/04
Molybdenum	0.163	mg/L		6010B	7/08/04
Selenium	0.452	mg/L	50	7740	7/07/04
Vanadium	0.0134	mg/L		6010B	7/08/04
Zinc	<0.0050	mg/L		6010B	7/08/04

Reviewed By: _____ Date 7/9/04
7/09/04 14:05

AZ: AZ0538 CA: NO. 2080 CO: D8/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

Certificate: WA DOE NO. C074; DOH NO. 050
SVL ANALYTICAL, INC.
Pine Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40009
Sample Collected: 6/21/04 16:25
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393532

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	497	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	2360	umhos/cm		120.1	6/28/04
HCO3, CaCO3	497	mg CaCO3/L		2320B	6/29/04
TDS	1590	mg/L		160.1	6/28/04
Calcium	203	mg/L		6010B	7/08/04
Chloride	249	mg/L	50	300.0	7/02/04
Fluoride	2.27	mg/L	2	300.0	7/02/04
Hardness	978	mg CaCO3/L		2340B	7/08/04
Magnesium	114	mg/L		6010B	7/08/04
Ammonia as N	0.030	mg/L		350.1	6/30/04
NO2+NO3-N	9.63	mg/L	2	353.2	7/01/04
Phosphorus-Total	4.57	mg/L		365.2	6/23/04
Sulfate, SO4	467	mg/L	50	300.0	7/02/04
Aluminum	<0.020	mg/L		6010B	7/08/04
Cadmium	<0.0020	mg/L		6010B	7/08/04
Iron	<0.020	mg/L		6010B	7/08/04
Manganese	0.0387	mg/L		6010B	7/08/04
Molybdenum	0.143	mg/L		6010B	7/08/04
Selenium	0.452	mg/L	50	7740	7/07/04
Vanadium	<0.0050	mg/L		6010B	7/08/04
Zinc	0.0068	mg/L		6010B	7/08/04

Reviewed By: [signature] Date 7/9/04
7/09/04 14:05

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

Certificate: WA DOE NO. C074; DOH NO. 050
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e Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40010
Sample Collected: 6/21/04 17:17
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393533

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	543	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1890	umhos/cm		120.1	6/28/04
HCO3, CaCO3	543	mg CaCO3/L		2320B	6/29/04
TDS	1180	mg/L		160.1	6/28/04
Calcium	112	mg/L		6010B	7/08/04
Chloride	186	mg/L	25	300.0	7/02/04
Fluoride	0.73	mg/L		300.0	7/02/04
Hardness	915	mg CaCO3/L		2340B	7/08/04
Magnesium	155	mg/L		6010B	7/08/04
Ammonia as N	0.020	mg/L		350.1	6/30/04
NO2+NO3-N	0.650	mg/L		353.2	6/28/04
Phosphorus-Total	0.640	mg/L		365.2	6/23/04
Sulfate, SO4	313	mg/L	25	300.0	7/02/04
Aluminum	0.068	mg/L		6010B	7/08/04
Cadmium	0.0141	mg/L		6010B	7/08/04
Iron	0.965	mg/L		6010B	7/08/04
Manganese	0.487	mg/L		6010B	7/08/04
Molybdenum	0.0527	mg/L		6010B	7/08/04
Selenium	0.330	mg/L	2	7740	7/07/04
Vanadium	0.0081	mg/L		6010B	7/08/04
Zinc	0.0452	mg/L		6010B	7/08/04

Reviewed By: [signature] Date 7/9/04
7/09/04 14:05

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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ne Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40012
Sample Collected: 6/22/04 13:00
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393534

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	968	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1630	umhos/cm		120.1	6/28/04
HCO3, CaCO3	968	mg CaCO3/L		2320B	6/29/04
TDS	928	mg/L		160.1	6/28/04
Calcium	59.8	mg/L		6010B	7/08/04
Chloride	26.5	mg/L	5	300.0	7/02/04
Fluoride	0.30	mg/L		300.0	7/02/04
Hardness	923	mg CaCO3/L		2340B	7/08/04
Magnesium	188	mg/L		6010B	7/08/04
Ammonia as N	0.340	mg/L		350.1	6/30/04
NO2+NO3-N	<0.020	mg/L		353.2	6/28/04
Phosphorus-Total	2.25	mg/L		365.2	6/23/04
Sulfate, SO4	84.6	mg/L	5	300.0	7/02/04
Aluminum	0.036	mg/L		6010B	7/08/04
Cadmium	0.0045	mg/L		6010B	7/08/04
Iron	5.29	mg/L		6010B	7/08/04
Manganese	0.215	mg/L		6010B	7/08/04
Molybdenum	0.0197	mg/L		6010B	7/08/04
Selenium	<0.0030	mg/L		7740	7/07/04
Vanadium	0.0069	mg/L		6010B	7/08/04
Zinc	0.0432	mg/L		6010B	7/08/04

Reviewed By: [signature] Date 7/9/04
7/09/04 14:05

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

Certificate: WA DOE NO. C074; DOH NO. 050
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CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40013
Sample Collected: 6/22/04 12:25
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393535

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	482	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1030	umhos/cm		120.1	6/28/04
HCO3, CaCO3	482	mg CaCO3/L		2320B	6/29/04
TDS	595	mg/L		160.1	6/28/04
Calcium	123	mg/L		6010B	7/08/04
Chloride	35.3	mg/L	5	300.0	7/02/04
Fluoride	0.28	mg/L		300.0	7/02/04
Hardness	530	mg CaCO3/L		2340B	7/08/04
Magnesium	53.9	mg/L		6010B	7/08/04
Ammonia as N	0.050	mg/L		350.1	6/30/04
NO2+NO3-N	3.16	mg/L		353.2	7/01/04
Phosphorus-Total	0.280	mg/L		365.2	6/23/04
Sulfate, SO4	81.4	mg/L	5	300.0	7/02/04
Aluminum	<0.020	mg/L		6010B	7/08/04
Cadmium	0.0025	mg/L		6010B	7/08/04
Iron	<0.020	mg/L		6010B	7/08/04
Manganese	<0.0020	mg/L		6010B	7/08/04
Molybdenum	0.0492	mg/L		6010B	7/08/04
Selenium	<0.015*	mg/L	5	7740	7/07/04
Vanadium	0.122	mg/L		6010B	7/08/04
Zinc	<0.0050	mg/L		6010B	7/08/04

*Elevated detection limit due to matrix interference.
NO2+NO3-N:RESULTS ARE FROM RAW SAMPLES, ANALYZED OUT OF HOLDING TIME

Reviewed By: _____ Date 7/9/04
7/09/04 14:40

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

Certificate: WA DOE NO. C074; DOH NO. 050
SVL ANALYTICAL, INC.
ine Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40014
Sample Collected: 6/22/04 13:02
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393536

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	504	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1120	umhos/cm		120.1	6/28/04
HCO3, CaCO3	504	mg CaCO3/L		2320B	6/29/04
TDS	664	mg/L		160.1	6/28/04
Calcium	131	mg/L		6010B	7/08/04
Chloride	41.2	mg/L	10	300.0	7/02/04
Fluoride	0.26	mg/L		300.0	7/02/04
Hardness	576	mg CaCO3/L		2340B	7/08/04
Magnesium	60.4	mg/L		6010B	7/08/04
Ammonia as N	0.060	mg/L		350.1	6/30/04
NO2+NO3-N	3.31	mg/L		353.2	7/01/04
Phosphorus-Total	0.270	mg/L		365.2	6/23/04
Sulfate, SO4	98.5	mg/L	10	300.0	7/02/04
Aluminum	<0.020	mg/L		6010B	7/08/04
Cadmium	0.0053	mg/L		6010B	7/08/04
Iron	0.028	mg/L		6010B	7/08/04
Manganese	<0.0020	mg/L		6010B	7/08/04
Molybdenum	0.0330	mg/L		6010B	7/08/04
Selenium	<0.015*	mg/L	5	7740	7/07/04
Vanadium	0.0465	mg/L		6010B	7/08/04
Zinc	0.0090	mg/L		6010B	7/08/04

*Elevated detection limit due to matrix interference.
NO2+NO3-N:RESULTS ARE FROM RAW SAMPLES ANALYZED OUT OF HOLDING TIME

Reviewed By: _____ Date 7/9/04
7/09/04 14:40

AZ: AZ053B CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
ie Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891
Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40015
Sample Collected: 6/22/04 13:12
Sample Receipt : 6/23/04
Date of Report : 7/09/04

SVL JOB: 111645
SAMPLE: 393537

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	545	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1250	umhos/cm		120.1	6/28/04
HCO3, CaCO3	545	mg CaCO3/L		2320B	6/29/04
TDS	761	mg/L		160.1	6/28/04
Calcium	133	mg/L		6010B	7/08/04
Chloride	52.8	mg/L	10	300.0	7/02/04
Fluoride	0.44	mg/L		300.0	7/02/04
Hardness	618	mg CaCO3/L		2340B	7/08/04
Magnesium	69.8	mg/L		6010B	7/08/04
Ammonia as N	0.050	mg/L		350.1	6/30/04
NO2+NO3-N	3.93	mg/L		353.2	7/01/04
Phosphorus-Total	0.770	mg/L		365.2	6/23/04
Sulfate, SO4	122	mg/L	10	300.0	7/02/04
Aluminum	<0.020	mg/L		6010B	7/08/04
Cadmium	0.0294	mg/L		6010B	7/08/04
Iron	<0.020	mg/L		6010B	7/08/04
Manganese	<0.0020	mg/L		6010B	7/08/04
Molybdenum	0.0276	mg/L		6010B	7/08/04
Selenium	0.0180	mg/L	5	7740	7/07/04
Vanadium	0.0108	mg/L		6010B	7/08/04
Zinc	0.0435	mg/L		6010B	7/08/04

NO2+NO3-N: RESULTS ARE FROM RAW SAMPLES, ANALYZED OUT OF HOLDING TIME

Reviewed By: _____ Date 7/9/04
7/09/04 14:40

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

'L ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

SVL JOB No: 111645

Client :GOLDER ASSOCIATES

Analyte	Method	Matrix	Units	Prep Blank	True—LCS—Found		LCS %R	Analysis Date
Aluminum	6010B	WATER	mg/L	<0.020	1.00	1.00	100.0	7/08/04
Calcium	6010B	WATER	mg/L	<0.040	20.0	20.1	100.5	7/08/04
Cadmium	6010B	WATER	mg/L	<0.0020	1.00	1.03	103.0	7/08/04
Iron	6010B	WATER	mg/L	<0.020	10.0	9.97	99.7	7/08/04
Hardness	2340B	WATER	mg/L	<0.265	132	132	100.0	7/08/04
Magnesium	6010B	WATER	mg/L	<0.040	20.0	19.8	99.0	7/08/04
Manganese	6010B	WATER	mg/L	<0.0020	1.00	1.02	102.0	7/08/04
Molybdenum	6010B	WATER	mg/L	<0.0080	1.00	1.05	105.0	7/08/04
Vanadium	6010B	WATER	mg/L	<0.0050	1.00	1.05	105.0	7/08/04
Zinc	6010B	WATER	mg/L	<0.0050	1.00	1.01	101.0	7/08/04
Selenium	7740	WATER	mg/L	<0.0030	0.0500	0.0470	94.0	7/07/04
Chloride	300.0	WATER	mg/L	<0.20	5.00	4.75	95.0	7/01/04
Fluoride	300.0	WATER	mg/L	<0.10	2.50	2.41	96.4	7/01/04
Sulfate, SO4	300.0	WATER	mg/L	<0.30	10.0	9.67	96.7	7/01/04
ALKALINITY	2320B	WATER	mg/L	<1.0	22.5	26.9	119.6	6/29/04
Spec. Cond.	120.1	WATER	umhos/cm	0.192	478	446	93.3	6/28/04
TDS	160.1	WATER	mg/L	<10	250	242	96.8	6/28/04
Ammonia as N	350.1	WATER	mg/L	<0.010	9.32	9.28	99.6	6/30/04
NO2+NO3-N	353.2	WATER	mg/L	<0.020	14.1	15.0	106.4	6/28/04
Phosphorus-Total	365.2	WATER	mg/L	<0.010	2.53	2.59	102.4	6/23/04

LEGEND:
LCS = Laboratory Control Sample
LCS %R = LCS Percent Recovery
N/A = Not Applicable

VL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

SVL JOB No: 111645

Client :GOLDER ASSOCIATES

st	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate or Found		MSD RPD%	Matrix Spike Result	SPK ADD	%R	Analysis Date
t	6010B	W	1	mg/L	<0.020	1.04	M	1.0	1.03	1.00	103.0	7/08/04
a	6010B	W	1	mg/L	126	149	M	0.7	148	20.0	110.0	7/08/04
	6010B	W	1	mg/L	<0.0020	1.01	M	1.0	1.02	1.00	102.0	7/08/04
	6010B	W	1	mg/L	0.035	9.89	M	0.6	9.83	10.0	98.0	7/08/04
dns	2340B	W	1	mg/L	580	719	M	1.0	712	132	100.0	7/08/04
g	6010B	W	1	mg/L	64.5	84.1	M	1.0	83.3	20.0	94.0	7/08/04
	6010B	W	1	mg/L	<0.0020	1.02	M	1.0	1.01	1.00	101.0	7/08/04
	6010B	W	1	mg/L	0.0162	1.08	M	0.9	1.07	1.00	105.4	7/08/04
	6010B	W	1	mg/L	<0.0050	1.07	M	0.9	1.06	1.00	106.0	7/08/04
Zn	6010B	W	1	mg/L	<0.0050	0.985	M	0.7	0.992	1.00	99.2	7/08/04
	7740	W	1	mg/L	<0.0030	0.0420	M	4.7	0.0440	0.0500	88.0	7/07/04
	300.0	W	1	mg/L	16.3	16.1		1.2	25.8	10.0	95.0	7/02/04
F	300.0	W	1	mg/L	0.19	0.18		5.4	1.97	2.00	89.0	7/01/04
SO4	300.0	W	1	mg/L	80.9	81.1		0.2	132	50.0	102.2	7/01/04
K	2320B	W	1	mg/L	582	581		0.2	N/A	N/A	N/A	6/29/04
CO3	2320B	W	1	mg/L	<1.0	<1.0		UDL	N/A	N/A	N/A	6/29/04
HCO3	2320B	W	1	mg/L	582	581		0.2	N/A	N/A	N/A	6/29/04
COND	120.1	W	1	umhos/c	1100	1070		2.8	N/A	N/A	N/A	6/28/04
S	160.1	W	1	mg/L	573	631		9.6	N/A	N/A	N/A	6/28/04
NH3-N	350.1	W	1	mg/L	0.020	0.020		0.0	1.03	1.00	101.0	6/30/04
NO2NO3	353.2	W	1	mg/L	3.38	3.37		0.3	4.40	1.00	102.0	6/28/04
TOT	365.2	W	1	mg/L	0.120	0.120		0.0	0.620	0.500	100.0	6/23/04

LEGEND:

RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

PD% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

PIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

QC limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 393530 Client Sample ID: 40007

SVL ANALYTICAL, INC.
One Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40001
Sample Collected: 6/21/04 11:58
Sample Receipt : 6/22/04
Date of Report : 7/07/04

SVL JOB: 111628
SAMPLE: 393301

Matrix: WATER

Determination	Result	Q	Units	Dilution	Method	Analyzed
ALKALINITY	709		mg CaCO3/L		2320B	6/28/04
CO3, CaCO3	<1.0		mg CaCO3/L		2320B	6/28/04
Spec. Cond.	1380		umhos/cm		120.1	6/28/04
HCO3, CaCO3	709		mg CaCO3/L		2320B	6/28/04
TDS	795		mg/L		160.1	6/28/04
Calcium	154		mg/L		6010B	7/06/04
Chloride	32.2		mg/L	10	300.0	7/01/04
Fluoride	0.16		mg/L		300.0	7/01/04
Hardness	727		mg CaCO3/L		2340B	7/06/04
Magnesium	83.6		mg/L		6010B	7/06/04
Ammonia as N	<0.010		mg/L		350.1	6/24/04
NO2+NO3-N	4.37		mg/L		353.2	6/25/04
Phosphorus-Total	0.110		mg/L		365.2	6/23/04
Sulfate, SO4	95.3		mg/L	10	300.0	7/01/04
Aluminum	<0.020		mg/L		6010B	7/06/04
Cadmium	<0.0020		mg/L		6010B	7/06/04
Iron	<0.020		mg/L		6010B	7/06/04
Manganese	<0.0020		mg/L		6010B	7/06/04
Molybdenum	0.0154		mg/L		6010B	7/06/04
Selenium	0.0180	J	mg/L		7740	7/01/04
Vanadium	<0.0050		mg/L		6010B	7/06/04
Zinc	<0.0050		mg/L		6010B	7/06/04

Reviewed By: _____ Date 7/7/04
7/07/04 13:51

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
Certificate: WA DOE NO. C074; DOH NO. 050
ne Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40002
Sample Collected: 6/21/04 12:30
Sample Receipt : 6/22/04
Date of Report : 7/07/04

SVL JOB: 111628
SAMPLE: 393302

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	970	mg CaCO3/L		2320B	6/28/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/28/04
Spec. Cond.	1970	umhos/cm		120.1	6/28/04
HCO3, CaCO3	970	mg CaCO3/L		2320B	6/28/04
TDS	1160	mg/L		160.1	6/28/04
Calcium	104	mg/L		6010B	7/06/04
Chloride	12.6	mg/L	5	300.0	7/01/04
Fluoride	0.11	mg/L		300.0	7/01/04
Hardness	1100	mg CaCO3/L		2340B	7/06/04
Magnesium	203	mg/L		6010B	7/06/04
Ammonia as N	0.330	mg/L		350.1	6/24/04
NO2+NO3-N	<0.020	mg/L		353.2	6/25/04
Phosphorus-Total	0.470	mg/L		365.2	6/23/04
Sulfate, SO4	62.0	mg/L	5	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/06/04
Cadmium	<0.0020	mg/L		6010B	7/06/04
Iron	8.59	mg/L		6010B	7/06/04
Manganese	0.402	mg/L		6010B	7/06/04
Molybdenum	0.0177	mg/L		6010B	7/06/04
Selenium	<0.0030	mg/L		7740	7/01/04
Vanadium	<0.0050	mg/L		6010B	7/06/04
Zinc	<0.0050	mg/L		6010B	7/06/04

Reviewed By: [signature] Date 7/7/04
7/07/04 13:51

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40003
Sample Collected: 6/21/04 13:20
Sample Receipt : 6/22/04
Date of Report : 7/07/04

SVL JOB: 111628
SAMPLE: 393303

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	1190	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	2380	umhos/cm		120.1	6/28/04
HCO3, CaCO3	1190	mg CaCO3/L		2320B	6/29/04
TDS	1340	mg/L		160.1	6/28/04
Calcium	56.8	mg/L		6010B	7/06/04
Chloride	143	mg/L	25	300.0	7/01/04
Fluoride	1.62	mg/L		300.0	7/01/04
Hardness	1220	mg CaCO3/L		2340B	7/06/04
Magnesium	263	mg/L		6010B	7/06/04
Ammonia as N	0.250	mg/L		350.1	6/24/04
NO2+NO3-N	<0.020	mg/L		353.2	6/25/04
Phosphorus-Total	1.49	mg/L		365.2	6/23/04
Sulfate, SO4	180	mg/L	10	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/06/04
Cadmium	0.0045	mg/L		6010B	7/06/04
Iron	0.477	mg/L		6010B	7/06/04
Manganese	2.35	mg/L		6010B	7/06/04
Molybdenum	0.0549	mg/L		6010B	7/06/04
Selenium	<0.0030	mg/L		7740	7/01/04
Vanadium	<0.0050	mg/L		6010B	7/06/04
Zinc	0.0207	mg/L		6010B	7/06/04

Reviewed By: _____ Date 7/7/04
7/07/04 13:51

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
Certificate: WA DOE NO. C074; DOH NO. 050
ıe Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40004
Sample Collected: 6/21/04 13:40
Sample Receipt : 6/22/04
Date of Report : 7/07/04

SVL JOB: 111628
SAMPLE: 393304

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	633	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1380	umhos/cm		120.1	6/28/04
HCO3, CaCO3	633	mg CaCO3/L		2320B	6/29/04
TDS	802	mg/L		160.1	6/28/04
Calcium	138	mg/L		6010B	7/06/04
Chloride	39.9	mg/L	10	300.0	7/01/04
Fluoride	2.10	mg/L		300.0	7/01/04
Hardness	684	mg CaCO3/L		2340B	7/06/04
Magnesium	82.3	mg/L		6010B	7/06/04
Ammonia as N	0.200	mg/L		350.1	6/24/04
NO2+NO3-N	4.36	mg/L		353.2	6/25/04
Phosphorus-Total	1.57	mg/L		365.2	6/23/04
Sulfate, SO4	138	mg/L	10	300.0	7/01/04
Aluminum	0.027	mg/L		6010B	7/06/04
Cadmium	0.445	mg/L		6010B	7/06/04
Iron	<0.020	mg/L		6010B	7/06/04
Manganese	<0.0020	mg/L		6010B	7/06/04
Molybdenum	0.0246	mg/L		6010B	7/06/04
Selenium	0.241	mg/L	10	7740	7/01/04
Vanadium	0.0620	mg/L		6010B	7/06/04
Zinc	1.66	mg/L		6010B	7/06/04

Reviewed By: _____ Date 7/7/04
7/07/04 13:51

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
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Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40005
Sample Collected: 6/21/04 14:01
Sample Receipt : 6/22/04
Date of Report : 7/07/04

SVL JOB: 111628
SAMPLE: 393305

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	528	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	1030	umhos/cm		120.1	6/28/04
HCO3, CaCO3	528	mg CaCO3/L		2320B	6/29/04
TDS	579	mg/L		160.1	6/28/04
Calcium	117	mg/L		6010B	7/06/04
Chloride	12.0	mg/L	5	300.0	7/01/04
Fluoride	0.20	mg/L		300.0	7/01/04
Hardness	531	mg CaCO3/L		2340B	7/06/04
Magnesium	57.7	mg/L		6010B	7/06/04
Ammonia as N	<0.010	mg/L		350.1	6/24/04
NO2+NO3-N	3.42	mg/L		353.2	6/25/04
Phosphorus-Total	0.070	mg/L		365.2	6/23/04
Sulfate, SO4	77.7	mg/L	5	300.0	7/01/04
Aluminum	<0.020	mg/L		6010B	7/06/04
Cadmium	<0.0020	mg/L		6010B	7/06/04
Iron	<0.020	mg/L		6010B	7/06/04
Manganese	<0.0020	mg/L		6010B	7/06/04
Molybdenum	0.0130	mg/L		6010B	7/06/04
Selenium	<0.0030	mg/L		7740	7/01/04
Vanadium	<0.0050	mg/L		6010B	7/06/04
Zinc	<0.0050	mg/L		6010B	7/06/04

Reviewed By: _____ Date 7/7/04
7/07/04 13:51

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

SVL ANALYTICAL, INC.
2 Government Gulch ▪ P.O. Box 929 ▪ Kellogg, Idaho 83837-0929 ▪ Phone: (208)784-1258 ▪ Fax: (208)783-0891

Certificate: WA DOE NO. C074; DOH NO. 050

CLIENT : GOLDER ASSOCIATES
PROJECT: 913-1101.605
CLIENT SAMPLE ID: 40006
Sample Collected: 6/21/04 14:30
Sample Receipt : 6/22/04
Date of Report : 7/07/04

SVL JOB: 111628
SAMPLE: 393306

Matrix: WATER

Determination	Result	Units	Dilution	Method	Analyzed
ALKALINITY	475	mg CaCO3/L		2320B	6/29/04
CO3, CaCO3	<1.0	mg CaCO3/L		2320B	6/29/04
Spec. Cond.	953	umhos/cm		120.1	6/28/04
HCO3, CaCO3	475	mg CaCO3/L		2320B	6/29/04
TDS	512	mg/L		160.1	6/28/04
Calcium	111	mg/L		6010B	7/06/04
Chloride	13.0	mg/L	2	300.0	7/01/04
Fluoride	0.22	mg/L		300.0	7/01/04
Hardness	500	mg CaCO3/L		2340B	7/06/04
Magnesium	53.8	mg/L		6010B	7/06/04
Ammonia as N	0.430	mg/L		350.1	6/24/04
NO2+NO3-N	3.94	mg/L		353.2	6/25/04
Phosphorus-Total	0.120	mg/L		365.2	6/23/04
Sulfate, SO4	75.0	mg/L	5	300.0	7/01/04
Aluminum	3.80	mg/L		6010B	7/06/04
Cadmium	0.0021	mg/L		6010B	7/06/04
Iron	4.97	mg/L		6010B	7/06/04
Manganese	0.110	mg/L		6010B	7/06/04
Molybdenum	0.0129	mg/L		6010B	7/06/04
Selenium	<0.0030	mg/L		7740	7/01/04
Vanadium	0.0141	mg/L		6010B	7/06/04
Zinc	0.0401	mg/L		6010B	7/06/04

Reviewed By: _____ Date 7/7/04
7/07/04 13:51

AZ: AZ0538 CA: NO. 2080 CO: 08/13/03 ID: ID00019 NV: ID-19-2004-19 TX: TX241-2002A WA: DOE NO. C074; DOH NO. 050

VL ANALYTICAL, INC.

Quality Control Report
Part I Prep Blank and Laboratory Control Sample

Client :GOLDER ASSOCIATES

SVL JOB No: 111628

Analyte	Method	Matrix	Units	Prep Blank	True—LCS	Found	LCS %R	Analysis Date
Aluminum	6010B	WATER	mg/L	<0.020	1.00	1.01	101.0	7/06/04
Calcium	6010B	WATER	mg/L	<0.040	20.0	19.7	98.5	7/06/04
Cadmium	6010B	WATER	mg/L	<0.0020	1.00	1.02	102.0	7/06/04
Iron	6010B	WATER	mg/L	<0.020	10.0	9.74	97.4	7/06/04
Hardness	2340B	WATER	mg/L	<0.265	132	128	97.0	7/06/04
Magnesium	6010B	WATER	mg/L	<0.040	20.0	19.0	95.0	7/06/04
Manganese	6010B	WATER	mg/L	<0.0020	1.00	1.03	103.0	7/06/04
Molybdenum	6010B	WATER	mg/L	<0.0080	1.00	1.02	102.0	7/06/04
Vanadium	6010B	WATER	mg/L	<0.0050	1.00	1.04	104.0	7/06/04
Zinc	6010B	WATER	mg/L	<0.0050	1.00	1.02	102.0	7/06/04
Selenium	7740	WATER	mg/L	<0.0030	0.0500	0.0480	96.0	7/01/04
Chloride	300.0	WATER	mg/L	<0.20	5.00	4.75	95.0	7/01/04
Fluoride	300.0	WATER	mg/L	<0.10	2.50	2.41	96.4	7/01/04
Sulfate, SO4	300.0	WATER	mg/L	<0.30	10.0	9.67	96.7	7/01/04
ALKALINITY	2320B	WATER	mg/L	<1.0	22.5	26.9	119.6	6/28/04
Spec. Cond.	120.1	WATER	umhos/cm	0.192	478	446	93.3	6/28/04
TDS	160.1	WATER	mg/L	<10	250	242	96.8	6/28/04
Ammonia as N	350.1	WATER	mg/L	<0.010	9.32	9.55	102.5	6/24/04
NO2+NO3-N	353.2	WATER	mg/L	<0.020	14.1	14.8	105.0	6/25/04
Phosphorus-Total	365.2	WATER	mg/L	<0.010	2.53	2.59	102.4	6/23/04

LEGEND:
LCS = Laboratory Control Sample LCS %R = LCS Percent Recovery N/A = Not Applicable

SVL ANALYTICAL, INC.

Quality Control Report
Part II Duplicate and Spike Analysis

ient :GOLDER ASSOCIATES

SVL JOB No: 111628

Test	Method	Mtx	QC SAMPLE ID	Units	Result	Duplicate Found	or	MSD RPD%	Matrix Spike Result	SPK ADD	%R	Analysis Date
A	6010B	W	1	mg/L	<0.020	1.02	M	2.0	1.00	1.00	100.0	7/06/04
Ca	6010B	W	1	mg/L	154	173	M	2.3	169	20.0	75.0	7/06/04
Cd	6010B	W	1	mg/L	<0.0020	0.991	M	1.4	0.977	1.00	97.7	7/06/04
E	6010B	W	1	mg/L	<0.020	9.40	M	1.0	9.31	10.0	93.1	7/06/04
Hdns	2340B	W	1	mg/L	727	854	M	1.4	842	132	87.1	7/06/04
Mg	6010B	W	1	mg/L	83.6	102	M	0.0	102	20.0	92.0	7/06/04
M	6010B	W	1	mg/L	<0.0020	0.998	M	0.9	0.989	1.00	98.9	7/06/04
N	6010B	W	1	mg/L	0.0154	1.01	M	0.0	1.01	1.00	99.5	7/06/04
V	6010B	W	1	mg/L	<0.0050	1.03	M	1.0	1.02	1.00	102.0	7/06/04
Zn	6010B	W	1	mg/L	<0.0050	0.967	M	1.1	0.956	1.00	95.6	7/06/04
S	7740	W	1	mg/L	0.0180	0.0550	M	0.0	0.0550	0.0500	74.0	7/01/04
C	300.0	W	1	mg/L	32.2	32.2		0.0	52.7	20.0	102.5	7/01/04
F	300.0	W	1	mg/L	0.16	0.17		6.1	1.91	2.00	87.5	7/01/04
SO4	300.0	W	1	mg/L	95.3	95.5		0.2	146	50.0	101.4	7/01/04
K	2320B	W	1	mg/L	709	710		0.1	N/A	N/A	N/A	6/28/04
3	2320B	W	1	mg/L	<1.0	<1.0		UDL	N/A	N/A	N/A	6/28/04
HCO3	2320B	W	1	mg/L	709	710		0.1	N/A	N/A	N/A	6/28/04
COND	120.1	W	1	umhos/c	1380	1380		0.0	N/A	N/A	N/A	6/28/04
S	160.1	W	1	mg/L	795	822		3.3	N/A	N/A	N/A	6/28/04
3-N	350.1	W	1	mg/L	<0.010	<0.010		UDL	0.980	1.00	98.0	6/24/04
NO2NO3	353.2	W	1	mg/L	4.37	4.35		0.5	5.38	1.00	101.0	6/25/04
P-TOT	365.2	W	1	mg/L	0.110	0.110		0.0	0.620	0.500	102.0	6/23/04

EGEND:

RPD% = (|SAM - DUP|/((SAM + DUP)/2) * 100) UDL = Both SAM & DUP not detected. *Result or *Found: Interference required dilution.

PD% = (|SPK - MSD|/((SPK + MSD)/2) * 100) M in Duplicate/MSD column indicates MSD.

PIKE ADD column, A = Post Digest Spike; %R = Percent Recovery N/A = Not Analyzed; R > 4S = Result more than 4X the Spike Added

C limits for MS recoveries apply only if the spike is at least 1/4 the concentration of the analyte in the sample.

Control limits for the RPD apply only if the concentration of the analyte in the sample is at least five times the reporting limit.

QC Sample 1: SVL SAM No.: 393301 Client Sample ID: 40001

ATTACHMENT 4

LABORATORY NARRATIVE AND CHAIN-OF-CUSTODY DOCUMENTATION

TRANSMISSION VERIFICATION REPORT

TIME : 06/28/2004 14:50
NAME : SVL ANALYTICAL
FAX : 2087830891
TEL : 2087841258
SER.# : BROF3J496071

DATE,TIME	06/28 14:50
FAX NO./NAME	914258825498
DURATION	00:00:29
PAGE(S)	01
RESULT	OK
MODE	FINE ECM

SV ALY L,
One Government Gulch - Kellogg, ID 83837-0

CLIENT: DIANE CRAWFORD
GOLDER ASSOCIATES
18300 NE UNION HILL ROAD
SUITE 200
REDMOND WA 98052-3333
FAX: (425)882-5498

SAMPLE RECEIPT CONFIRMATION

111726

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
394512	W	40045	6/24/04	16:03		6/28/04	
394513	W	40046	6/24/04	17:20		6/28/04	
394514	W	40047	6/24/04	18:05		6/28/04	
394515	W	40048	6/25/04	8:44		6/28/04	
394516	W	40049	6/25/04	9:10		6/28/04	
394517	W	40050	6/25/04	9:25		6/28/04	
394518	W	40051	6/25/04	9:45		6/28/04	
394519	W	40052	6/25/04	10:58		6/28/04	
394520	W	40053	6/25/04	10:02		6/28/04	
394521	W	40054	6/25/04	11:16		6/28/04	
394522	W	40055	6/25/04	11:29		6/28/04	
394523	W	40056	6/25/04	11:30		6/28/04	
394524	W	40057	6/25/04	11:31		6/28/04	
394525	W	40058	6/25/04	11:40		6/28/04	
394526	W	40059	6/25/04	12:05		6/28/04	

ADDITIONAL COMMENTS FOR JOB: Sample Cooler temp: 14°C.

[X] These samples will be DISPOSED 30 days after job completion.
[ ] These samples will be ARCHIVED 30 days, then you will receive a letter reques

Please contact Ben Martin (208-784-1258) if you have questions regarding the receip

Samplers: (*Signature*)

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount/Pre H2SO4	HNO3	None				Seal Number	Seal Intact? (Yes or	Remarks (with initials)
	6/25/04	1116	Grab	Water	40054	3	X	X	X						
		1129			40055										
		1130			40056										
		1131			40057										
		1140			40058										
		1205			40059										

Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)	Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)
Golder	6/25/04 1245	Kelli Seay 6-28-04 11:00			
Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)	Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)
Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)	Date/Time	Remarks (attachments if necessary)	
				SVL per Golder's Instructions	

IP3 1211/73200

07/13/2004 13:41 2088830891 SVL ANALYTICAL PAGE 01/20

113-110066

Samplers: (*Signature*)

SDG # 111726

Associates

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount/Preser. H2SO4	HNO3	None				Seal Number	Seal Intact? (Yes or No)	Remarks (with initials)
	6/24/04	1603	Grab	Water	40045	3	X	X	X						
		1720			40046										
		1805			40047										
	6/25/04	0844			40048										
		0910			40049										
		0925			40050										
		0945			40051										
		1058			40052										
		1002			40053										

Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)	Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)
Golder	6/25/04 1243	Lilli Sloy 6-28-04 11:00			
Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)	Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)
Relinquished by: (*Signature/Firm*)	Date/Time	Received by: (*Signature/Firm*)	Date/Time	Remarks (attachments if necessary) SVL per Golder's Instructions	

IP3 1211/73200

TRANSMISSION VERIFICATION REPORT

TIME : 06/25/2004 16:19
NAME : SVL ANALYTICAL
FAX : 2087830891
TEL : 2087841258
SER.# : BROF3J496071

DATE,TIME	06/25 16:18
FAX NO./NAME	914258825498
DURATION	00:00:28
PAGE(S)	01
RESULT	OK
MODE	FINE ECM

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-

SAMPLE RECEIPT CONFIRMATION

#111702

CLIENT: DIANE CRAWFORD
GOLDER ASSOCIATES
18300 NE UNION HILL ROAD
SUITE 200
REDMOND WA 98052-3333
FAX: (425)882-5498

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
394171	W	40037	6/23/04	17:10		6/25/04	
394172	W	40038	6/23/04	15:19		6/25/04	
394173	W	40039	6/23/04	15:30		6/25/04	
394174	W	40040	6/23/04	17:37		6/25/04	
394175	W	40041	6/23/04	18:20		6/25/04	
394176	W	40042	6/23/04	17:06		6/25/04	TIME ON SAMPLE READS, 1!
394177	W	40024	6/24/04	12:42		6/25/04	
394178	W	40043	6/24/04	12:20		6/25/04	
394179	W	40044	6/24/04	13:50		6/25/04	

ADDITIONAL COMMENTS FOR JOB: Sample Cooler temp: 6°C.

[X] These samples will be DISPOSED 30 days after job completion.
[ ] These samples will be ARCHIVED 30 days, then you will receive a letter reques

Please contact Ben Martin (208-784-1258) if you have questions regarding the receip

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount H2SO4	Amount HNO3	Amount None	Amount			Seal Number	Seal Intact? (Yes	Remarks (with initials)
	6/23	1710	Grab	Water	40037	3	X	X	X						
	6/23	1519			40038										
		1530			40039										
		1737			40040										
		1820			40041										
*		1706			40042										* Time reads 1906 on sample KLS 6-25-04
	6/24	1242			40024										
		1220			40043										
		139			40044										

Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Golder	6/24/04 1445				
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Date/Time	Remarks (attachments if necessary)	
		Kelli Seay	6/25/04 12:50	per Golder's Instructions	

P3 1211/73200

SVL ANALYTICAL

PAGE 02/13

TRANSMISSION VERIFICATION REPORT

TIME : 06/24/2004 15:06
NAME : SVL ANALYTICAL
FAX : 2087830891
TEL : 2087841258
SER.# : BROF3J496071

DATE,TIME	06/24 15:06
FAX NO./NAME	914258825498
DURATION	00:00:29
PAGE(S)	01
RESULT	OK
MODE	FINE ECM

SVL ANALYTICAL, INC.
One Government Gulch - Kellogg, ID 83837-9

SAMPLE RECEIPT CONFIRMATION

CLIENT: DIANE CRAWFORD
GOLDER ASSOCIATES
18300 NE UNION HILL ROAD
SUITE 200
REDMOND WA 98052-3333
FAX: (425)882-5498

SDG # 111674

SVL#	M	ClientID	Sampled	Time	By	Received	Sample Comments
393860	W	40011	6/22/04	15:01		[redacted]	[redacted]
393861	W	40019	6/23/04	[redacted]		[redacted]	[redacted]
393862	W	40020	[redacted]	[redacted]		[redacted]	[redacted]
393863	W	40021	[redacted]	[redacted]		[redacted]	[redacted]
393864	W	40022	[redacted]	[redacted]		[redacted]	[redacted]
393865	W	40023	[redacted]	[redacted]		[redacted]	[redacted]
393866	W	40016	[redacted]	[redacted]		[redacted]	[redacted]
393867	W	40018	[redacted]	[redacted]		[redacted]	[redacted]
393868	W	40025	6/23/04	8:36		6/24/04	
393869	W	40026	6/23/04	8:35		6/24/04	
393870	W	40028	6/23/04	10:00		6/24/04	
393871	W	40029	6/23/04	10:01		6/24/04	
393872	W	40031	6/23/04	10:11		6/24/04	
393873	W	40036	6/23/04	12:12		6/24/04	
393874	W	40033	6/23/04	13:04		6/24/04	
393875	W	40034	6/23/04	13:07		6/24/04	

ADDITIONAL COMMENTS FOR JOB: Sample Cooler temp: 8.8°C.

[X] These samples will be DISPOSED 30 days after job completion.
[ ] These samples will be ARCHIVED 30 days, then you will receive a letter reques

Please contact Ben Martin (208-784-1258) if you have questions regarding the receip

Chain of Custody Record

Golder Associates

Project No.	Site/Location
913-401.605	Monsanto/Soda Springs, ID

Samplers: (Signature)

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount/Preservative: H_2SO_4	HNO_3	None	Mo (0.005 mg/L)	Analyze on Normal Monsanto List	Seal Number	Seal Intact? (Yes or No)	Remarks (with initials)
	6/23	1000	Grab	Water	~~40031~~ 40028	3	X	X	X					
		1001			~~39~~ 40029									
		1013			40031									
		1212			40036									
		1306			40033									
		1307			40034									

Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Golder	6/23/04 1737				
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Date/Time	Remarks (attachments if necessary)	
		Kelli Seay	6/24/04 11:15	Per Golder's Instructions	

IP3 1211/73200

Chain of Custody Record

SDG # 111674

Project No. 913-1101.605

Site/Location Monsanto/Soda Springs, ID

Samplers: (Signature)

Golder Associates

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount/Preservative H2SO4	Amount/Preservative HNO3	Amount/Preservative None				Seal Number	Seal Intact? (Yes or No)	Remarks (with initials)
	6/22/04	1501	Grab	Water	40011	3	X	X	X				13452		
		1646			40019										
		1830			40020										
		1845			40021										
		1925			40022										
		1938			40023										
	6/23/04	0805			40016										
		0815			40018										
		0826			40025										
		0835			40026										

Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Golder	6/23/04 1230				
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Date/Time	Remarks (attachments if necessary)	
		Tulli Sevy	6/24/04 11:15	Per Golder's instructions	

IP3 1211/73200

TRANSMISSION VERIFICATION REPORT

TIME : 06/23/2004 13:18
NAME : SVL ANALYTICAL
FAX : 2087830891
TEL : 2087841258
SER.# : BROF3J496071

DATE,TIME	06/23 13:17
FAX NO./NAME	914258825498
DURATION	00:00:28
PAGE(S)	01
RESULT	OK
MODE	FINE ECM

SVL ANALYTICAL, INC.
rnment Gulch - Kellogg, ID 83837-0929

SAMPLE RECEIPT CONFIRMATION

SVL JOB No: 111645
Received: 6/23/04
Expected Due date: 7/08/04

By	Received	Sample Comments
	6/23/04	
	6/23/04	
	6/23/04	
	6/23/04	
	6/23/04	
	6/23/04	
	6/23/04	
	6/23/04	

emp: 8.3°C.

after job completion.
, then you will receive a letter requesting disposal options.

you have questions regarding the receipt of these samples. 6/23/04 12:01

Page 1 of

Samplers: (Signature)

SDG # 111645

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount/ H_2SO_4	Amount/ HNO_3	Amount/ NaOH				Seal Number	Seal Intact? (Yes	Remarks (with initials)
	6/21	1528	Grab	Water	40007	3	X	X	X						
		1558			40008										
		1621			40009										
		1717			40010										
	6/22	1300			40012										
		1225			40013										
		1302			40014										
		1312			40015										

Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
	6/22 1315				
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Date/Time	Remarks (attachments if necessary)	
		Kelli Seay	6/23/04 10:50	per Gulder Instructions	

IP3 1211/73200

SVL ANALYTICAL, INC.
ernment Gulch - Kellogg, ID 83837-0929

SAMPLE RECEIPT CONFIRMATION

SVL JOB No: 111628
Received: 6/22/04
Expected Due date: 7/07/04

SDG # 111628

By	Received	Sample Comments
	6/22/04	
	6/22/04	
	6/22/04	
	6/22/04	
	6/22/04	
	6/22/04	

emp: 6.3°C.

after job completion.
, then you will receive a letter requesting disposal options.

you have questions regarding the receipt of these samples. 6/22/04 13:15

TRANSMISSION VERIFICATION REPORT

TIME : 06/22/2004 14:14
NAME : SVL ANALYTICAL
FAX : 2087830891
TEL : 2087841258
SER.# : BRDF3J496071

DATE,TIME 06/22 14:14
FAX NO./NAME 5142588254 98
DURATION 00:00:28
PAGE(S) 01
RESULT OK
MODE FINE
ECM

Samplers: (Signature)

#111628

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount/Pre	H2SO4	HNO3	None			Seal Number	Seal Intact? (Yes o	Remarks (with initials)
	6/21/04	1158	Grab	Water	40001		X	X	X						
		1230			40002										
		1320			40003										
		1340			40004										
		1401			40005										
		1430			40006										

Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
	6/21/04 1451				
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Date/Time	Remarks (attachments if necessary)	
		Kelli Seuy	6-22-04 12:20	per instructions Diane Crawford Kristin Salzsaule Golder Associates 425-883-0777	

IP3 1211/73200 SVL

07/07/2004 14:23 2087830891 SVL ANALYTICAL PAGE 01/10

Analytical Resources, Incorporated
Analytical Chemists and Consultants

July 14, 2004

RECEIVED
JUL 1 5 2004
Golder Associates

Ms. Diane Crawford
Golder Associates Inc.
18300 NE Union Hill Road
Suite 200
Redmond, WA 98052-3333

Re: Project: 913-1101.605
ARI Job No: GT78

Dear Diane:

Please find enclosed original paperwork and analytical results for the project referenced above. Analytical Resources, Inc. (ARI) accepted five water samples in good condition on July 21, 2004. There were no discrepancies between the COC and the sample containers' labels.

The samples were analyzed for total metals referencing US EPA methods 6010/7000, conductivity referencing US EPA method 120.1, total dissolved solids referencing US EPA method 160.1, fluoride referencing US EPA method 340.2, chloride referencing US EPA method 325.2, ammonia referencing US EPA method 350.1, nitrate and nitrite referencing US EPA methods 353.2, total phosphorus referencing US EPA method 365.2, and sulfate referencing US EPA method 375.2. Quality control analysis results are included for your review.

No analytical complications were noted for the analysis of these samples. A copy of these reports and all associated raw data will remain on file at ARI. Please do not hesitate to contact me if you have any questions or require any additional information.

Respectfully,

ANALYTICAL RESOURCES, INC.

Mary Lou Fox

Mary Lou Fox
Project Manager
206-695-6211
marylou@arilabs.com

MLF/mlf
Enclosure

Chain of Custody Record

12.02

Project No.	Site/Location
913-1101.605	Monsanto/ Soda Springs, ID

Samplers: (Signature)

SDG #GT78

Golder Associates

Station Number	Date	Time	Sample Type	Media	Sample Identification	Number of Containers	Amount/Preservative: HNO3	Amount/Preservative: H2SO4	Amount/Preservative: None				Seal Number	Seal Intact? (Yes or No)	Remarks (with initials)
	6/23/04	8:06	Grab	Water	40017		1	1	3				13453		
		0837			40027										
		~~0940~~ 1000			40030										
		1014			40032										
		~~1302~~ 1302			40035										

Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Golder	6/23/04 1230	B-2 ARI		6/24/04 0900	
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)
Relinquished by: (Signature/Firm)	Date/Time	Received by: (Signature/Firm)	Date/Time	Remarks (attachments if necessary) ARI Per Golder's Instructions	

IP3 1211/73200

ATTACHMENT 5

SUPPORTING DOCUMENTATION

INORGANIC DATA ASSESSMENT SUMMARY

PROJECT: 913-1101.605	SITE: MONSANTO, SODA SPRINGS, ID
LABORATORY: ANALYTICAL RESOURCES SVL ANALYTICAL, INC.	SDG: GT78 (ARI); #111628 (SVL)
SAMPLES/MATRIX/ANALYSES: #111645 (SVL), #111674 (SVL), #111702 (SVL), #111726 (SVL); See attached Holding Time Summary for complete sample list.	

DATA ASSESSMENT SUMMARY

REVIEW ITEM	METALS Se ICP V Cd, Mg Mn, Mo	ANIONS ~~AA~~ Cl, F, SO_4, Phos	NH_3, Alk. Cond/TDS ~~HG~~	~~CYANIDE~~	N+N ~~OTHER~~
1. Data completeness	O	O	O	O	O
2. Holding Times (1)	O	O	O	⊗	O
3. Calibration	—	—	—	—	—
4. Blanks	O	O	O	O	O
5. ICS	—	—	—	—	—
6. LCS	O	O	O	O	O
7. Duplicate RPD	O	O	O	O	O
8. Spike Recovery (2)	⊗	O	—	—	O
9. MSA	—	—	—	—	—
10. Other QC	O	O	O	O	O
11. Field Duplicates	O	O	O	O	O
12. Result Verification	—	—	—	—	—
13. Overall Assessment	O	O	O	O	O

O = Data had no problems/or qualified due to minor problems.
M = Data qualified due to major problems.
Z = Data unacceptable.
X = Problems but do not affect data.

Comments/Qualified Results: (1) TDS Hold time limit exceeded for TW-57(J). (2) TW-29 (SDG# 111628), TW-45 (SDG# 111726) Se recovery out of limit (J/UJ).

Validated by: [signature] Date: August 26, 2004

Reviewed by: _____ Date: _____

INORGANIC DATA ASSESSMENT SUMMARY

Acceptable Yes No

1. Data package completeness (check if present) . . . . . ✓ ___

✓ Case narrative
✓ Chain of custody
✓ Sample Results
X ICV/CCV Results
✓ Blank Results
X ICP Interference Check Results
✓ Spike Recovery Results
✓ Duplicate Results
✓ LCS Results
X Standard Addition Results
X ICP Serial Dilution

✓ Instrument Det. Limits
X ICP Correction Factors
X ICP Linear Ranges
✓ Preparation Logs
✓ Analysis Run Logs
X ICP Raw Data
X GFAA Raw Data
X Hg Raw Data
X Cyanide Raw Data
✓ Other INORGANIC Parameters

ARI #GT78 ✓
SVL # 111628 ✓
111645 ✓
111674 ✓
111702 ✓
111726 ✓

Comments/Qualified Results:

2. Holding times (check all that apply) . . . . . ___ ✓

✓ ICP/GFAA metals completed in <6 mos from collection
___ Mercury analyzed in <28 days from collection
___ Cyanide completed in 14 days from collection

Comments/Qualified Results: See Attached Holding Time Summary (Table 5.2)
TDS for # 40048 (Location TW-57) estimated - J

3. Calibrations (check all that apply) . . . . . ___ NA ___

___ ICV/CCV %R for ICP/AA, 90%-110%, results acceptable
___ ICV/CCV %R for ICP/AA, 75%-89% or 111%-125%, results estimated (J/UJ)
___ ICV/CCV %R for ICP/AA, <75% or >125%, reject positive results (R)
___ ICV/CCV %R 80-120 for Hg, results acceptable
___ ICV/CCV %R for Hg, 65%-79% or 121%-135%, results estimated (J/UJ)
___ ICV/CCV %R for Hg, <65% or >135%, reject positive results (R)
___ ICV/CCV %R 85-115 for Cyanide, results acceptable
___ ICV/CCV %R 70-84% or 116-130%, results estimated (J/UJ)
___ ICV/CCV %R <70% or >130%, reject positive results (R)

Comments/Qualified Results: Calibration Data not provided for level of Data Package requested.

INORGANIC DATA ASSESSMENT SUMMARY

	Acceptable Yes	Acceptable No
4. Blanks (check all that apply)	✓	

___Detects reported in ICB/CCB, list:

✓Detects in preparation blanks, list: As indicated below.

* ✓Detects in field blanks, list: DI: Conduct., Chloride, Ammonia ; EquipBlk: Cond, F, Cl, NH_3, NO_2/NO_3, PO_4, Ca, Fe, Mg

Qualify as undetected (U) all sample concentrations ≤5X any associated blank concentrations.

Comments/Qualified Results: GT78 MB ; Inorg GT78 MB
#SVL 111628 : Spec Cond. @ 0.192 / #SVL 111645, Spec Cond 0.192 /
#SVL 111674 : " " @ 0.036
#SVL 111702 : " " @ 0.036
#SVL 111726 : " " @ 0.036
* Qualific. not applied for Field Blank Contaminants.

5. Interference Checks (check all that apply) . . . . . ___ NA___

___ICS A/B Recoveries Acceptable
___Al, Ca, Fe, Mg sample concentrations >ICS concentrations
___ICS %R >120%, results >IDL estimated (J)
___ICS %R 50-79%, results >IDL estimated (J)
___ICS %R 50-79%, results <IDL estimated (UJ)
___ICS %R <50%, results >IDL and <IDL rejected (R/UR)

Comments/Qualified Results: ICS data not required for this level Data Package.

6. Laboratory Control Samples (check all that apply) . . . . . ✓ ___

✓LCS %R 80-120
___LCS %R 50-79% or >120%, results >IDL estimated (J)
___LCS %R 50-79% and results <IDL estimated (UJ)
___LCS %R <50% and all results rejected (R/UR)

- Metals
- Inorganic.

Comments/Qualified Results: GT78: Met. LCS ✓, INORG LCS ✓
SVL# 111628 ✓, SVL# 111645 ✓, SVL# 111674 ✓, SVL# 111702 ✓
SVL# 111726 ✓.

INORGANIC DATA ASSESSMENT SUMMARY

Acceptable
Yes No

7. Duplicate (check all that apply) . . . . . ✓ ___

✓ Duplicate RPD ≤20% for waters (≤35% for soils) for results >5X CRDL
___ Duplicate range is within ±CRDL (±2xCRDL for soils) for results <5X CRDL

Comments/Qualified Results: GT78: 40017 (TW-35) Replic. results ✓
#111628 TW-29 ✓, #111645 TW-49 ✓, #111674 ✓ TW-26 & TW-11,
#111702 TW-56 ✓, #111726 TW-45 & Effluent 1 ✓

8. Spike Recovery (check all that apply) . . . . . ___ ✓

✓ Spike %R with 75-125%
___ Spike %R 30-74%, >125%, results >IDL estimated (J)
___ Spike %R 30-74% results <IDL estimated (UJ)
___ Spike %R <30%, results <IDL rejected (UR)
___ Field blank used for spike analysis

LCS	MS
GT78 ✓ Met	GT78 INOR. ✓ 80-120%
GT78 ✓ INOR	

Comments/Qualified Results: MS performed on 40017 (TW-35) ARI # GT78
SUL #111628 : TW-29 for MS/MSD — Se ↓ (J)
SUL # 111645 : TW-49 " " " ✓
SUL # 111674 : TW-26 " " " ✓ TW-11 for MS/MSD ✓
SUL # 111702 : TW-56 " " " ✓
SUL # 111726 : TW-45 " " " — Se ↓ (J), ~~TW-55~~ Effluent-1 for MS/MSD ✓

9. GFAA Performance . . . . . ___NA___

___ Duplicate injection RSD <20%
___ Duplicate injection RSD >20%, results >CRDL estimated (J)
___ Analytical spike %R 85-115%
___ Analytical spike %R 40-85%, results >IDL estimated (J)
___ Anlaytical spike %R 10-40%, results <IDL estimated (UJ)
___ Analytical spike %R <10%, results <IDL rejected (R)

Comments/Qualified Results: Not Applicable

INORGANIC DATA ASSESSMENT SUMMARY

Acceptable Yes / No

10. Other QC . . . . . ✓ ~~NA~~

Comments/Qualified Results: ~~Not Applicable~~ TMB

FIELD SPLIT OUT OF LIMIT:

Sample	Analyte	RPD	Qualif. for SPLIT data is not required.
TW-35	PO_4	47%	None
TW-20	F, PO_4	27%, 42%	None

TMB

11. Field Duplicates . . . . . ✓

✓ Field duplicate RPD ≤20% (≤35% for soils)

Comments/Qualified Results: Field Splits w/ ARI # 40017 ; See Table 5.4

Field Duplicates: TW-11, TW-33.
See Table 5.3 for RPD values.
No value out of limit on TW-11, Qualif of results is not required.

40027
40030
40032
40035

12. Result Verification . . . . . NA

__ All results supported in raw data

Comments/Qualified Results: Raw data not provided & not evaluated.

13. Overall Assessment . . . . . ✓

Comments/Qualified Results:

TABLE 5.1

FIELD BLANK SAMPLE SUMMARY

TABLE 5.1
MONSANTO
FIELD BLANK SUMMARY

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
SDG: 111674					
	FIELD BLANK ID =	40036	DI Blank		
COMPOUND/ANALYTE		FIELD BLANK RESULT			Qualif.
GENERAL CHEMISTRY (mg/l):		40036			
Alkalinity		1.0 U	Non-detect		None
Carbonate		1.0 U	Non-detect		None
Conductivity		1760			None
Bicarbonate		1.0 U	Non-detect		None
Total Dissolved Solids		10 U	Non-detect		None
Calcium		0.04 U	Non-detect		None
Chloride		0.24			None
Fluoride		0.1 U	Non-detect		None
Hardness		0.265 U	Non-detect		None
N-Ammonia		0.03			None
Nitrate/Nitrite		0.02 U	Non-detect		None
Total Phosphorus		0.01 U	Non-detect		None
Sulfate		0.3 U	Non-detect		None
METALS (mg/l):		40036			
Magnesium		0.04 U	Non-detect		None
Aluminum		0.02 U	Non-detect		None
Cadmium		0.002 U	Non-detect		None
Iron		0.02 U	Non-detect		None
Manganese		0.002 U	Non-detect		None
Molybdenum		0.008 U	Non-detect		None
Selenium		0.03 U	Non-detect		None
Vanadium		0.005 U	Non-detect		None
Zinc		0.005 U	Non-detect		None

TABLE 5.1
MONSANTO
FIELD BLANK SUMMARY

ROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
SDG: 111726					
	FIELD BLANK ID =	40053	Equipment Blank		
OMPOUND/ANALYTE		FIELD BLANK RESULT	Status		Qualif.
ENERAL CHEMISTRY (mg/l):		40053			
kalinity		1.0 U	Non-detect		None
Carbonate		1.0 U	Non-detect		None
carbonate		1.0 U	Non-detect		None
otal Dissolved Solids		10.0 U	Non-detect		None
Hardness		0.265 U	Non-detect		None
onductivity		2.00			None
uoride		0.28			None
Chloride		0.28			None
-Ammonia		0.03			None
trate/Nitrite		0.03			None
Sulfate		0.3 U	Non-detect		None
otal Phosphorus		0.04			None
METALS (mg/l):					
uminum		0.02 U	Non-detect		None
admium		0.002 U	Non-detect		None
Calcium		0.159			None
on		0.025			None
agnesium		0.058			None
Manganese		0.002 U	Non-detect		None
olybdenum		0.008 U	Non-detect		None
elenium		0.003 U	Non-detect		None
Vanadium		0.005 U	Non-detect		None
nc		0.005 U	Non-detect		None

TABLE 5.2

SAMPLE HOLDING TIME SUMMARY

MONSANTO RI/FS
HOLDING TIME SUMMARY / ANALYTICAL RESOURCES LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Cadmium										
GT78	40017	NA	Groundwater	6/23/2004	6/28/2004	6/30/2004	5	7	180	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/28/2004	6/30/2004	5	7	180	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/28/2004	6/30/2004	5	7	180	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/28/2004	6/30/2004	5	7	180	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/28/2004	6/30/2004	5	7	180	Accept
Magnesium										
GT78	40017	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
Manganese										
GT78	40017	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
Molybdenum										
GT78	40017	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
Selenium										
GT78	40017	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept

MONSANTO RI/FS
HOLDING TIME SUMMARY / ANALYTICAL RESOURCES LABORATORY

Vanadium										
GT78	40017	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/28/2004	7/6/2004	5	13	180	Accept

MONSANTO RI/FS
HOLDING TIME SUMMARY / ANALYTICAL RESOURCES LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Conductivity										
GT78	40017	NA	Groundwater	6/23/2004	6/25/2004	6/25/2004	2	2	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/25/2004	6/25/2004	2	2	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/25/2004	6/25/2004	2	2	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/25/2004	6/25/2004	2	2	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/25/2004	6/25/2004	2	2	28	Accept
Total Dissolved Solids										
GT78	40017	NA	Groundwater	6/23/2004	6/29/2004	6/29/2004	6	6	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	6/29/2004	6/29/2004	6	6	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	6/29/2004	6/29/2004	6	6	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	6/29/2004	6/29/2004	6	6	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	6/29/2004	6/29/2004	6	6	28	Accept
Fluoride										
GT78	40017	NA	Groundwater	6/23/2004	7/8/2004	7/8/2004	15	15	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	7/8/2004	7/8/2004	15	15	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	7/8/2004	7/8/2004	15	15	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	7/8/2004	7/8/2004	15	15	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	7/8/2004	7/8/2004	15	15	28	Accept
Chloride										
GT78	40017	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
N - Ammonia										
GT78	40017	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept

MONSANTO RI/FS
HOLDING TIME SUMMARY / ANALYTICAL RESOURCES LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Nitrate + Nitrite - N										
GT78	40017	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
Total Phosphorus										
GT78	40017	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	7/1/2004	7/1/2004	8	8	28	Accept
Sulfate										
GT78	40017	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40027	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40030	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40032	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept
GT78	40035	NA	Groundwater	6/23/2004	7/9/2004	7/9/2004	16	16	28	Accept

MONSANTO RI/FS
HOLDING TIME SUMMARY / SVL LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Aluminum, Cadmium, Calcium, Iron, Manganese, Magnesium, Molybdenum, Vanadium, Zinc and Hardness										
111628	40001	NA	Groundwater	**6/21/2004**	NA	7/6/2004	NA	15	180	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	7/6/2004	NA	15	180	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	7/6/2004	NA	15	180	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	7/6/2004	NA	15	180	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	7/6/2004	NA	15	180	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	7/6/2004	NA	15	180	Accept
Selenium										
111628	40001	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	180	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	180	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	180	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	180	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	180	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	180	Accept

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Ammonia - N										
111628	40001	NA	Groundwater	**6/21/2004**	NA	6/24/2004	NA	3	28	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	6/24/2004	NA	3	28	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	6/24/2004	NA	3	28	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	6/24/2004	NA	3	28	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	6/24/2004	NA	3	28	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	6/24/2004	NA	3	28	Accept
Conductivity										
111628	40001	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept

MONSANTO RI/FS
HOLDING TIME SUMMARY / SVL LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Alkalinity, Carbonate, Bicarbonate										
111628	40001	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	14	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	14	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	14	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	14	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	14	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	14	Accept
Total Dissolved Solids										
111628	40001	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
Chloride, Fluoride, Sulfate										
111628	40001	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
Nitrate + Nitrite - N										
111628	40001	NA	Groundwater	**6/21/2004**	NA	6/25/2004	NA	4	28	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	6/25/2004	NA	4	28	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	6/25/2004	NA	4	28	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	6/25/2004	NA	4	28	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	6/25/2004	NA	4	28	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	6/25/2004	NA	4	28	Accept
Total Phosphorus										
111628	40001	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111628	40002	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111628	40003	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111628	40004	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111628	40005	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111628	40006	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept

MONSANTO RI/FS
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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Aluminum, Cadmium, Calcium, Iron, Manganese, Magnesium, Molybdenum, Vanadium, Zinc and Hardness										
111645	40007	NA	Groundwater	**6/21/2004**	NA	7/8/2004	NA	17	180	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	7/8/2004	NA	17	180	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	7/8/2004	NA	17	180	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	7/8/2004	NA	17	180	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	7/8/2004	NA	16	180	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	7/8/2004	NA	16	180	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	7/8/2004	NA	16	180	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	7/8/2004	NA	16	180	Accept
Selenium										
111645	40007	NA	Groundwater	**6/21/2004**	NA	7/7/2004	NA	16	180	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	7/7/2004	NA	16	180	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	7/7/2004	NA	16	180	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	7/7/2004	NA	16	180	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	7/7/2004	NA	15	180	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	7/7/2004	NA	15	180	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	7/7/2004	NA	15	180	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	7/7/2004	NA	15	180	Accept

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Ammonia - N										
111645	40007	NA	Groundwater	**6/21/2004**	NA	6/30/2004	NA	9	28	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	6/30/2004	NA	9	28	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	6/30/2004	NA	9	28	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	6/30/2004	NA	9	28	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Conductivity										
111645	40007	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
Alkalinity, Carbonate, Bicarbonate										
111645	40007	NA	Groundwater	**6/21/2004**	NA	6/29/2004	NA	8	14	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	6/29/2004	NA	8	14	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	6/29/2004	NA	8	14	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	6/29/2004	NA	8	14	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
Total Dissolved Solids										
111645	40007	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	7	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	7	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	7	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	7	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	7	Accept
Fluoride										
111645	40007	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
Chloride, Sulfate										
111645	40007	NA	Groundwater	**6/21/2004**	NA	7/2/2004	NA	11	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Chloride, Fluoride, Sulfate										
111645	40008	NA	Groundwater	**6/21/2004**	NA	7/2/2004	NA	11	28	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	7/2/2004	NA	11	28	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	7/2/2004	NA	11	28	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
Nitrate + Nitrite - N										
111645	40007	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	7/1/2004	NA	10	28	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	6/28/2004	NA	7	28	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
Total Phosphorus										
111645	40007	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111645	40008	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111645	40009	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111645	40010	NA	Groundwater	**6/21/2004**	NA	6/23/2004	NA	2	28	Accept
111645	40012	NA	Groundwater	**6/22/2004**	NA	6/23/2004	NA	1	28	Accept
111645	40013	NA	Groundwater	**6/22/2004**	NA	6/23/2004	NA	1	28	Accept
111645	40014	NA	Groundwater	**6/22/2004**	NA	6/23/2004	NA	1	28	Accept
111645	40015	NA	Groundwater	**6/22/2004**	NA	6/23/2004	NA	1	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Aluminum, Cadmium, Calcium, Iron, Manganese, Magnesium, Molybdenum, Vanadium, Zinc and Hardness										
111674	40011	NA	Groundwater	**6/22/2004**	NA	7/10/2004	NA	18	180	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	7/10/2004	NA	18	180	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	7/10/2004	NA	18	180	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	7/10/2004	NA	18	180	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	7/10/2004	NA	18	180	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	7/10/2004	NA	18	180	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	180	Accept
Selenium										
111674	40011	NA	Groundwater	**6/22/2004**	NA	7/9/2004	NA	17	180	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	7/9/2004	NA	17	180	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	7/9/2004	NA	17	180	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	7/9/2004	NA	17	180	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	7/9/2004	NA	17	180	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	7/9/2004	NA	17	180	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	7/9/2004	NA	16	180	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Ammonia - N										
111674	40011	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	6/30/2004	NA	8	28	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
Conductivity										
111674	40011	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	28	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	28	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	28	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	28	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	28	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	28	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Alkalinity, Carbonate, Bicarbonate										
111674	40011	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	14	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	14	Accept
Total Dissolved Solids										
111674	40011	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	7	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	7	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	7	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	7	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	7	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	6/29/2004	NA	7	7	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Chloride										
111674	40011	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
Fluoride										
111674	40011	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	7/2/2004	NA	10	28	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Sulfate										
111674	40011	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
Nitrate + Nitrite - N										
111674	40011	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	6/28/2004	NA	6	28	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Total Phosphorus										
111674	40011	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40019	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40020	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40021	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40022	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40023	NA	Groundwater	**6/22/2004**	NA	7/1/2004	NA	9	28	Accept
111674	40016	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40018	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40025	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40026	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40028	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40029	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40031	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40036	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40033	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111674	40034	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept

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HOLDING TIME SUMMARY / SVL LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Aluminum, Cadmium, Calcium, Iron, Manganese, Magnesium, Molybdenum, Selenium, Vanadium, Zinc and Hardness										
111702	40037	NA	Groundwater	**6/23/2004**	NA	7/11/2004	NA	18	180	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	7/11/2004	NA	18	180	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	7/11/2004	NA	18	180	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	7/11/2004	NA	18	180	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	7/11/2004	NA	18	180	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	7/11/2004	NA	18	180	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	7/11/2004	NA	17	180	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	7/11/2004	NA	17	180	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	7/11/2004	NA	17	180	Accept
Ammonia - N										
111702	40037	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	28	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	28	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	28	Accept
Conductivity										
111702	40037	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	28	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	28	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	28	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Alkalinity, Carbonate, Bicarbonate										
111702	40037	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	14	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	14	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	14	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	14	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	14	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	14	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	14	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	14	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	14	Accept
Total Dissolved Solids										
111702	40037	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	6/29/2004	NA	6	7	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	7	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	7	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	7	Accept
Chloride, Fluoride, Sulfate										
111702	40037	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	28	Accept
111702	40038#	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	28	Accept
111702	40039*	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	28	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	28	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	28	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	7/10/2004	NA	17	28	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	7/10/2004	NA	16	28	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	7/10/2004	NA	16	28	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	7/10/2004	NA	16	28	Accept
Sulfate#										
111702	40038#	NA	Groundwater	**6/23/2004**	NA	7/13/2004	NA	20	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Chloride*										
111702	40039*	NA	Groundwater	**6/23/2004**	NA	7/13/2004	NA	20	28	Accept
N - Ammonia										
111702	40037	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	6/30/2004	NA	7	28	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	28	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	28	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	28	Accept
Nitrate + Nitrite - N										
111702	40037	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	7/2/2004	NA	9	28	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	6/28/2004	NA	5	28	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	6/28/2004	NA	4	28	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	6/28/2004	NA	4	28	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	28	Accept
Total Phosphorus										
111702	40037	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40038	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40039	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40040	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40041	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40042	NA	Groundwater	**6/23/2004**	NA	7/1/2004	NA	8	28	Accept
111702	40024	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	28	Accept
111702	40043	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	28	Accept
111702	40044	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Aluminum, Cadmium, Calcium, Iron, Manganese, Magnesium, Molybdenum, Vanadium, Zinc and Hardness										
111726	40045	NA	Groundwater	**6/24/2004**	NA	7/12/2004	NA	18	180	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	7/12/2004	NA	18	180	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	7/12/2004	NA	18	180	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40049	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40055	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40056	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40057	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	7/12/2004	NA	17	180	Accept
Ammonia - N										
111726	40045	NA	Groundwater	**6/24/2004**	NA	7/9/2004	NA	15	28	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	7/9/2004	NA	15	28	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	7/9/2004	NA	15	28	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40049	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40055	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40056	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40057	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	7/9/2004	NA	14	28	Accept

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Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Conductivity										
111726	40045	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	28	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	28	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	6/29/2004	NA	5	28	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40049	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40055	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40056	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40057	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	6/29/2004	NA	4	28	Accept
Alkalinity, Carbonate, Bicarbonate										
111726	40045	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	14	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	14	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	14	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40049	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40055	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40056	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40057	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	14	Accept

MONSANTO RI/FS
HOLDING TIME SUMMARY / SVL LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Total Dissolved Solids										
111726	40045	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	7	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	7	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	6/30/2004	NA	6	7	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	7/15/2004	NA	20	7	Estimated - J
111726	40049	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40055	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40056	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40057	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	6/30/2004	NA	5	7	Accept
Chloride, Fluoride, Sulfate										
111726	40045	NA	Groundwater	**6/24/2004**	NA	7/10/2004	NA	16	28	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	7/10/2004	NA	16	28	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	7/10/2004	NA	16	28	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40049	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40055#	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40056#	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40057#	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	7/10/2004	NA	15	28	Accept

MONSANTO RI/FS
HOLDING TIME SUMMARY / SVL LABORATORY

Job Number	Location ID	Depth of Sample	Matrix	Collection Date	Extraction Date	Analysis Date	Hold Days to Extraction	Hold Days to Analysis	Required	Status
Chloride #										
111726	40055#	NA	Groundwater	**6/25/2004**	NA	7/13/2004	NA	18	28	Accept
111726	40056#	NA	Groundwater	**6/25/2004**	NA	7/13/2004	NA	18	28	Accept
111726	40057#	NA	Groundwater	**6/25/2004**	NA	7/13/2004	NA	18	28	Accept
Nitrate + Nitrite - N										
111726	40045	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	28	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	28	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	7/1/2004	NA	7	28	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40049	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40055	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40056	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40057	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	7/1/2004	NA	6	28	Accept
Total Phosphorus										
111726	40045	NA	Groundwater	**6/24/2004**	NA	7/2/2004	NA	8	28	Accept
111726	40046	NA	Groundwater	**6/24/2004**	NA	7/2/2004	NA	8	28	Accept
111726	40047	NA	Groundwater	**6/24/2004**	NA	7/2/2004	NA	8	28	Accept
111726	40048	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40049	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40050	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40051	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40052	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40053	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40054	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40055	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40056	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40057	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40058	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept
111726	40059	NA	Groundwater	**6/25/2004**	NA	7/2/2004	NA	7	28	Accept

TABLE 5.3

FIELD DUPLICATE SUMMARY

TABLE 5.3
MONSANTO
FIELD DUPLICATE COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-20	40025	SDG: 111674	LAB:	SVL
Duplicate FIELD ID =	TW-20	40026	SDG: 111674	LAB:	ARI
COMPOUND/ANALYTE		SAMPLE RESULT	DUPLICATE RESULT	RPD	Status
GENERAL CHEMISTRY (mg/l):		40025	40026		
Alkalinity		499	502	0.4	Accept
Carbonate		1.0 U	1.0 U	NA	Accept
Conductivity		2160	2,200	1.2	Accept
Bicarbonate		499	502	0.4	Accept
Total Dissolved Solids		1530	1,530	0.0	Accept
Calcium		210	213	0.9	Accept
Chloride		139	140	0.5	Accept
Fluoride		1.67	1.7	1.2	Accept
Hardness		1070	1080	0.6	Accept
Magnesium		132	133	0.5	Accept
N-Ammonia		0.01 U	0.01 U	NA	Accept
Nitrate/Nitrite		8.16	8.49	2.7	Accept
Total Phosphorus		0.26	0.26	0.0	Accept
Sulfate		640	644	0.4	Accept
Within '+/- DL for low level conc.; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water (J/UJ)					
METALS (mg/l):		40025	40026		
Aluminum		0.02 U	0.02 U	NA	Accept
Cadmium		0.0094	0.0095	0.7	Accept
Iron		0.02 U	0.02 U	NA	Accept
Manganese		0.002 U	0.002 U	NA	Accept
Molybdenum		0.0547	0.0564	2.1	Accept
Selenium		0.392	0.372	3.5	Accept
Vanadium		0.0077	0.0078	0.9	Accept
Zinc		0.117	0.122	2.8	Accept
Within '+/- DL for low level conc.; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water (J/UJ)					

TABLE 5.3
MONSANTO
FIELD DUPLICATE COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-11	40028	SDG: 111674	LAB:	SVL
Duplicate FIELD ID =	TW-11	40029	SDG: 111674	LAB:	ARI
OMPOUND/ANALYTE	Detection Limit	SAMPLE RESULT	DUPLICATE RESULT	RPD	Status
GENERAL CHEMISTRY (mg/l):		40028	40029		
kalinity		441	451	1.5	Accept
arbonate		1.0 U	1.0 U	NA	Accept
Conductivity		1110	1,100	0.6	Accept
carbonate		441	451	1.5	Accept
otal Dissolved Solids		620	622	0.2	Accept
Calcium		90.7	95.6	3.5	Accept
hloride		43.3	43.6	0.5	Accept
uoride		0.12	0.1 U	NA	Accept
Hardness		368	391	4.1	Accept
agnesium		34.3	37	5.1	Accept
N-Ammonia		2.22	2.26	1.2	Accept
Nitrate/Nitrite		3.85	3.75	1.7	Accept
otal Phosphorus		0.06	0.06	0.0	Accept
Sulfate		116	116	0.0	Accept
Within '+/- DL for low level conc.; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water (J/UJ)					
ETALS (mg/l):		40028	40029		
Aluminum		0.02 U	0.02 U	NA	Accept
Cadmium		0.002 U	0.0095	NA	Accept
on		0.02 U	0.02 U	NA	Accept
Manganese		0.002 U	0.002 U	NA	Accept
Molybdenum	0.008	0.0123	0.0564	108.9	Fail
elenium		0.003 U	0.372	NA	Accept
Vanadium		0.005 U	0.0078	NA	Accept
Zinc		0.005 U	0.122	NA	Accept
Within '+/- DL for low level conc.; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water (J/UJ)					

TABLE 5.3
MONSANTO
FIELD DUPLICATE COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-33	40033	SDG: 111674	LAB:	SVL
Duplicate FIELD ID =	TW-33	40034	SDG: 111674	LAB:	ARI
COMPOUND/ANALYTE	Detection Limit	SAMPLE RESULT	DUPLICATE RESULT	RPD	Status
GENERAL CHEMISTRY (mg/l):		40033	40034		
Alkalinity		445	443	0.3	Accept
Carbonate		1.0 U	1.0 U	NA	Accept
Conductivity		876	836	3.1	Accept
Bicarbonate		445	443	0.3	Accept
Total Dissolved Solids		483	474	1.3	Accept
Calcium		115	112	1.8	Accept
Chloride		18.7	18.8	0.4	Accept
Fluoride		0.14	0.16	9.1	Accept
Hardness		453	445	1.2	Accept
Magnesium		40.5	39.9	1.0	Accept
N-Ammonia		0.05	0.05	0.0	Accept
Nitrate/Nitrite		2.31	2.32	0.3	Accept
Total Phosphorus		0.24	0.24	0.0	Accept
Sulfate		41.4	41.2	0.3	Accept
Within '+/- DL for low level conc.; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water (J/UJ)					
METALS (mg/l):		40033	40034		
Aluminum	0.02	0.209	0.145	+/-DL	Accept
Cadmium		0.002 U	0.002 U	NA	Accept
Iron	0.02	0.198	0.129	+/-DL	Accept
Manganese	0.002	0.0079	0.0048	+/-DL	Accept
Molybdenum		0.058	0.0574	0.7	Accept
Selenium		0.003 U	0.003 U	NA	Accept
Vanadium		0.645	0.629	1.7	Accept
Zinc		0.005 U	0.005 U	NA	Accept
Within '+/- DL for low level conc.; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water (J/UJ)					

TABLE 5.4

LABORATORY FIELD SPLIT COMPARISON

TABLE 5.4
MONSANTO
FIELD SPLIT COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-35	40016	SDG: 111674	LAB:	SVL
FIELD SPLIT ID =	TW-35	40017	SDG: GT78	LAB:	ARI
COMPOUND/ANALYTE		SAMPLE RESULT	SPLIT RESULT	RPD	Status
GENERAL CHEMISTRY (mg/l):		40016	40017		
Alkalinity		1300	-	NA	Accept
Carbonate		1.0 U	-	NA	Accept
Conductivity		2180	1,880	9.6	Accept
Bicarbonate		1300	-	NA	Accept
Total Dissolved Solids		1250	1,270	1.1	Accept
Calcium		61.8	-	NA	Accept
Chloride		39.3	38.6	1.2	Accept
Fluoride		0.1 U	0.28	NA	Accept
Hardness		1270	-	NA	Accept
N-Ammonia		0.21	0.204	1.9	Accept
Nitrate/Nitrite		0.02 U	0.01 U	NA	Accept
Total Phosphorus		0.52	0.224	46.8	Fail
Sulfate		107	113	3.7	Accept
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					
METALS (mg/l):		40016	40017		
Cadmium		0.002 U	0.0002 U	NA	Accept
Magnesium		271	263	2.0	Accept
Manganese		0.146	0.137	4.2	Accept
Molybdenum		0.0139	0.009	+/- DL	Accept
Selenium		0.003 U	0.002 U	NA	Accept
Vanadium		0.005 U	0.003 U	NA	Accept
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					

TABLE 5.4
MONSANTO
FIELD SPLIT COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-20	40026	SDG: 111674	LAB:	SVL
FIELD SPLIT ID =	TW-20	40027	SDG: GT78	LAB:	ARI
COMPOUND/ANALYTE		SAMPLE RESULT	SPLIT RESULT	RPD	Qualif.
GENERAL CHEMISTRY (mg/l):		40026	40027		
Alkalinity		502	-	NA	Accept
Carbonate		1.0 U	-	NA	Accept
Conductivity		2200	1,950	7.9	Accept
Bicarbonate		502	-	NA	Accept
Total Dissolved Solids		1530	1,670	5.9	Accept
Calcium		213	-	NA	Accept
Chloride		140	126	6.9	Accept
Fluoride		1.7	2.49	26.8	Fail
Hardness		1080	-	NA	Accept
N-Ammonia		0.01 U	0.01 U	NA	Accept
Nitrate/Nitrite		8.49	7.41	8.9	Accept
Total Phosphorus		0.26	0.124	42.2	Fail
Sulfate		644	622	2.3	Accept
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					
METALS (mg/l):		40026	40027		
Cadmium		0.0095	0.01	3.4	Accept
Magnesium		133	138	2.5	Accept
Manganese		0.002 U	0.001 U	NA	Accept
Molybdenum		0.0564	0.052	5.3	Accept
Selenium		0.372	0.38	1.4	Accept
Vanadium		0.0078	0.008	1.7	Accept
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					

TABLE 5.4
MONSANTO
FIELD SPLIT COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-11	40028	SDG: 111674	LAB:	SVL
FIELD SPLIT ID =	TW-11	40030	SDG: GT78	LAB:	ARI
COMPOUND/ANALYTE		SAMPLE RESULT	SPLIT RESULT	RPD	Qualif.
GENERAL CHEMISTRY (mg/l):		40028	40030		
Alkalinity		441	-	NA	ACCEPT
Carbonate		1.0 U	-	NA	ACCEPT
Conductivity		1110	1,060	3.0	ACCEPT
Bicarbonate		441	-	NA	ACCEPT
Total Dissolved Solids		620	592	3.1	ACCEPT
Calcium		90.7	-	NA	ACCEPT
Chloride		43.3	40.7	4.1	ACCEPT
Fluoride		0.12	0.31	+/- DL	ACCEPT
Hardness		368	-	NA	ACCEPT
N-Ammonia		2.22	2.37	4.4	ACCEPT
Nitrate/Nitrite		3.85	3.40	8.1	ACCEPT
Total Phosphorus		0.06	0.064	4.3	ACCEPT
Sulfate		116	118	1.1	ACCEPT
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					
METALS (mg/l):		40028	40030		
Cadmium		0.002 U	0.0002 U	NA	ACCEPT
Magnesium		34.3	37.9	6.8	ACCEPT
Manganese		0.002 U	0.001 U	NA	ACCEPT
Molybdenum		0.0123	0.009	19.6	ACCEPT
Selenium		0.003 U	0.002	NA	ACCEPT
Vanadium		0.005 U	0.003 U	NA	ACCEPT
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					

TABLE 5.4
MONSANTO
FIELD SPLIT COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-12	40031	SDG: 111674	LAB:	SVL
FIELD SPLIT ID =	TW-12	40032	SDG: GT78	LAB:	ARI
OMPOUND/ANALYTE		SAMPLE RESULT	SPLIT RESULT	RPD	Qualif.
ENERAL CHEMISTRY (mg/l):		40031	40032		
kalinity		429	-	NA	ACCEPT
Carbonate		1.0 U	-	NA	ACCEPT
onductivity		1180	1,140	2.3	ACCEPT
carbonate		429	-	NA	ACCEPT
Total Dissolved Solids		605	627	2.4	ACCEPT
alcium		97.3	-	NA	ACCEPT
hloride		52.9	47.8	6.6	ACCEPT
Fluoride		0.13	0.34	+/-DL	ACCEPT
ardness		394	-	NA	ACCEPT
-Ammonia		18.1	19.2	4.0	ACCEPT
Nitrate/Nitrite		7.39	6.35	9.8	ACCEPT
otal Phosphorus		0.76	0.750	0.9	ACCEPT
ulfate		139	137	1.0	ACCEPT
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					
ETALS (mg/l):		40031	40032		
admium		0.002 U	0.0002 U	NA	ACCEPT
Magnesium		36.7	37.9	2.2	ACCEPT
anganese		0.0508	0.050	1.1	ACCEPT
olybdenum		0.729	0.725	0.4	ACCEPT
Selenium		0.003 U	0.002	NA	ACCEPT
anadium		0.874	0.861	1.0	ACCEPT
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					

TABLE 5.4
MONSANTO
FIELD SPLIT COMPARISON

PROJECT: 913-1101.605			DATE VALIDATED:		12-Aug-04
FIELD SAMPLE ID =	TW-33	40033	SDG: 111674	LAB:	SVL
FIELD SPLIT ID =	TW-33	40035	SDG: GT78	LAB:	ARI
COMPOUND/ANALYTE		SAMPLE RESULT	SPLIT RESULT	RPD	Qualif.
GENERAL CHEMISTRY (mg/l):		40033	40035		
Alkalinity		445	-	NA	ACCEPT
Carbonate		1.0 U	-	NA	ACCEPT
Conductivity		876	825	4.0	ACCEPT
Bicarbonate		445	-	NA	ACCEPT
Total Dissolved Solids		483	491	1.1	ACCEPT
Calcium		115	-	NA	ACCEPT
Chloride		18.7	17.6	4.0	ACCEPT
Fluoride		0.14	0.31	+/-DL	ACCEPT
Hardness		453	-	NA	ACCEPT
N-Ammonia		0.05	0.028	+/-DL	ACCEPT
Nitrate/Nitrite		2.31	2.08	6.9	ACCEPT
Total Phosphorus		0.24	0.236	1.1	ACCEPT
Sulfate		41.4	43.6	3.5	ACCEPT
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					
METALS (mg/l):		40033	40035		
Cadmium		0.002 U	0.0002 U	NA	ACCEPT
Magnesium		40.5	41.4	1.5	ACCEPT
Manganese		0.0079	0.005	+/-DL	ACCEPT
Molybdenum		0.058	0.056	2.3	ACCEPT
Selenium		0.003 U	0.002	NA	ACCEPT
Vanadium		0.645	0.622	2.4	ACCEPT
+/- DL for low level concentrations; NA - duplicate rule does not apply; Fail - RPD exceeds 20% for water					