Evaluation of the Validity of Groundwater Samples Obtained Using the Purge Water Management System at SRS

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United States Department of Energy

Savannah River Site

**Evaluation of the Validity of Groundwater
Samples Obtained Using the
Purge Water Management System (PWMS)
at the Savannah River Site (U)**

WSRC-TR-99-00042

Revision 0

March 1999

**Westinghouse Savannah River Company/
Bechtel Savannah River Inc.
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EXECUTIVE SUMMARY

As part of the demonstration testing of the Purge Water Management System (PWMS) technology at the Savannah River Site (SRS), four wells were equipped with PWMS units in 1997 and a series of sampling events were conducted at each during 1997-1998. Three of the wells were located in A/M Area while the fourth was located at the Old Radioactive Waste Burial Ground in the General Separations Area.

The PWMS is a "closed-loop," non-contact, system used to collect and return purge water to the originating aquifer after a sampling event without having significantly altered the water quality. One of the primary concerns as to its applicability at SRS, and elsewhere, is whether the PWMS might resample groundwater that is returned to the aquifer during the previous sampling event.

The purpose of the present investigation was to compare groundwater chemical analysis data collected at the four test wells using the PWMS vs. historical data collected using the standard monitoring program methodology to determine if the PWMS provides representative monitoring samples.

The analysis of the groundwater chemical concentrations indicates that the PWMS sampling methodology acquired representative groundwater samples at monitoring wells ABP-1A, ABP-4, ARP-3 and BGO-33C. Representative groundwater samples are achieved if the PWMS does not resample groundwater that has been purged and returned during a previous sampling event. Initial screening calculations, conducted prior to the selection of these four wells, indicated that groundwater velocities were high enough under the ambient hydraulic gradients to preclude resampling from occurring at the time intervals that were used at each well. Corroborating evidence included a tracer test that was conducted at BGO-33C, the high degree of similarity between analyte concentrations derived from the PWMS samples and those obtained from historical protocol sampling, as well as the fact that PWMS data extend all previously existing concentration trends to the present time. The latter line of evidence is considered to be the most powerful in demonstrating that representative samples are being acquired by the PWMS because it is highly unlikely that previously existing concentration trends would continue if resampling had occurred.

1.0 INTRODUCTION

Standard procedure for obtaining protocol groundwater monitoring samples at the Savannah River Site (SRS) calls for extracting or “purging” sufficient quantities of groundwater to allow removal of stagnant water and to allow certain key indicator parameters to stabilize prior to collection of samples. The water extracted from a well prior to sample collection is termed “purge water” and must be managed in an approved fashion if it contains hazardous and/or radiological constituents that exceed specified health-based limits described in *the Investigation Derived Waste Management Plan* (WSRC, 1994). Typical management practices include containerization, transportation, treatment, and disposal via Clean Water Act-permitted facilities.

A technology for handling purge water that eliminates the need to containerize and transport this water to a disposal facility has been developed. This technology, termed the Purge Water Management System (PWMS), is currently under pilot stage deployment at SRS. The PWMS is a “closed-loop,” non-contact system used to collect and return purge water to the originating aquifer after a sampling event without significantly altering the water quality. A schematic drawing of the PWMS is in Figure 1. The system has been successfully demonstrated at both a “clean” well, P-26D, and a “contaminated” well, MCB-5, by comparing chemical concentration data obtained by PWMS sampling against the historical data record for each of these wells (Hiergesell et al., 1996). In both cases the PWMS was found to yield sample results that were indistinguishable from the results of the historical protocol sampling conducted at those same wells.

For any method used to sample groundwater, sample representativeness is a primary concern. Suitability of the PWMS to collect representative monitoring samples, while allowing for the extraction and return of large volumes of purge water back to the aquifer, is the chief issue to address for the successful demonstration of the technology. The purpose of the present investigation was to evaluate the results of groundwater sampling using PWMS units deployed at four additional, “typical” SRS wells monitoring groundwater contamination. If the groundwater samples collected using the PWMS system can be demonstrated to be representative of the groundwater flow system, then the samples are considered valid.

Figure 1. Schematic drawing of the purge water management system.

2.0 METHODOLOGY

Three wells in the A/M Area and one well in the General Separations Area (GSA) were selected to demonstrate use of the PWMS (Figures 2 and 3):

ABP-1A	Located at the A-Area Metals Burning Pit, A/M Area
ABP-4	Located at the A-Area Metals Burning Pit, A/M Area
ARP-3	Located at the A-Area Burning/Rubble Pits, A/M Area
BGO-33C	Located at the Old Radioactive Waste Burial Ground, GSA

Initially, these wells were evaluated using a screening method to determine whether they were good candidates for the PWMS technology. The first part of the screening method was to determine the size of the aquifer volume from which groundwater originates during typical sampling events at each well. This volume is later refilled when water is returned from the PWMS tank. The geometric shape of the aquifer volume is assumed to be a cylinder having its axis coincident with the borehole axis and a height equal to the well screen length. Using an assumed porosity and a purged volume based upon well records, the radius of the cylindrical volume can be calculated.

The second part of the screening involved calculating how far the groundwater in the cylinder migrates between sampling events at each of the wells. Theoretically, groundwater must migrate at least twice the length of the radius of the cylinder to avoid being drawn back into the well during a second sample event. The groundwater velocity near each well screen was determined and the distance traveled during the period between sample events calculated. It was assumed that sampling events would be separated by a minimum 90-day period.

Suitability was determined by evaluating whether the pore water in the cylinder migrated far enough between 90-day sampling events to prevent groundwater from being resampled during the second sampling event. All four wells evaluated in this investigation were determined to have natural groundwater velocities sufficiently high to prevent resampling from occurring, including BGO-33C, the well with the lowest hydraulic conductivity. Specific data from the screening calculations for each well are presented in Table 1.

Figure 2. Location of wells ABP-1A, ABP-4, and ARP-3 at the Savannah River Site.

Figure 3. Location of well BGO-33C at the Savannah River Site.

Table 1. Results of screening calculations for PWMS wells.

Well	Aquifer Material Cylinder Radius (ft)	Minimum 90-Day Groundwater Migration Distance (ft)	Calculated 90-Day Groundwater Migration Distance (ft)
ABP-1A	0.87	1.73	18
ABP-4	0.74	1.49	18
ARP-3	0.65	1.30	18
BGO-33C	1.90	3.80	7.4

The sampling schedule followed for evaluation of the use of the PWMS at the four wells is presented in Table 2.

Table 2. Schedule of sampling events at PWMS wells.

Well	Sampling Event No. 1	Sampling Event No. 2	Sampling Event No. 3
ABP-1A	Nov. 11, 1997	Aug. 13, 1998	-
ABP-4	Nov. 11, 1997	Sept. 28, 1998	-
ARP-3	Nov. 12, 1997	Aug. 13, 1998	-
BGO-33C	Dec. 16, 1997	June 15, 1998	Dec. 17, 1998

The chemical analysis data from these sample collections were compared with analyte concentration data from protocol samples collected previously at the same wells. The historical data were obtained as part of the routine SRS groundwater-monitoring program.

The analytes selected for comparison of the PWMS sampling with the historical collections included naturally occurring analytes as well as chemical and radiological contaminants known to exist in the vicinity of the wells. The analytes, which were also evaluated in the previous study (Hiergesell et al., 1996), included:

pH	Chromium, total recoverable	Chloride
Specific conductance	Iron, total recoverable	Carbon tetrachloride
Calcium, total recoverable	Manganese, total recoverable	Tetrachloroethylene
Potassium, total recoverable	Aluminum, total recoverable	Trichloroethylene
Sodium, total recoverable	Lead, total recoverable	Gross alpha

For BGO-33C, tritium concentrations in the PWMS-collected samples and in the historical samples were also compared. And, because of the lower hydraulic conductivity at BGO-33C, a tracer study was

conducted at that well. Potassium bromide (KBr) was injected into the aquifer on the second PWMS sampling event (June 15, 1998) at BGO-33C, after a “background” sample was first collected from the aquifer. Then, 180 days after the potassium bromide injection, the aquifer was sampled again using the PWMS unit to determine if any of the tracer remained.

Sampling of each of the four wells installed with a PWMS unit was identical and followed SRS standard groundwater sampling procedure (WSRC, 1992). Accordingly, groundwater was pumped at a flow rate of approximately one gallon per minute (gpm) into the PWMS unit bladder tank (Figure 1). After a minimum of two well volumes of purge water was pumped into the tank, the field indicator parameters, pH, water temperature, specific conductance, and turbidity, were monitored at the well sampling port to determine the point at which their levels stabilized (i.e., when the measurements for each parameter varied by no more than ten percent of each other). Once stabilization occurred, a groundwater sample was collected using the PWMS at a location ahead or “influent” to the PWMS tank while tank filling continued. This sample is, thus, considered to be a “snapshot” of the groundwater unaffected by stagnant well conditions that might have occurred between sampling events.

Samples were shipped to an off-site analytical laboratory under contract to SRS for the performance of analytical services related to the ongoing groundwater monitoring program. A rigorous laboratory quality assurance process is a major component of this program. Once chemical analysis results were returned from the laboratory, the field and analytical data were validated.

Data processing for the comparison of the PWMS and historical sampling involved downloading the relevant data for each well from the SRS Geochemical Information Management System (GIMS) database to facilitate the comparison of historical and PWMS sample analyses. Scatter diagrams were constructed for each of the analytes selected to make the comparison for each of the wells. The data from each well were then examined to determine: 1) if PWMS samples fall within historical ranges and 2) if any discernible historical trends could be identified in the historical record and whether PWMS samples reflect a continuation of concentration trends. A statistical evaluation was made of the two data sets for each analyte to confirm comparisons made using the scatter diagrams.

3.0 RESULTS

The results of the components of the comparison study, including comparison of analytical data by well, the statistical evaluation, and the tracer study, are presented below.

3.1 Comparison of Analytical Data

The results of the scatter diagram comparison of the PWMS sample analyses with the record of historical analyses are presented by well in Figures 4 to 7. The data used in the comparison for each well are provided in Appendix A. The results are discussed below for each well.

Data codes used in the figures and in the data presented in Appendix A are identified in Table 3.

Table 3. Data codes used in the well sample analysis results.

Analyte Codes	
Code	Analyte
FPH	Field pH
COND	Specific conductance
CATOT	Calcium, total recoverable
KTOT	Potassium, total recoverable
NATOT	Sodium, total recoverable
CRTOT	Chromium, total recoverable
FETOT	Iron, total recoverable
MNTOT	Manganese, total recoverable
ALTOT	Aluminum, total recoverable
PBTOT	Lead, total recoverable
CL	Chloride
CCL4	Carbon tetrachloride
TCLEE	Tetrachloroethylene
TRCLE	Trichloroethylene
ALPHAG	Gross alpha
TRITIUM	Tritium
BR	Bromide
Analytical Result Qualifier Codes	
Code	Qualification
#	Result has no qualifier - interpret as reported
J	Result is estimated quantity
U, UI	Result is less than sample quantitation limit

3.1.1 ABP-1A Sample Analysis Results (Figure 4)

Among the potential contaminants for which PWMS analyses were conducted, clear concentration trends at well ABP-1A are evident in the historical data for the organic compounds tetrachloroethylene, trichloroethylene, and carbon tetrachloride, but not for total chromium, gross alpha, or total lead. Synchronous “spikes” in concentration are observed for the organic compounds, with peaks occurring in late 1993, followed by steady declines in concentration. In all cases, the PWMS samples are highly consistent with the continuation of these trends to the present time. Very few historical measurements exist for total chromium concentration but substantially more have been conducted for gross alpha and total lead, even though many of the results are less than the method detection limit. In all cases, the PWMS analyses are highly consistent with the historical measurements.

Among the naturally occurring analytes, total aluminum, total iron, total calcium, chloride, total manganese, total potassium, and total sodium, no historical concentration trends are observed. The PWMS concentrations are very similar to the historical concentrations for all of these analytes, although few historical analyses have been conducted for total calcium, total iron, total potassium, and total sodium, and certain results are reported as “estimated values” or as “less than the method detection limit.” Specific conductance and pH levels obtained from PWMS samples are both highly similar to historical measurements of those parameters and fall well within the historical range.

3.1.2 ABP-4 Sample Analysis Results (Figure 5)

As was the case with ABP-1A, the organic compounds tetrachloroethylene, trichloroethylene, and carbon tetrachloride exhibit historical concentration trends; however other potential contaminants, total chromium, gross alpha, and total lead, do not. Synchronous “spikes” in concentration are observed for the organic compounds, with peaks occurring in late 1993, followed by steady declines in concentration. The “spike” is less distinct for carbon tetrachloride due to a number of the concentrations being reported as estimated concentrations. In all cases, though, the PWMS samples are highly consistent with the continuation of the historical concentration trends to the present time. For the other potential contaminants, no concentration trends are seen; however, the PWMS measurements are highly consistent with the historical measurements.

Evaluation of the Validity of Groundwater Samples Obtained Using the PWMS at SRS

Figure 4. Plots of concentrations and activities of analytes collected at well ABP-1A by the PWMS (in r

Plot of CATOT in ABP 1A

Carbon, total recoverable

Plot of KTOT in ABP 1A

Potassium, total recoverable

Plot of NATOT in ABP 1A

Sodium, total recoverable

Plot of MNTOT in ABP 1A

Manganese, total recoverable

Plot of ALTOT in ABP 1A

Aluminum, total recoverable

Plot of PBTOT in ABP 1A

Lead, total recoverable

Plot of TCLEE in ABP 1A

Trichloroethylene

Plot of TRCLE in ABP 1A

Trichloroethylene

Plot of ALPHAG in ABP 1A

Gross alpha

Evaluation of the Validity of Groundwater Samples Obtained Using the PWMS at SRS

Figure 5. Plots of concentrations and activities of analytes collected at well ABP-4 by the PWMS (in rec

Plot of CATOT in ABP 4

total recoverable

Plot of KTOT in ABP 4

Potassium, total recoverable

Plot of NATOT in ABP 4

Sodium, total recoverable

Plot of MNTOT in ABP 4

e, total recoverable

Plot of ALTOT in ABP 4

Aluminum, total recoverable

Plot of PBTOT in ABP 4

Lead, total recoverable

Plot of TCLEE in ABP 4

chloroethylene

Plot of TRCLE in ABP 4

Trichloroethylene

Plot of ALPHAG in ABP 4

Gross alpha

Among the naturally occurring analytes, total aluminum, total iron, total calcium, chloride, total manganese, total potassium, and total sodium, no historical concentration trends are evident. The PWMS concentrations are all highly similar to the historical concentrations, falling within the range of historical concentrations. In the case of total aluminum, all historical concentrations are reported as "less than the method detection limit;" however, the PWMS results are consistent with these measurements. Specific conductance measurements obtained from PWMS samples are highly similar to historical measurements. With field pH, one of the PWMS sample measurements falls within the historical range while the other is slightly above the highest recorded pH.

3.1.3 ARP-3 Sample Analysis Results (Figure 6)

Among the potential contaminants for which PWMS analyses were conducted, no clear concentration trends are occurring at the present time. Elevated concentrations for tetrachloroethylene and trichloroethylene occurred in distinct "spikes" that reached their peak levels in 1990. After 1991, however, concentrations returned to lower levels. The other potential contaminants carbon tetrachloride, total chromium, gross alpha, and total lead do not exhibit historical concentration trends. The PWMS analysis results for tetrachloroethylene and trichloroethylene are highly similar to the lower historical concentrations observed after 1991, while results for the other potential contaminants are also very similar to historical concentrations.

Among the naturally occurring analytes, total aluminum, total iron, total calcium, chloride, total manganese, total potassium, and total sodium, no historical concentration trends are evident. Although only a few historical analyses have been conducted to determine concentrations of total calcium, total iron, total potassium, and total sodium at this well, PWMS analytical results are quite similar to these historical values. Only total sodium and total calcium have concentrations that fell slightly out of the ranges for the few historical concentration values measured. Specific conductance and pH levels obtained from PWMS samples are both highly similar to historical measurements of those parameters and fall well within the historical range.

Figure 6. Plots of concentrations and activities of analytes collected at well ARP-3 by the PWMS (in conc

3.1.4 BGO-33C Sample Analysis Results (Figures 7, 8, and 9)

Among the potential contaminants for which PWMS analyses were conducted, clear concentration trends are evident for the organic compounds tetrachloroethylene, trichloroethylene (Figure 7), and tritium (Figure 8) but not for total chromium, gross alpha, total lead, or carbon tetrachloride (Figure 7). PWMS sample analyses extended the concentration trends to the present time for tetrachloroethylene, trichloroethylene, and tritium as can be seen on the regression plots of Figure 9. The PWMS concentrations fall almost exactly on the projected line for tetrachloroethylene and tritium but fall slightly above this line for trichloroethylene. For the other potential contaminants, carbon tetrachloride, total chromium, total lead, and gross alpha, the PWMS concentrations are very consistent with historical concentrations (Figure 7).

Among the naturally occurring analytes, total aluminum, total iron, total calcium, chloride, total manganese, total potassium, and total sodium (Figures 7 and 9), historical concentrations suggest that trends exist for total calcium, total sodium, chloride, and total manganese (see Figure 9). Once again, PWMS-derived concentrations appear to fall upon the line that projects these trends to the present and are thus regarded as highly consistent with the trends. PWMS analyses provided total iron concentrations that are estimated or "less-than-the-method-detection-limit," but appear to be consistent with the historical concentrations. PWMS concentrations for total potassium are quite similar to the historical concentrations, although a single analysis had a concentration that was slightly lower. Specific conductance and pH levels obtained from PWMS samples are both highly similar to historical measurements of those parameters and fall well within the historical range.

3.2 Statistical Evaluation

A statistical evaluation was performed to provide validation for the graphical comparisons described in Section 3.1. A report detailing the statistical evaluation including data used for the comparison and numerical results is provided in Appendix B. The PWMS data evaluated included analytical results from samples collected on the influent side of the PWMS after stabilization of field parameters (representative of aquifer conditions) and also "effluent" samples collected when well purge water from the PWMS tank was draining back to the aquifer. As the PWMS tank contained all water purged from the well, analytical results are representative of both the groundwater in the aquifer being sampled as well as stagnant groundwater remaining in the well between sampling events.

Evaluation of the Validity of Groundwater Samples Obtained Using the PWMS at SRS

Figure 7. Plots of concentrations and activities of analytes collected at well BGO-33C by the PWMS (in

Plot of CATOT in BGO 33C

total recoverable

Plot of KTOT in BGO 33C

Potassium, total recoverable

Plot of NATOT in BGO 33C

Sodium, total recoverable

Plot of MNTOT in BGO 33C

Aluminum, total recoverable

Plot of ALTOT in BGO 33C

Aluminum, total recoverable

Plot of PBTOT in BGO 33C

Polychlorinated biphenyls, total recoverable

Plot of TCLEF in BGO 33C

Trichloroethylene

Plot of TRCLE in BGO 33C

Trichloroethylene

Plot of ALPHAG in BGO 33C

Gross alpha

Figure 8. Plot of tritium activities collected at well BGO-33C by the PWMS (in red) compared to the standard collection program (in blue).

Evaluation of the Validity of Groundwater Samples Obtained Using the PWMS at SRS

Figure 9. Regression plots of concentrations and activities of analytes collected at well BGO-33C by the

The statistical evaluation found that, over all the 15 analytes compared, there is no difference between analytical results from samples collected with the PWMS vs. collections made with the standard sampling program for wells ABP-1A, ABP-4, and ARP-3. There was no statistical difference found between analytical results collected with the two sampling methods for well BGO-33C except for one analyte, total recoverable manganese. This result for manganese for BGO-33C is most likely explained by the fact that the analytical results of PWMS sampling appear to extend an historical trend (see Figures 7 and 9) but there is a sampling gap of three to four years (1995-1998) between the PWMS and historic analytical results for this analyte.

3.3 Tracer Study

The Potassium bromide tracer was introduced into well BGO-33C in June 1998 (Figures 10 and 11 and Appendix A). Initial concentrations were 3,300 µg/L for bromide and 2,090 µg/L for potassium. The resulting tracer ion bromide, which is mobile and conservative in the groundwater flow system, was not detected above the method detection limit at the subsequent sampling event that was conducted 180 days later in December 1998 (Figure 10 and Appendix A). It is not known whether the bromide concentration returned to background levels because the sample quantitation limit for that analysis was greater than the (estimated, J qualifier) background level of December 1997. On the other hand, the tracer ion potassium, which was injected at a concentration of 2,090 µg/L was detected at a concentration of 768 µg/L in the sample collected 180 days later, a level highly consistent with background potassium concentrations for that well (Figure 11 and Appendix A). These results support the conclusion that natural groundwater flow carried the tracer solution sufficiently far away from the screen zone at BGO-33C that it was not drawn back into the well during the next sampling event that occurred 180 days later.

Figure 10. Plot of bromide concentrations collected at well BGO-33C by the PWMS comparing the concentration of bromide injected into the aquifer (in red) vs. concentrations collected from the aquifer before and after injection (in blue).

Figure 11. Plot of total recoverable potassium concentrations collected at well BGO-33C comparing the concentration injected into the aquifer (in red) vs. concentrations collected historically (dark blue) and with the PWMS (light blue) from the aquifer before and after injection.

4.0 CONCLUSIONS

The analysis of the groundwater chemical concentrations indicates that the PWMS sampling methodology acquired representative groundwater samples at monitoring wells ABP-1A, ABP-4, ARP-3 and BGO-33C. Representative groundwater samples are achieved if the PWMS does not resample groundwater that has been purged and returned during a previous sampling event. Initial screening calculations, conducted prior to the selection of these four wells, indicated that groundwater velocities were high enough under natural hydraulic gradients to preclude resampling from occurring at the time intervals that were used at each well. Corroborating evidence included the high degree of similarity between analyte concentrations derived from the PWMS samples and from the historical analyte concentrations as well as the fact that PWMS data extend all previously existing concentration trends to the present time. The latter line of evidence is the most powerful in demonstrating that representative samples are being acquired by the PWMS because it is highly unlikely that previously existing concentration trends would continue if resampling had occurred.

The fact that potassium concentrations returned to background levels in the PWMS sampling event that occurred 180 days after the introduction of the concentrated potassium bromide tracer in well BGO-33C indicates that groundwater was not resampled during that event. The sharp drop-off in bromide concentrations is also consistent with this contention.

The PWMS can collect valid and representative groundwater samples if a sufficient amount of time is allowed for natural groundwater movement to sweep water that is returned to the aquifer sufficiently far away from the well such that it is not drawn into the well during subsequent sampling events. For wells completed in aquifers having unusually low groundwater velocities the minimum amount of time allowed to pass between samples may have to be longer to ensure this does not occur. In most wells at SRS a 90-day period between wells appears to be sufficient. In other wells a period of 180 days may be the minimum time period between subsequent sampling events. Most wells routinely sampled in the SRS groundwater monitoring are sampled on an annual or semi-annual basis (Table 4); therefore, the use of PWMS is likely to be appropriate at those wells. Other wells are sampled on a quarterly basis and will require an evaluation on an individual basis to determine the suitability of PWMS for deployment.

Table 4. Frequency of sampling of SRS monitoring wells.

Number of Wells	Sampling Frequency
366	1x/year
435	2x/year
49	3x/year
312	4x/year

5.0 REFERENCES

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APPENDIX A

**DATA USED IN THE COMPARISON OF THE PWMS GROUNDWATER
SAMPLE COLLECTION PROGRAM WITH THE HISTORICAL
SAMPLE COLLECTION PROGRAM**

DATA CODES USED IN THE WELL SAMPLE ANALYSIS RESULTS

Analyte Codes	
Code	Analyte
FPH	Field pH
COND	Specific conductance
CATOT	Calcium, total recoverable
KTOT	Potassium, total recoverable
NATOT	Sodium, total recoverable
CRTOT	Chromium, total recoverable
FETOT	Iron, total recoverable
MNTOT	Manganese, total recoverable
ALTOT	Aluminum, total recoverable
PBTOT	Lead, total recoverable
CL	Chloride
CCL4	Carbon tetrachloride
TCLEE	Tetrachloroethylene
TRCLE	Trichloroethylene
ALPHAG	Gross alpha
TRITIU	Tritium
BR	Bromide
Analytical Result Qualifier Codes	
Code	Qualification
#	Result has no qualifier - interpret as reported
J	Result is estimated quantity
U, UI	Result is less than sample quantitation limit

WELL ABP-1A DATA

FPH Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 10:55

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	FPH	1985Q1		5.2	PH
ABP 1A	FPH	1985Q2		5	PH
ABP 1A	FPH	1985Q3		4.6	PH
ABP 1A	FPH	1985Q4		3.9	PH
ABP 1A	FPH	1986Q1		4.2	PH
ABP 1A	FPH	1986Q2		4.6	PH
ABP 1A	FPH	1986Q2		4.6	PH
ABP 1A	FPH	1986Q2		4.6	PH
ABP 1A	FPH	1986Q3		5.6	PH
ABP 1A	FPH	1986Q4		4.7	PH
ABP 1A	FPH	1987Q1		4.5	PH
ABP 1A	FPH	1987Q2		4.9	PH
ABP 1A	FPH	1987Q3		5.3	PH
ABP 1A	FPH	1987Q4		5.8	PH
ABP 1A	FPH	1988Q1		5.2	PH
ABP 1A	FPH	1988Q1		5.2	PH
ABP 1A	FPH	1988Q1		5.2	PH
ABP 1A	FPH	1988Q2		5.4	PH
ABP 1A	FPH	1988Q2		5.4	PH
ABP 1A	FPH	1988Q2		5.4	PH
ABP 1A	FPH	1988Q3		4.9	PH
ABP 1A	FPH	1988Q4		4.8	PH
ABP 1A	FPH	1989Q1		4.6	PH
ABP 1A	FPH	1989Q1		4.6	PH
ABP 1A	FPH	1989Q2		5.1	PH
ABP 1A	FPH	1989Q3		4.8	PH
ABP 1A	FPH	1989Q3		5	PH
ABP 1A	FPH	1989Q4		4.8	PH
ABP 1A	FPH	1989Q4		4.8	PH
ABP 1A	FPH	1990Q1		5	PH

ABP 1A	FPH	1990Q2	4.7 PH
ABP 1A	FPH	1990Q2	4.7 PH
ABP 1A	FPH	1990Q3	4.9 PH
ABP 1A	FPH	1990Q3	4.9 PH
ABP 1A	FPH	1990Q4	4.3 PH
ABP 1A	FPH	1991Q1	4.9 PH
ABP 1A	FPH	1991Q1	4.9 PH
ABP 1A	FPH	1991Q2	4.8 PH
ABP 1A	FPH	1991Q3	4.9 PH
ABP 1A	FPH	1991Q3	4.9 PH
ABP 1A	FPH	1991Q4	5 PH
ABP 1A	FPH	1992Q1	5.2 PH
ABP 1A	FPH	1992Q1	5.2 PH
ABP 1A	FPH	1992Q2	5.3 PH
ABP 1A	FPH	1992Q2	5.3 PH
ABP 1A	FPH	1992Q3	5 PH
ABP 1A	FPH	1993Q2	5.2 PH
ABP 1A	FPH	1993Q3	5 PH
ABP 1A	FPH	1993Q4	4.8 PH
ABP 1A	FPH	1994Q1	5.1 PH
ABP 1A	FPH	1994Q2	4.8 PH
ABP 1A	FPH	1994Q3	4.8 PH
ABP 1A	FPH	1995Q1	5.2 PH
ABP 1A	FPH	1996Q1	7 PH
ABP 1A	FPH	1996Q2	4.6 PH
ABP 1A	FPH	1997Q4	4.4 PH
ABP 1A	FPH	1998Q3	4.8 PH

COND Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 10:55

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	COND	1985Q1		20	USCM
ABP 1A	COND	1985Q2		22	USCM
ABP 1A	COND	1985Q3		14	USCM
ABP 1A	COND	1985Q4		21	USCM
ABP 1A	COND	1986Q1		14	USCM
ABP 1A	COND	1986Q2		15	USCM
ABP 1A	COND	1986Q2		15	USCM
ABP 1A	COND	1986Q2		15	USCM
ABP 1A	COND	1986Q3		18	USCM
ABP 1A	COND	1986Q4		24	USCM
ABP 1A	COND	1987Q1		23	USCM
ABP 1A	COND	1987Q2		18	USCM
ABP 1A	COND	1987Q3		18	USCM
ABP 1A	COND	1987Q4		17	USCM
ABP 1A	COND	1988Q1		16	USCM
ABP 1A	COND	1988Q1		16	USCM
ABP 1A	COND	1988Q1		16	USCM
ABP 1A	COND	1988Q2		14	USCM
ABP 1A	COND	1988Q2		14	USCM
ABP 1A	COND	1988Q2		14	USCM
ABP 1A	COND	1988Q3		15	USCM
ABP 1A	COND	1988Q4		24	USCM
ABP 1A	COND	1989Q1		18	USCM
ABP 1A	COND	1989Q1		18	USCM
ABP 1A	COND	1989Q2		15	USCM
ABP 1A	COND	1989Q3		20	USCM
ABP 1A	COND	1989Q3		23	USCM
ABP 1A	COND	1989Q4		18	USCM
ABP 1A	COND	1989Q4		18	USCM
ABP 1A	COND	1990Q1		29	USCM

ABP 1A	COND	1990Q2	21 USCM
ABP 1A	COND	1990Q2	21 USCM
ABP 1A	COND	1990Q3	18 USCM
ABP 1A	COND	1990Q3	18 USCM
ABP 1A	COND	1990Q4	21 USCM
ABP 1A	COND	1991Q1	15 USCM
ABP 1A	COND	1991Q1	15 USCM
ABP 1A	COND	1991Q2	16 USCM
ABP 1A	COND	1991Q3	20 USCM
ABP 1A	COND	1991Q3	20 USCM
ABP 1A	COND	1991Q4	18 USCM
ABP 1A	COND	1992Q1	11 USCM
ABP 1A	COND	1992Q1	11 USCM
ABP 1A	COND	1992Q2	15 USCM
ABP 1A	COND	1992Q2	15 USCM
ABP 1A	COND	1992Q3	18 USCM
ABP 1A	COND	1993Q2	13 USCM
ABP 1A	COND	1993Q3	14 USCM
ABP 1A	COND	1993Q4	13 USCM
ABP 1A	COND	1994Q1	12 USCM
ABP 1A	COND	1994Q2	13 USCM
ABP 1A	COND	1994Q3	13 USCM
ABP 1A	COND	1995Q1	12 USCM
ABP 1A	COND	1996Q1	16 USCM
ABP 1A	COND	1996Q2	12 USCM
ABP 1A	COND	1997Q4	12 USCM
ABP 1A	COND	1998Q3	18 USCM

CATOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	CATOT	1996Q1		432	UGL
ABP 1A	CATOT	1996Q1		437	UGL
ABP 1A	CATOT	1996Q2		748	UGL
ABP 1A	CATOT	1997Q4		532	UGL
ABP 1A	CATOT	1998Q3		572	UGL
ABP 1A	CATOT	1998Q3		597	UGL

KTOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	KTOT	1996Q1	J	217	UGL
ABP 1A	KTOT	1996Q1	J	217	UGL
ABP 1A	KTOT	1996Q2	U	2000	UGL
ABP 1A	KTOT	1997Q4		271	UGL
ABP 1A	KTOT	1998Q3		238	UGL
ABP 1A	KTOT	1998Q3		252	UGL

NATOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	NATOT	1996Q1		958	UGL
ABP 1A	NATOT	1996Q1		969	UGL
ABP 1A	NATOT	1996Q2		1350	UGL
ABP 1A	NATOT	1997Q4		1020	UGL
ABP 1A	NATOT	1998Q3		856	UGL
ABP 1A	NATOT	1998Q3		900	UGL

CRTOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	CRTOT	1995Q1	U		6.67 UGL
ABP 1A	CRTOT	1996Q1			4.4 UGL
ABP 1A	CRTOT	1996Q1			6.42 UGL
ABP 1A	CRTOT	1996Q2	U		25 UGL
ABP 1A	CRTOT	1997Q4	U		5 UGL
ABP 1A	CRTOT	1998Q3	U		3.9 UGL
ABP 1A	CRTOT	1998Q3	U		6.35 UGL

FETOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	FETOT	1996Q1	J	64.2	UGL
ABP 1A	FETOT	1996Q1	J	78.9	UGL
ABP 1A	FETOT	1996Q2	J	14.9	UGL
ABP 1A	FETOT	1998Q3		44	UGL
ABP 1A	FETOT	1998Q3		52.2	UGL

MNTOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	MNTOT	1993Q3	U		2 UGL
ABP 1A	MNTOT	1994Q1	J	2.71	UGL
ABP 1A	MNTOT	1994Q3	J	3.32	UGL
ABP 1A	MNTOT	1995Q1	J	2.28	UGL
ABP 1A	MNTOT	1996Q1		2.56	UGL
ABP 1A	MNTOT	1996Q1		3.07	UGL
ABP 1A	MNTOT	1996Q1	J	4.48	UGL
ABP 1A	MNTOT	1996Q2	U	10	UGL
ABP 1A	MNTOT	1997Q4	J	3.14	UGL
ABP 1A	MNTOT	1998Q3	U	10	UGL
ABP 1A	MNTOT	1998Q3	U	10	UGL

ALTOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	ALTOT	1993Q3	U	20	UGL
ABP 1A	ALTOT	1994Q1	U	20	UGL
ABP 1A	ALTOT	1994Q3	U	20	UGL
ABP 1A	ALTOT	1995Q1	U	33.3	UGL
ABP 1A	ALTOT	1996Q1	U	22.9	UGL
ABP 1A	ALTOT	1996Q1	U	46.4	UGL
ABP 1A	ALTOT	1996Q2	U	250	UGL
ABP 1A	ALTOT	1997Q4	U	50	UGL
ABP 1A	ALTOT	1998Q3	U	18	UGL
ABP 1A	ALTOT	1998Q3	U	23.8	UGL

PBTOT Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	PBTOT	1993Q3	U		3 UGL
ABP 1A	PBTOT	1994Q1	U		3 UGL
ABP 1A	PBTOT	1994Q3	U		3 UGL
ABP 1A	PBTOT	1995Q1	U		5 UGL
ABP 1A	PBTOT	1996Q1	U		1.19 UGL
ABP 1A	PBTOT	1996Q1	U		2.23 UGL
ABP 1A	PBTOT	1996Q1	U		100 UGL
ABP 1A	PBTOT	1996Q2			0.371 UGL
ABP 1A	PBTOT	1997Q4	J		2.9 UGL
ABP 1A	PBTOT	1998Q3	U		2 UGL
ABP 1A	PBTOT	1998Q3	U		2 UGL

CL Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	CL	1985Q1		1140	UGL
ABP 1A	CL	1985Q2		1980	UGL
ABP 1A	CL	1985Q3		1600	UGL
ABP 1A	CL	1985Q4		2350	UGL
ABP 1A	CL	1985Q4		2350	UGL
ABP 1A	CL	1986Q1		6650	UGL
ABP 1A	CL	1987Q1		2000	UGL
ABP 1A	CL	1989Q2		4000	UGL
ABP 1A	CL	1989Q2		4000	UGL
ABP 1A	CL	1989Q3		1300	UGL
ABP 1A	CL	1990Q3		1340	UGL
ABP 1A	CL	1990Q3		1370	UGL
ABP 1A	CL	1990Q3		1400	UGL
ABP 1A	CL	1990Q3		1400	UGL
ABP 1A	CL	1990Q3		1400	UGL
ABP 1A	CL	1990Q4		1400	UGL
ABP 1A	CL	1990Q4		1400	UGL
ABP 1A	CL	1991Q1		1310	UGL
ABP 1A	CL	1991Q1		1320	UGL
ABP 1A	CL	1991Q1		1330	UGL
ABP 1A	CL	1991Q1		1360	UGL
ABP 1A	CL	1991Q1		1420	UGL
ABP 1A	CL	1991Q2		3730	UGL
ABP 1A	CL	1991Q3		1590	UGL
ABP 1A	CL	1991Q3		1640	UGL
ABP 1A	CL	1991Q4		1520	UGL
ABP 1A	CL	1992Q1		1550	UGL
ABP 1A	CL	1997Q4		1600	UGL
ABP 1A	CL	1997Q4		1660	UGL
ABP 1A	CL	1998Q3		1520	UGL

ABP 1A CL

1998Q3

1560 UGL

CCL4 Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	CCL4	1985Q4			5 UGL
ABP 1A	CCL4	1986Q3			1 UGL
ABP 1A	CCL4	1986Q4			3.08 UGL
ABP 1A	CCL4	1987Q1			1 UGL
ABP 1A	CCL4	1987Q1			5 UGL
ABP 1A	CCL4	1987Q2			1 UGL
ABP 1A	CCL4	1987Q3			1 UGL
ABP 1A	CCL4	1987Q3			1 UGL
ABP 1A	CCL4	1987Q3			1 UGL
ABP 1A	CCL4	1987Q3			1 UGL
ABP 1A	CCL4	1987Q4			1 UGL
ABP 1A	CCL4	1988Q1			1 UGL
ABP 1A	CCL4	1988Q1			1 UGL
ABP 1A	CCL4	1988Q3			1 UGL
ABP 1A	CCL4	1988Q3			1 UGL
ABP 1A	CCL4	1988Q3			1 UGL
ABP 1A	CCL4	1988Q3			1 UGL
ABP 1A	CCL4	1989Q1			1 UGL
ABP 1A	CCL4	1989Q3			1 UGL
ABP 1A	CCL4	1989Q3			1 UGL
ABP 1A	CCL4	1989Q4			1 UGL
ABP 1A	CCL4	1989Q4			5 UGL
ABP 1A	CCL4	1990Q1			1 UGL
ABP 1A	CCL4	1990Q1			1 UGL
ABP 1A	CCL4	1990Q2			1 UGL
ABP 1A	CCL4	1990Q2			1 UGL
ABP 1A	CCL4	1990Q3			1 UGL
ABP 1A	CCL4	1990Q3			1 UGL
ABP 1A	CCL4	1990Q3			1 UGL

ABP	1A	CCL4	1990Q3	U	5 UGL
ABP	1A	CCL4	1990Q3	U	5 UGL
ABP	1A	CCL4	1990Q4	U	5 UGL
ABP	1A	CCL4	1990Q4	U	5 UGL
ABP	1A	CCL4	1991Q1	U	1 UGL
ABP	1A	CCL4	1991Q1	U	1 UGL
ABP	1A	CCL4	1991Q1	U	1 UGL
ABP	1A	CCL4	1991Q1	U	5 UGL
ABP	1A	CCL4	1991Q1	U	5 UGL
ABP	1A	CCL4	1991Q2	U	1 UGL
ABP	1A	CCL4	1991Q3	U	1 UGL
ABP	1A	CCL4	1991Q3	U	1 UGL
ABP	1A	CCL4	1991Q4	U	1 UGL
ABP	1A	CCL4	1992Q1	U	1 UGL
ABP	1A	CCL4	1992Q2	U	1 UGL
ABP	1A	CCL4	1992Q2	U	1 UGL
ABP	1A	CCL4	1992Q2	U	5 UGL
ABP	1A	CCL4	1992Q2	U	5 UGL
ABP	1A	CCL4	1992Q3		1.12 UGL
ABP	1A	CCL4	1993Q2		2.7 UGL
ABP	1A	CCL4	1993Q3	J	4.06 UGL
ABP	1A	CCL4	1993Q4		3.2 UGL
ABP	1A	CCL4	1993Q4	J	4.12 UGL
ABP	1A	CCL4	1993Q4	J	4.48 UGL
ABP	1A	CCL4	1993Q4	U	1 UGL
ABP	1A	CCL4	1994Q1		3.1 UGL
ABP	1A	CCL4	1994Q2		3.19 UGL
ABP	1A	CCL4	1994Q2		4.1 UGL
ABP	1A	CCL4	1994Q2	J	3.11 UGL
ABP	1A	CCL4	1994Q2	J	3.16 UGL
ABP	1A	CCL4	1994Q3		3.6 UGL
ABP	1A	CCL4	1995Q1		2.05 UGL
ABP	1A	CCL4	1996Q1	J	1.36 UGL
ABP	1A	CCL4	1996Q2	J	1.78 UGL
ABP	1A	CCL4	1997Q4	J	0.783 UGL
ABP	1A	CCL4	1998Q3	U	1 UGL
ABP	1A	CCL4	1998Q3	U	1 UGL

TCLEE Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	TCLEE	1985Q4		5	UGL
ABP 1A	TCLEE	1986Q3		3.72	UGL
ABP 1A	TCLEE	1986Q4		3.37	UGL
ABP 1A	TCLEE	1987Q1		1	UGL
ABP 1A	TCLEE	1987Q1		5	UGL
ABP 1A	TCLEE	1987Q2		1	UGL
ABP 1A	TCLEE	1987Q3		1	UGL
ABP 1A	TCLEE	1987Q3		1	UGL
ABP 1A	TCLEE	1987Q3		1	UGL
ABP 1A	TCLEE	1987Q3		1.34	UGL
ABP 1A	TCLEE	1987Q4		1	UGL
ABP 1A	TCLEE	1988Q1		1	UGL
ABP 1A	TCLEE	1988Q1		1	UGL
ABP 1A	TCLEE	1988Q2		1	UGL
ABP 1A	TCLEE	1988Q3		1	UGL
ABP 1A	TCLEE	1988Q3		1	UGL
ABP 1A	TCLEE	1988Q3		1	UGL
ABP 1A	TCLEE	1988Q3		1	UGL
ABP 1A	TCLEE	1988Q3		2	UGL
ABP 1A	TCLEE	1988Q3		3	UGL
ABP 1A	TCLEE	1988Q3	U	1	UGL
ABP 1A	TCLEE	1988Q4	U	1	UGL
ABP 1A	TCLEE	1989Q1		1.64	UGL
ABP 1A	TCLEE	1989Q1	U	1	UGL
ABP 1A	TCLEE	1989Q1	U	1	UGL
ABP 1A	TCLEE	1989Q2	U	1	UGL
ABP 1A	TCLEE	1989Q3	U	1	UGL
ABP 1A	TCLEE	1989Q3	U	1	UGL
ABP 1A	TCLEE	1989Q3	U	1	UGL
ABP 1A	TCLEE	1989Q4	U	1	UGL

ABP 1A	TCLEE	1989Q4	U	1 UGL
ABP 1A	TCLEE	1989Q4	U	1 UGL
ABP 1A	TCLEE	1989Q4	U	5 UGL
ABP 1A	TCLEE	1990Q1	U	1 UGL
ABP 1A	TCLEE	1990Q1	U	1 UGL
ABP 1A	TCLEE	1990Q1	U	1 UGL
ABP 1A	TCLEE	1990Q2	U	0.4 UGL
ABP 1A	TCLEE	1990Q2	U	1 UGL
ABP 1A	TCLEE	1990Q2	U	1 UGL
ABP 1A	TCLEE	1990Q2	U	1 UGL
ABP 1A	TCLEE	1990Q3		1 UGL
ABP 1A	TCLEE	1990Q3	U	1 UGL
ABP 1A	TCLEE	1990Q3	U	1 UGL
ABP 1A	TCLEE	1990Q3	U	1 UGL
ABP 1A	TCLEE	1990Q3	U	1 UGL
ABP 1A	TCLEE	1990Q3	U	10 UGL
ABP 1A	TCLEE	1990Q3	U	10 UGL
ABP 1A	TCLEE	1990Q4	U	1 UGL
ABP 1A	TCLEE	1990Q4	U	5 UGL
ABP 1A	TCLEE	1990Q4	U	5 UGL
ABP 1A	TCLEE	1991Q1	U	1 UGL
ABP 1A	TCLEE	1991Q1	U	1 UGL
ABP 1A	TCLEE	1991Q1	U	1 UGL
ABP 1A	TCLEE	1991Q1	U	10 UGL
ABP 1A	TCLEE	1991Q1	U	10 UGL
ABP 1A	TCLEE	1991Q2	U	1 UGL
ABP 1A	TCLEE	1991Q3	U	1 UGL
ABP 1A	TCLEE	1991Q3	U	1 UGL
ABP 1A	TCLEE	1991Q4	U	1 UGL
ABP 1A	TCLEE	1992Q1	U	1 UGL
ABP 1A	TCLEE	1992Q2		2.77 UGL
ABP 1A	TCLEE	1992Q2		6.23 UGL
ABP 1A	TCLEE	1992Q2	J	1.97 UGL
ABP 1A	TCLEE	1992Q2	J	2.16 UGL
ABP 1A	TCLEE	1992Q3		6.52 UGL
ABP 1A	TCLEE	1993Q2		15.4 UGL
ABP 1A	TCLEE	1993Q3	J	19.4 UGL

ABP 1A	TCLEE	1993Q4	17.4 UGL
ABP 1A	TCLEE	1993Q4	19.3 UGL
ABP 1A	TCLEE	1993Q4	20.7 UGL
ABP 1A	TCLEE	1993Q4	1 UGL
ABP 1A	TCLEE	1994Q1	23.6 UGL
ABP 1A	TCLEE	1994Q2	15 UGL
ABP 1A	TCLEE	1994Q2	15.4 UGL
ABP 1A	TCLEE	1994Q2	16.2 UGL
ABP 1A	TCLEE	1994Q2	17.2 UGL
ABP 1A	TCLEE	1994Q3	15.9 UGL
ABP 1A	TCLEE	1995Q1	10.2 UGL
ABP 1A	TCLEE	1996Q1	9.13 UGL
ABP 1A	TCLEE	1996Q2	8.97 UGL
ABP 1A	TCLEE	1997Q4	5.16 UGL
ABP 1A	TCLEE	1998Q3	1.59 UGL
ABP 1A	TCLEE	1998Q3	1 UGL

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TRCLE Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	TRCLE	1985Q4		5	UGL
ABP 1A	TRCLE	1986Q2		2.51	UGL
ABP 1A	TRCLE	1986Q3		2.08	UGL
ABP 1A	TRCLE	1986Q4		3.73	UGL
ABP 1A	TRCLE	1987Q1		1	UGL
ABP 1A	TRCLE	1987Q1		5	UGL
ABP 1A	TRCLE	1987Q2		1	UGL
ABP 1A	TRCLE	1987Q3		1	UGL
ABP 1A	TRCLE	1987Q3		1	UGL
ABP 1A	TRCLE	1987Q3		1	UGL
ABP 1A	TRCLE	1987Q3		1	UGL
ABP 1A	TRCLE	1987Q4		1	UGL
ABP 1A	TRCLE	1988Q1		1	UGL
ABP 1A	TRCLE	1988Q1		1	UGL
ABP 1A	TRCLE	1988Q2		1	UGL
ABP 1A	TRCLE	1988Q3		1	UGL
ABP 1A	TRCLE	1988Q3		1	UGL
ABP 1A	TRCLE	1988Q3		1	UGL
ABP 1A	TRCLE	1988Q3		1.5	UGL
ABP 1A	TRCLE	1988Q3		2	UGL
ABP 1A	TRCLE	1988Q3		2	UGL
ABP 1A	TRCLE	1988Q3	U	1	UGL
ABP 1A	TRCLE	1988Q4		1.3	UGL
ABP 1A	TRCLE	1989Q1		1.05	UGL
ABP 1A	TRCLE	1989Q1		2.5	UGL
ABP 1A	TRCLE	1989Q1		2.97	UGL
ABP 1A	TRCLE	1989Q2		1.55	UGL
ABP 1A	TRCLE	1989Q3		1	UGL
ABP 1A	TRCLE	1989Q3		1	UGL
ABP 1A	TRCLE	1989Q3		1.32	UGL

ABP 1A TRCLE	1989Q4		1.07 UGL
ABP 1A TRCLE	1989Q4	U	1 UGL
ABP 1A TRCLE	1989Q4	U	1 UGL
ABP 1A TRCLE	1989Q4	U	5 UGL
ABP 1A TRCLE	1990Q1	U	1 UGL
ABP 1A TRCLE	1990Q1	U	1 UGL
ABP 1A TRCLE	1990Q1	U	1 UGL
ABP 1A TRCLE	1990Q2		0.58 UGL
ABP 1A TRCLE	1990Q2	U	1 UGL
ABP 1A TRCLE	1990Q2	U	1 UGL
ABP 1A TRCLE	1990Q2	U	1 UGL
ABP 1A TRCLE	1990Q3		1 UGL
ABP 1A TRCLE	1990Q3		1 UGL
ABP 1A TRCLE	1990Q3		1.15 UGL
ABP 1A TRCLE	1990Q3	U	1 UGL
ABP 1A TRCLE	1990Q3	U	1 UGL
ABP 1A TRCLE	1990Q3	U	10 UGL
ABP 1A TRCLE	1990Q3	U	10 UGL
ABP 1A TRCLE	1990Q4	U	1 UGL
ABP 1A TRCLE	1990Q4	U	5 UGL
ABP 1A TRCLE	1990Q4	U	5 UGL
ABP 1A TRCLE	1991Q1	U	1 UGL
ABP 1A TRCLE	1991Q1	U	1 UGL
ABP 1A TRCLE	1991Q1	U	1 UGL
ABP 1A TRCLE	1991Q1	U	10 UGL
ABP 1A TRCLE	1991Q1	U	10 UGL
ABP 1A TRCLE	1991Q2	U	1 UGL
ABP 1A TRCLE	1991Q3		1 UGL
ABP 1A TRCLE	1991Q3	U	1 UGL
ABP 1A TRCLE	1991Q4		2 UGL
ABP 1A TRCLE	1992Q1		2.29 UGL
ABP 1A TRCLE	1992Q2		5.05 UGL
ABP 1A TRCLE	1992Q2		5.37 UGL
ABP 1A TRCLE	1992Q2		6.09 UGL
ABP 1A TRCLE	1992Q2		8.28 UGL
ABP 1A TRCLE	1992Q3		20.7 UGL
ABP 1A TRCLE	1993Q2		67.9 UGL

ABP 1A	TRCLE	1993Q3	J	95.9 UGL
ABP 1A	TRCLE	1993Q4		87.8 UGL
ABP 1A	TRCLE	1993Q4		111 UGL
ABP 1A	TRCLE	1993Q4		121 UGL
ABP 1A	TRCLE	1993Q4	U	1 UGL
ABP 1A	TRCLE	1994Q1		119 UGL
ABP 1A	TRCLE	1994Q2		87.5 UGL
ABP 1A	TRCLE	1994Q2		90.5 UGL
ABP 1A	TRCLE	1994Q2		90.9 UGL
ABP 1A	TRCLE	1994Q2		91.6 UGL
ABP 1A	TRCLE	1994Q3		72.4 UGL
ABP 1A	TRCLE	1995Q1		59.9 UGL
ABP 1A	TRCLE	1996Q1		38.4 UGL
ABP 1A	TRCLE	1996Q2		47.2 UGL
ABP 1A	TRCLE	1997Q4		21.1 UGL
ABP 1A	TRCLE	1998Q3		7.24 UGL
ABP 1A	TRCLE	1998Q3		8.28 UGL

ALPHAG Results for ABP 1A

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 1A	ALPHAG	1985Q1		2.1	PCL
ABP 1A	ALPHAG	1985Q2		2	PCL
ABP 1A	ALPHAG	1985Q3		2	PCL
ABP 1A	ALPHAG	1985Q4		2	PCL
ABP 1A	ALPHAG	1986Q1		2	PCL
ABP 1A	ALPHAG	1987Q1		3	PCL
ABP 1A	ALPHAG	1988Q1		1.1	PCL
ABP 1A	ALPHAG	1988Q1		1.1	PCL
ABP 1A	ALPHAG	1989Q1		0.96	PCL
ABP 1A	ALPHAG	1989Q2	U	3	PCL
ABP 1A	ALPHAG	1989Q2	U	3	PCL
ABP 1A	ALPHAG	1989Q3	U	2	PCL
ABP 1A	ALPHAG	1990Q1	U	3	PCL
ABP 1A	ALPHAG	1990Q1	U	3	PCL
ABP 1A	ALPHAG	1990Q3	U	2	PCL
ABP 1A	ALPHAG	1990Q3	U	2	PCL
ABP 1A	ALPHAG	1990Q3	U	2	PCL
ABP 1A	ALPHAG	1990Q3	U	2	PCL
ABP 1A	ALPHAG	1990Q4	U	2	PCL
ABP 1A	ALPHAG	1990Q4	U	2	PCL
ABP 1A	ALPHAG	1991Q1		5.8	PCL
ABP 1A	ALPHAG	1991Q1	U	2	PCL
ABP 1A	ALPHAG	1991Q1	U	2	PCL
ABP 1A	ALPHAG	1991Q1	U	2	PCL
ABP 1A	ALPHAG	1991Q1	U	3	PCL
ABP 1A	ALPHAG	1991Q1	U	3	PCL
ABP 1A	ALPHAG	1991Q2	U	2	PCL
ABP 1A	ALPHAG	1991Q3	U	2	PCL
ABP 1A	ALPHAG	1991Q3	U	2	PCL

ABP 1A	ALPHAG	1991Q4	U	2 PCL
ABP 1A	ALPHAG	1992Q1	U	2 PCL
ABP 1A	ALPHAG	1994Q3	UI	0.779 PCL
ABP 1A	ALPHAG	1994Q3	UI	1.11 PCL
ABP 1A	ALPHAG	1995Q1		0.808 PCL
ABP 1A	ALPHAG	1996Q1		0.711 PCL
ABP 1A	ALPHAG	1996Q2		0.783 PCL
ABP 1A	ALPHAG	1997Q4		2 PCL
ABP 1A	ALPHAG	1998Q3	U	0.657 PCL
ABP 1A	ALPHAG	1998Q3	U	1.1 PCL

WELL ABP-4 DATA

FPH Results for ABP 4

Data Retrieved by AWSA v1 from GILMS on 04MAR99 at 10:55

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	FPH	1985Q1		3.8	PH
ABP 4	FPH	1985Q2		4.7	PH
ABP 4	FPH	1985Q3		4.4	PH
ABP 4	FPH	1985Q4		4.3	PH
ABP 4	FPH	1986Q1		4.1	PH
ABP 4	FPH	1986Q2		5.1	PH
ABP 4	FPH	1986Q2		5.1	PH
ABP 4	FPH	1986Q2		5.1	PH
ABP 4	FPH	1986Q3		5	PH
ABP 4	FPH	1986Q4		4.5	PH
ABP 4	FPH	1987Q1		4.5	PH
ABP 4	FPH	1987Q2		5	PH
ABP 4	FPH	1987Q3		4.5	PH
ABP 4	FPH	1987Q4		5.3	PH
ABP 4	FPH	1988Q1		5.1	PH
ABP 4	FPH	1988Q1		5.1	PH
ABP 4	FPH	1988Q1		5.1	PH
ABP 4	FPH	1988Q2		5.2	PH
ABP 4	FPH	1988Q2		5.2	PH
ABP 4	FPH	1988Q2		5.2	PH
ABP 4	FPH	1988Q3		4.8	PH
ABP 4	FPH	1988Q4		4.8	PH
ABP 4	FPH	1989Q1		4.4	PH
ABP 4	FPH	1989Q2		5.1	PH
ABP 4	FPH	1989Q3		4.7	PH
ABP 4	FPH	1989Q3		4.7	PH
ABP 4	FPH	1989Q3		5.1	PH
ABP 4	FPH	1989Q4		4.7	PH
ABP 4	FPH	1990Q1		4.7	PH
ABP 4	FPH	1990Q1		4.7	PH

ABP 4	FPH	1990Q2	4.8 PH
ABP 4	FPH	1990Q3	4.9 PH
ABP 4	FPH	1990Q4	4.8 PH
ABP 4	FPH	1990Q4	4.8 PH
ABP 4	FPH	1991Q1	5 PH
ABP 4	FPH	1991Q2	4.8 PH
ABP 4	FPH	1991Q3	4.9 PH
ABP 4	FPH	1991Q4	5 PH
ABP 4	FPH	1992Q1	5.1 PH
ABP 4	FPH	1992Q1	5.1 PH
ABP 4	FPH	1992Q2	5.3 PH
ABP 4	FPH	1992Q2	5.3 PH
ABP 4	FPH	1992Q3	4.9 PH
ABP 4	FPH	1992Q4	4.9 PH
ABP 4	FPH	1993Q1	4.8 PH
ABP 4	FPH	1993Q2	5.2 PH
ABP 4	FPH	1993Q3	4.9 PH
ABP 4	FPH	1993Q4	4.8 PH
ABP 4	FPH	1994Q1	5.1 PH
ABP 4	FPH	1994Q2	4.9 PH
ABP 4	FPH	1994Q3	4.8 PH
ABP 4	FPH	1995Q1	5 PH
ABP 4	FPH	1996Q1	4.6 PH
ABP 4	FPH	1996Q2	4.6 PH
ABP 4	FPH	1997Q4	4 PH
ABP 4	FPH	1998Q3	6 PH
ABP 4	FPH	1998Q3	6 PH

COND Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 10:55

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	COND	1985Q1		27	USCM
ABP 4	COND	1985Q2		18	USCM
ABP 4	COND	1985Q3		20	USCM
ABP 4	COND	1985Q4		24	USCM
ABP 4	COND	1986Q1		21	USCM
ABP 4	COND	1986Q2		20	USCM
ABP 4	COND	1986Q2		20	USCM
ABP 4	COND	1986Q2		20	USCM
ABP 4	COND	1986Q3		30	USCM
ABP 4	COND	1986Q4		30	USCM
ABP 4	COND	1987Q1		32	USCM
ABP 4	COND	1987Q2		22	USCM
ABP 4	COND	1987Q3		22	USCM
ABP 4	COND	1987Q4		23	USCM
ABP 4	COND	1988Q1		20	USCM
ABP 4	COND	1988Q1		20	USCM
ABP 4	COND	1988Q1		20	USCM
ABP 4	COND	1988Q2		20	USCM
ABP 4	COND	1988Q2		20	USCM
ABP 4	COND	1988Q2		20	USCM
ABP 4	COND	1988Q3		21	USCM
ABP 4	COND	1988Q4		21	USCM
ABP 4	COND	1989Q1		21	USCM
ABP 4	COND	1989Q2		18	USCM
ABP 4	COND	1989Q3		20	USCM
ABP 4	COND	1989Q3		20	USCM
ABP 4	COND	1989Q3		20	USCM
ABP 4	COND	1989Q4		19	USCM
ABP 4	COND	1990Q1		20	USCM
ABP 4	COND	1990Q1		20	USCM

ABP 4	COND	1990Q2	23 USCM
ABP 4	COND	1990Q3	22 USCM
ABP 4	COND	1990Q4	26 USCM
ABP 4	COND	1990Q4	26 USCM
ABP 4	COND	1991Q1	23 USCM
ABP 4	COND	1991Q2	22 USCM
ABP 4	COND	1991Q3	20 USCM
ABP 4	COND	1991Q4	19 USCM
ABP 4	COND	1992Q1	14 USCM
ABP 4	COND	1992Q1	14 USCM
ABP 4	COND	1992Q2	19 USCM
ABP 4	COND	1992Q2	19 USCM
ABP 4	COND	1992Q3	21 USCM
ABP 4	COND	1992Q4	15 USCM
ABP 4	COND	1993Q1	15 USCM
ABP 4	COND	1993Q2	15 USCM
ABP 4	COND	1993Q3	16 USCM
ABP 4	COND	1993Q4	15 USCM
ABP 4	COND	1994Q1	13 USCM
ABP 4	COND	1994Q2	15 USCM
ABP 4	COND	1994Q3	14 USCM
ABP 4	COND	1995Q1	11 USCM
ABP 4	COND	1996Q1	14 USCM
ABP 4	COND	1996Q2	10 USCM
ABP 4	COND	1997Q4	16 USCM
ABP 4	COND	1998Q3	13 USCM
ABP 4	COND	1998Q3	13 USCM

CATOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	CATOT	1993Q1		540	UGL
ABP 4	CATOT	1993Q1		599	UGL
ABP 4	CATOT	1993Q1		615	UGL
ABP 4	CATOT	1993Q1		634	UGL
ABP 4	CATOT	1993Q1		637	UGL
ABP 4	CATOT	1996Q1		503	UGL
ABP 4	CATOT	1996Q1		560	UGL
ABP 4	CATOT	1996Q1	J	399	UGL
ABP 4	CATOT	1996Q1	J	425	UGL
ABP 4	CATOT	1996Q1	J	426	UGL
ABP 4	CATOT	1996Q2		557	UGL
ABP 4	CATOT	1997Q4		477	UGL
ABP 4	CATOT	1998Q3		543	UGL
ABP 4	CATOT	1998Q3		645	UGL

KTOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	KTOT	1993Q1	J	519	UGL
ABP 4	KTOT	1993Q1	U	500	UGL
ABP 4	KTOT	1993Q1	U	500	UGL
ABP 4	KTOT	1993Q1	U	500	UGL
ABP 4	KTOT	1993Q1	U	500	UGL
ABP 4	KTOT	1996Q1		148	UGL
ABP 4	KTOT	1996Q1		171	UGL
ABP 4	KTOT	1996Q1		188	UGL
ABP 4	KTOT	1996Q1	J	189	UGL
ABP 4	KTOT	1996Q1	J	192	UGL
ABP 4	KTOT	1996Q2	U	2000	UGL
ABP 4	KTOT	1997Q4		177	UGL
ABP 4	KTOT	1998Q3		193	UGL
ABP 4	KTOT	1998Q3		196	UGL

NATOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	NATOT	1993Q1		851	UGL
ABP 4	NATOT	1993Q1		877	UGL
ABP 4	NATOT	1993Q1		881	UGL
ABP 4	NATOT	1993Q1		923	UGL
ABP 4	NATOT	1993Q1		938	UGL
ABP 4	NATOT	1996Q1		765	UGL
ABP 4	NATOT	1996Q1		812	UGL
ABP 4	NATOT	1996Q1		813	UGL
ABP 4	NATOT	1996Q1		900	UGL
ABP 4	NATOT	1996Q1		905	UGL
ABP 4	NATOT	1996Q2		1110	UGL
ABP 4	NATOT	1997Q4		946	UGL
ABP 4	NATOT	1998Q3		931	UGL
ABP 4	NATOT	1998Q3		945	UGL

CRTOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	CRTOT	1993Q1	U		4 UGL
ABP 4	CRTOT	1993Q1	U		4 UGL
ABP 4	CRTOT	1993Q1	U		4 UGL
ABP 4	CRTOT	1993Q1	U		4 UGL
ABP 4	CRTOT	1993Q1	U		4 UGL
ABP 4	CRTOT	1995Q1	U		6.67 UGL
ABP 4	CRTOT	1996Q1	J		0.655 UGL
ABP 4	CRTOT	1996Q1	U		4 UGL
ABP 4	CRTOT	1996Q1	U		7 UGL
ABP 4	CRTOT	1996Q1	U		7 UGL
ABP 4	CRTOT	1996Q1	U		7 UGL
ABP 4	CRTOT	1996Q2	U		25 UGL
ABP 4	CRTOT	1997Q4	U		5 UGL
ABP 4	CRTOT	1998Q3	J		1.43 UGL

FETOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	FETOT	1993Q1	J	6.3	UGL
ABP 4	FETOT	1993Q1	J	11.2	UGL
ABP 4	FETOT	1993Q1	U	4	UGL
ABP 4	FETOT	1993Q1	U	4	UGL
ABP 4	FETOT	1993Q1	U	4	UGL
ABP 4	FETOT	1996Q1	J	186	UGL
ABP 4	FETOT	1996Q1	J	16.8	UGL
ABP 4	FETOT	1996Q1	J	17.4	UGL
ABP 4	FETOT	1996Q1	J	19.2	UGL
ABP 4	FETOT	1996Q1	UJ	18	UGL
ABP 4	FETOT	1996Q2	U	100	UGL
ABP 4	FETOT	1998Q3		130	UGL

MNTOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_QRes_Qual	Result	Units
ABP 4	MNTOT	1993Q1		2.5 UGL
ABP 4	MNTOT	1993Q1		2.6 UGL
ABP 4	MNTOT	1993Q1		2.8 UGL
ABP 4	MNTOT	1993Q1		3.12 UGL
ABP 4	MNTOT	1993Q1		3.18 UGL
ABP 4	MNTOT	1993Q3		2.47 UGL
ABP 4	MNTOT	1994Q1	J	2.46 UGL
ABP 4	MNTOT	1994Q1	J	2.47 UGL
ABP 4	MNTOT	1994Q1	J	2.49 UGL
ABP 4	MNTOT	1994Q1	J	2.53 UGL
ABP 4	MNTOT	1994Q3	J	2.33 UGL
ABP 4	MNTOT	1995Q1	J	2.32 UGL
ABP 4	MNTOT	1996Q1		2.09 UGL
ABP 4	MNTOT	1996Q1		2.15 UGL
ABP 4	MNTOT	1996Q1	J	2.5 UGL
ABP 4	MNTOT	1996Q1	J	2.5 UGL
ABP 4	MNTOT	1996Q1	J	3.7 UGL
ABP 4	MNTOT	1996Q2	U	10 UGL
ABP 4	MNTOT	1997Q4	J	4.41 UGL
ABP 4	MNTOT	1998Q3		4.01 UGL

ALTOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	ALTOT	1992Q4	U	20	UGL
ABP 4	ALTOT	1993Q1	U	20	UGL
ABP 4	ALTOT	1993Q1	U	20	UGL
ABP 4	ALTOT	1993Q1	U	20	UGL
ABP 4	ALTOT	1993Q1	U	20	UGL
ABP 4	ALTOT	1993Q1	U	20	UGL
ABP 4	ALTOT	1993Q3	U	20	UGL
ABP 4	ALTOT	1994Q1	U	20	UGL
ABP 4	ALTOT	1994Q1	U	20	UGL
ABP 4	ALTOT	1994Q1	U	20	UGL
ABP 4	ALTOT	1994Q1	U	20	UGL
ABP 4	ALTOT	1994Q3	U	20	UGL
ABP 4	ALTOT	1995Q1	U	33.3	UGL
ABP 4	ALTOT	1996Q1	U	14.8	UGL
ABP 4	ALTOT	1996Q1	U	21.1	UGL
ABP 4	ALTOT	1996Q1	U	146	UGL
ABP 4	ALTOT	1996Q1	U	146	UGL
ABP 4	ALTOT	1996Q1	U	146	UGL
ABP 4	ALTOT	1996Q2	U	250	UGL
ABP 4	ALTOT	1997Q4	U	50	UGL
ABP 4	ALTOT	1998Q3	J	13.1	UGL

PBTOT Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	PBTOT	1992Q4	U		3 UGL
ABP 4	PBTOT	1993Q1	U		3 UGL
ABP 4	PBTOT	1993Q1	U		3 UGL
ABP 4	PBTOT	1993Q1	U		3 UGL
ABP 4	PBTOT	1993Q1	U		3 UGL
ABP 4	PBTOT	1993Q1	U		3 UGL
ABP 4	PBTOT	1993Q1	U		3 UGL
ABP 4	PBTOT	1993Q3	U		3 UGL
ABP 4	PBTOT	1994Q1	U		3 UGL
ABP 4	PBTOT	1994Q1	U		3 UGL
ABP 4	PBTOT	1994Q3	U		3 UGL
ABP 4	PBTOT	1995Q1	U		5 UGL
ABP 4	PBTOT	1996Q1	U		3.5 UGL
ABP 4	PBTOT	1996Q1	U		15 UGL
ABP 4	PBTOT	1996Q1	U		47 UGL
ABP 4	PBTOT	1996Q1	U		47 UGL
ABP 4	PBTOT	1996Q1	U		47 UGL
ABP 4	PBTOT	1996Q2			1.62 UGL
ABP 4	PBTOT	1997Q4			14.7 UGL
ABP 4	PBTOT	1998Q3	J		0.464 UGL

CL Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	CL	1985Q1		1140	UGL
ABP 4	CL	1985Q2		1490	UGL
ABP 4	CL	1985Q3		1600	UGL
ABP 4	CL	1985Q4		1760	UGL
ABP 4	CL	1985Q4		2940	UGL
ABP 4	CL	1985Q4		3530	UGL
ABP 4	CL	1986Q1		6100	UGL
ABP 4	CL	1987Q1		2500	UGL
ABP 4	CL	1989Q2		4000	UGL
ABP 4	CL	1989Q3		1400	UGL
ABP 4	CL	1990Q3		1600	UGL
ABP 4	CL	1990Q4		1550	UGL
ABP 4	CL	1990Q4		1550	UGL
ABP 4	CL	1990Q4		1800	UGL
ABP 4	CL	1990Q4		1800	UGL
ABP 4	CL	1991Q1		1670	UGL
ABP 4	CL	1991Q2		2900	UGL
ABP 4	CL	1991Q3		1860	UGL
ABP 4	CL	1991Q4		1630	UGL
ABP 4	CL	1992Q1		1720	UGL
ABP 4	CL	1993Q1		1290	UGL
ABP 4	CL	1993Q1		1370	UGL
ABP 4	CL	1993Q1		1450	UGL
ABP 4	CL	1993Q1		1460	UGL
ABP 4	CL	1993Q1		1460	UGL
ABP 4	CL	1997Q4		1580	UGL
ABP 4	CL	1998Q3		1470	UGL
ABP 4	CL	1998Q3		1480	UGL

CCL4 Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	CCL4	1985Q4		5	UGL
ABP 4	CCL4	1985Q4		5	UGL
ABP 4	CCL4	1986Q3		2.49	UGL
ABP 4	CCL4	1986Q4		1	UGL
ABP 4	CCL4	1986Q4		1	UGL
ABP 4	CCL4	1987Q1		1	UGL
ABP 4	CCL4	1987Q1		5	UGL
ABP 4	CCL4	1987Q2		1	UGL
ABP 4	CCL4	1987Q2		1	UGL
ABP 4	CCL4	1987Q3		1	UGL
ABP 4	CCL4	1987Q4		1	UGL
ABP 4	CCL4	1988Q1		1	UGL
ABP 4	CCL4	1988Q1		1	UGL
ABP 4	CCL4	1988Q3		1	UGL
ABP 4	CCL4	1989Q1	U	1	UGL
ABP 4	CCL4	1989Q3	U	1	UGL
ABP 4	CCL4	1989Q3	U	1	UGL
ABP 4	CCL4	1989Q3	U	5	UGL
ABP 4	CCL4	1989Q3	U	5	UGL
ABP 4	CCL4	1990Q1		0.73	UGL
ABP 4	CCL4	1990Q1		1.04	UGL
ABP 4	CCL4	1990Q1	U	1	UGL
ABP 4	CCL4	1990Q1	U	1	UGL
ABP 4	CCL4	1990Q3	U	1	UGL
ABP 4	CCL4	1990Q4	U	5	UGL
ABP 4	CCL4	1990Q4	U	5	UGL
ABP 4	CCL4	1990Q4	U	5	UGL
ABP 4	CCL4	1990Q4	U	5	UGL
ABP 4	CCL4	1991Q1	U	1	UGL
ABP 4	CCL4	1991Q2	U	1	UGL

ABP 4	CCL4	1991Q3	U	1 UGL
ABP 4	CCL4	1991Q4	U	1 UGL
ABP 4	CCL4	1992Q1	U	1 UGL
ABP 4	CCL4	1992Q2	U	1 UGL
ABP 4	CCL4	1992Q3	U	1 UGL
ABP 4	CCL4	1992Q3	U	1 UGL
ABP 4	CCL4	1992Q3	U	1 UGL
ABP 4	CCL4	1992Q3	U	5 UGL
ABP 4	CCL4	1992Q3	U	5 UGL
ABP 4	CCL4	1992Q4	U	1 UGL
ABP 4	CCL4	1993Q1	U	1 UGL
ABP 4	CCL4	1993Q1	U	1 UGL
ABP 4	CCL4	1993Q1	U	5 UGL
ABP 4	CCL4	1993Q1	U	5 UGL
ABP 4	CCL4	1993Q2	U	1 UGL
ABP 4	CCL4	1993Q3	UJ	1 UGL
ABP 4	CCL4	1993Q4	U	1 UGL
ABP 4	CCL4	1993Q4	U	1 UGL
ABP 4	CCL4	1994Q1		2.4 UGL
ABP 4	CCL4	1994Q1		2.4 UGL
ABP 4	CCL4	1994Q2		3.3 UGL
ABP 4	CCL4	1994Q3	U	1 UGL
ABP 4	CCL4	1995Q1		2.19 UGL
ABP 4	CCL4	1996Q1	J	1.2 UGL
ABP 4	CCL4	1996Q1	J	1.35 UGL
ABP 4	CCL4	1996Q1	J	1.48 UGL
ABP 4	CCL4	1996Q1	J	1.88 UGL
ABP 4	CCL4	1996Q1	J	2.17 UGL
ABP 4	CCL4	1996Q2	J	1.5 UGL
ABP 4	CCL4	1997Q4		1.49 UGL
ABP 4	CCL4	1998Q3	J	0.511 UGL

TCLEE Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	TCLEE	1985Q4		5	UGL
ABP 4	TCLEE	1985Q4		5	UGL
ABP 4	TCLEE	1986Q3		4	UGL
ABP 4	TCLEE	1986Q4		3.33	UGL
ABP 4	TCLEE	1986Q4		3.38	UGL
ABP 4	TCLEE	1987Q1		1.14	UGL
ABP 4	TCLEE	1987Q1		5	UGL
ABP 4	TCLEE	1987Q2		1	UGL
ABP 4	TCLEE	1987Q2		1	UGL
ABP 4	TCLEE	1987Q3		1	UGL
ABP 4	TCLEE	1987Q4		1.64	UGL
ABP 4	TCLEE	1988Q1		1.79	UGL
ABP 4	TCLEE	1988Q1		1.79	UGL
ABP 4	TCLEE	1988Q2		1.49	UGL
ABP 4	TCLEE	1988Q3		1	UGL
ABP 4	TCLEE	1988Q3		1.4	UGL
ABP 4	TCLEE	1988Q4		1.76	UGL
ABP 4	TCLEE	1988Q4		2.09	UGL
ABP 4	TCLEE	1989Q1		1.46	UGL
ABP 4	TCLEE	1989Q1		3.11	UGL
ABP 4	TCLEE	1989Q2		1.88	UGL
ABP 4	TCLEE	1989Q3		2	UGL
ABP 4	TCLEE	1989Q3		2	UGL
ABP 4	TCLEE	1989Q3		2.04	UGL
ABP 4	TCLEE	1989Q3		2.09	UGL
ABP 4	TCLEE	1989Q3	U	5	UGL
ABP 4	TCLEE	1989Q3	U	5	UGL
ABP 4	TCLEE	1989Q4		2.92	UGL
ABP 4	TCLEE	1990Q1		2	UGL
ABP 4	TCLEE	1990Q1		2.67	UGL

ABP 4	TCLEE	1990Q1		2.71 UGL
ABP 4	TCLEE	1990Q1		2.87 UGL
ABP 4	TCLEE	1990Q1		3.54 UGL
ABP 4	TCLEE	1990Q1	U	1 UGL
ABP 4	TCLEE	1990Q2		2.53 UGL
ABP 4	TCLEE	1990Q3		2.86 UGL
ABP 4	TCLEE	1990Q3	U	1 UGL
ABP 4	TCLEE	1990Q4		1.87 UGL
ABP 4	TCLEE	1990Q4		2.39 UGL
ABP 4	TCLEE	1990Q4	J	3 UGL
ABP 4	TCLEE	1990Q4	J	3 UGL
ABP 4	TCLEE	1990Q4	U	5 UGL
ABP 4	TCLEE	1990Q4	U	5 UGL
ABP 4	TCLEE	1991Q1		4 UGL
ABP 4	TCLEE	1991Q2	U	1 UGL
ABP 4	TCLEE	1991Q3	U	1 UGL
ABP 4	TCLEE	1991Q4		4 UGL
ABP 4	TCLEE	1992Q1		3.15 UGL
ABP 4	TCLEE	1992Q2		3.64 UGL
ABP 4	TCLEE	1992Q3		3.42 UGL
ABP 4	TCLEE	1992Q3		3.43 UGL
ABP 4	TCLEE	1992Q3		3.43 UGL
ABP 4	TCLEE	1992Q3	J	3 UGL
ABP 4	TCLEE	1992Q3	J	3.08 UGL
ABP 4	TCLEE	1992Q4		4 UGL
ABP 4	TCLEE	1993Q1		4.6 UGL
ABP 4	TCLEE	1993Q1		4.8 UGL
ABP 4	TCLEE	1993Q1	J	3.84 UGL
ABP 4	TCLEE	1993Q1	J	3.95 UGL
ABP 4	TCLEE	1993Q2		5.6 UGL
ABP 4	TCLEE	1993Q3	J	6.91 UGL
ABP 4	TCLEE	1993Q4		4.9 UGL
ABP 4	TCLEE	1993Q4		5 UGL
ABP 4	TCLEE	1994Q1		14.8 UGL
ABP 4	TCLEE	1994Q1		14.9 UGL
ABP 4	TCLEE	1994Q2		16.1 UGL
ABP 4	TCLEE	1994Q3	U	1 UGL

ABP 4	TCLEE	1995Q1		11.5 UGL
ABP 4	TCLEE	1996Q1		6.96 UGL
ABP 4	TCLEE	1996Q1		7.85 UGL
ABP 4	TCLEE	1996Q1		7.87 UGL
ABP 4	TCLEE	1996Q1		8.1 UGL
ABP 4	TCLEE	1996Q1		10.1 UGL
ABP 4	TCLEE	1996Q2		7.61 UGL
ABP 4	TCLEE	1997Q4		6.74 UGL
ABP 4	TCLEE	1998Q3	J	2.76 UGL

TRCLE Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	TRCLE	1985Q4			5 UGL
ABP 4	TRCLE	1985Q4			5 UGL
ABP 4	TRCLE	1986Q2			3.55 UGL
ABP 4	TRCLE	1986Q3			3.67 UGL
ABP 4	TRCLE	1986Q4			5.26 UGL
ABP 4	TRCLE	1986Q4			5.78 UGL
ABP 4	TRCLE	1987Q1			3.44 UGL
ABP 4	TRCLE	1987Q1			5 UGL
ABP 4	TRCLE	1987Q2			6.2 UGL
ABP 4	TRCLE	1987Q2			6.9 UGL
ABP 4	TRCLE	1987Q3			1 UGL
ABP 4	TRCLE	1987Q4			6 UGL
ABP 4	TRCLE	1988Q1			4.18 UGL
ABP 4	TRCLE	1988Q1			4.18 UGL
ABP 4	TRCLE	1988Q2			3.9 UGL
ABP 4	TRCLE	1988Q3			2.86 UGL
ABP 4	TRCLE	1988Q3			3.66 UGL
ABP 4	TRCLE	1988Q4			4.15 UGL
ABP 4	TRCLE	1988Q4			4.92 UGL
ABP 4	TRCLE	1989Q1			5.05 UGL
ABP 4	TRCLE	1989Q1			8.59 UGL
ABP 4	TRCLE	1989Q2			4.87 UGL
ABP 4	TRCLE	1989Q3			5 UGL
ABP 4	TRCLE	1989Q3			5 UGL
ABP 4	TRCLE	1989Q3			5.08 UGL
ABP 4	TRCLE	1989Q3			5.24 UGL
ABP 4	TRCLE	1989Q3			6 UGL
ABP 4	TRCLE	1989Q3	J		5 UGL
ABP 4	TRCLE	1989Q4			8.48 UGL
ABP 4	TRCLE	1990Q1			5.55 UGL

ABP 4	TRCLE	1990Q1		5.75 UGL
ABP 4	TRCLE	1990Q1		6 UGL
ABP 4	TRCLE	1990Q1		6.56 UGL
ABP 4	TRCLE	1990Q1		7.97 UGL
ABP 4	TRCLE	1990Q1	U	1 UGL
ABP 4	TRCLE	1990Q2		6.31 UGL
ABP 4	TRCLE	1990Q3		7 UGL
ABP 4	TRCLE	1990Q3		7.43 UGL
ABP 4	TRCLE	1990Q4		5.3 UGL
ABP 4	TRCLE	1990Q4		6 UGL
ABP 4	TRCLE	1990Q4		6 UGL
ABP 4	TRCLE	1990Q4		6.88 UGL
ABP 4	TRCLE	1990Q4		8 UGL
ABP 4	TRCLE	1990Q4		8 UGL
ABP 4	TRCLE	1991Q1		8 UGL
ABP 4	TRCLE	1991Q2	U	1 UGL
ABP 4	TRCLE	1991Q3		11 UGL
ABP 4	TRCLE	1991Q4		11 UGL
ABP 4	TRCLE	1992Q1		9.32 UGL
ABP 4	TRCLE	1992Q2		9.39 UGL
ABP 4	TRCLE	1992Q3		9.7 UGL
ABP 4	TRCLE	1992Q3		9.76 UGL
ABP 4	TRCLE	1992Q3		10.4 UGL
ABP 4	TRCLE	1992Q3		10.5 UGL
ABP 4	TRCLE	1992Q3		10.8 UGL
ABP 4	TRCLE	1992Q4		11.9 UGL
ABP 4	TRCLE	1993Q1		14.5 UGL
ABP 4	TRCLE	1993Q1		15 UGL
ABP 4	TRCLE	1993Q1		15 UGL
ABP 4	TRCLE	1993Q1		16.7 UGL
ABP 4	TRCLE	1993Q2		23 UGL
ABP 4	TRCLE	1993Q3	J	30.2 UGL
ABP 4	TRCLE	1993Q4		12.3 UGL
ABP 4	TRCLE	1993Q4		12.5 UGL
ABP 4	TRCLE	1994Q1		76 UGL
ABP 4	TRCLE	1994Q1		77.3 UGL
ABP 4	TRCLE	1994Q2		85 UGL

ABP 4	TRCLE	1994Q3	U	1 UGL
ABP 4	TRCLE	1995Q1		83.4 UGL
ABP 4	TRCLE	1996Q1		38.4 UGL
ABP 4	TRCLE	1996Q1		39.9 UGL
ABP 4	TRCLE	1996Q1		44.4 UGL
ABP 4	TRCLE	1996Q1		57.4 UGL
ABP 4	TRCLE	1996Q1		62.3 UGL
ABP 4	TRCLE	1996Q2		44.4 UGL
ABP 4	TRCLE	1997Q4		37.2 UGL
ABP 4	TRCLE	1998Q3	J	16.7 UGL

ALPHAG Results for ABP 4

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ABP 4	ALPHAG	1985Q1		0.8	PCL
ABP 4	ALPHAG	1985Q2		2	PCL
ABP 4	ALPHAG	1985Q3		10	PCL
ABP 4	ALPHAG	1985Q4		2	PCL
ABP 4	ALPHAG	1985Q4		5	PCL
ABP 4	ALPHAG	1986Q1		2	PCL
ABP 4	ALPHAG	1987Q1		1.9	PCL
ABP 4	ALPHAG	1987Q1		3	PCL
ABP 4	ALPHAG	1988Q1		5.4	PCL
ABP 4	ALPHAG	1988Q1		5.4	PCL
ABP 4	ALPHAG	1989Q1		2.33	PCL
ABP 4	ALPHAG	1989Q1		2.36	PCL
ABP 4	ALPHAG	1989Q2	U	3	PCL
ABP 4	ALPHAG	1989Q3	U	3	PCL
ABP 4	ALPHAG	1990Q1	U	3	PCL
ABP 4	ALPHAG	1990Q1	U	3	PCL
ABP 4	ALPHAG	1990Q1	U	3	PCL
ABP 4	ALPHAG	1990Q1	U	3	PCL
ABP 4	ALPHAG	1990Q3	U	2	PCL
ABP 4	ALPHAG	1990Q4	U	2	PCL
ABP 4	ALPHAG	1990Q4	U	2	PCL
ABP 4	ALPHAG	1990Q4	U	3	PCL
ABP 4	ALPHAG	1990Q4	U	4	PCL
ABP 4	ALPHAG	1991Q1	U	2	PCL
ABP 4	ALPHAG	1991Q2	U	2	PCL
ABP 4	ALPHAG	1991Q3	U	2	PCL
ABP 4	ALPHAG	1991Q4	U	2	PCL
ABP 4	ALPHAG	1992Q1	U	2	PCL
ABP 4	ALPHAG	1992Q3		2.3	PCL
ABP 4	ALPHAG	1992Q3		2.9	PCL

ABP 4	ALPHAG	1992Q3		3 PCL
ABP 4	ALPHAG	1993Q1		1.9 PCL
ABP 4	ALPHAG	1993Q1		1.9 PCL
ABP 4	ALPHAG	1993Q1		2.6 PCL
ABP 4	ALPHAG	1993Q1		2.86 PCL
ABP 4	ALPHAG	1993Q1	U	2 PCL
ABP 4	ALPHAG	1994Q3		1.94 PCL
ABP 4	ALPHAG	1995Q1		1.29 PCL
ABP 4	ALPHAG	1996Q1		0.837 PCL
ABP 4	ALPHAG	1996Q1		1.04 PCL
ABP 4	ALPHAG	1996Q1		2.02 PCL
ABP 4	ALPHAG	1996Q1		2.03 PCL
ABP 4	ALPHAG	1996Q1	UI	0.82 PCL
ABP 4	ALPHAG	1996Q2		1.08 PCL
ABP 4	ALPHAG	1997Q4		2.4 PCL
ABP 4	ALPHAG	1998Q3		0.794 PCL

WELL ARP-3 DATA

FPH Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 13:20

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	FPH	1984Q3		5.3	PH
ARP 3	FPH	1984Q4		4.6	PH
ARP 3	FPH	1985Q1		4.7	PH
ARP 3	FPH	1985Q2		4.2	PH
ARP 3	FPH	1985Q3		4.3	PH
ARP 3	FPH	1985Q4		4.7	PH
ARP 3	FPH	1986Q1		4.2	PH
ARP 3	FPH	1986Q2		5	PH
ARP 3	FPH	1986Q2		5	PH
ARP 3	FPH	1986Q2		5	PH
ARP 3	FPH	1986Q3		4.4	PH
ARP 3	FPH	1986Q4		3.9	PH
ARP 3	FPH	1987Q1		4.8	PH
ARP 3	FPH	1987Q2		4.8	PH
ARP 3	FPH	1987Q3		5.5	PH
ARP 3	FPH	1987Q4		5.3	PH
ARP 3	FPH	1988Q1		4.9	PH
ARP 3	FPH	1988Q2		5.3	PH
ARP 3	FPH	1988Q2		5.3	PH
ARP 3	FPH	1988Q2		5.3	PH
ARP 3	FPH	1988Q3		4.7	PH
ARP 3	FPH	1988Q4		4.8	PH
ARP 3	FPH	1989Q1		4.4	PH
ARP 3	FPH	1989Q2		5.1	PH
ARP 3	FPH	1989Q3		4.8	PH
ARP 3	FPH	1989Q4		4.9	PH
ARP 3	FPH	1990Q1		5.1	PH
ARP 3	FPH	1990Q2		4.9	PH
ARP 3	FPH	1990Q3		5.1	PH
ARP 3	FPH	1990Q4		5.1	PH

ARP 3	FPH	1991Q1	4.9 PH
ARP 3	FPH	1991Q4	5.1 PH
ARP 3	FPH	1992Q1	5.1 PH
ARP 3	FPH	1992Q1	5.1 PH
ARP 3	FPH	1992Q2	4.7 PH
ARP 3	FPH	1992Q2	4.7 PH
ARP 3	FPH	1992Q3	5 PH
ARP 3	FPH	1992Q4	4.8 PH
ARP 3	FPH	1993Q1	5.1 PH
ARP 3	FPH	1993Q2	4.9 PH
ARP 3	FPH	1993Q3	4.2 PH
ARP 3	FPH	1995Q4	4.2 PH
ARP 3	FPH	1995Q4	4.9 PH
ARP 3	FPH	1996Q1	4.6 PH
ARP 3	FPH	1997Q1	4.4 PH
ARP 3	FPH	1997Q4	4 PH
ARP 3	FPH	1998Q3	4.8 PH

COND Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 13:20

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	COND	1984Q3		32	USCM
ARP 3	COND	1984Q4		22	USCM
ARP 3	COND	1985Q1		22	USCM
ARP 3	COND	1985Q2		23	USCM
ARP 3	COND	1985Q3		20	USCM
ARP 3	COND	1985Q4		19	USCM
ARP 3	COND	1986Q1		20	USCM
ARP 3	COND	1986Q2		18	USCM
ARP 3	COND	1986Q2		18	USCM
ARP 3	COND	1986Q2		18	USCM
ARP 3	COND	1986Q3		26	USCM
ARP 3	COND	1986Q4		26	USCM
ARP 3	COND	1987Q1		28	USCM
ARP 3	COND	1987Q2		24	USCM
ARP 3	COND	1987Q3		26	USCM
ARP 3	COND	1987Q4		22	USCM
ARP 3	COND	1988Q1		22	USCM
ARP 3	COND	1988Q2		19	USCM
ARP 3	COND	1988Q2		19	USCM
ARP 3	COND	1988Q2		19	USCM
ARP 3	COND	1988Q3		20	USCM
ARP 3	COND	1988Q4		19	USCM
ARP 3	COND	1989Q1		23	USCM
ARP 3	COND	1989Q2		23	USCM
ARP 3	COND	1989Q3		25	USCM
ARP 3	COND	1989Q4		29	USCM
ARP 3	COND	1990Q1		29	USCM
ARP 3	COND	1990Q2		30	USCM
ARP 3	COND	1990Q3		28	USCM
ARP 3	COND	1990Q4		27	USCM

ARP 3	COND	1991Q1	26 USCM
ARP 3	COND	1991Q4	22 USCM
ARP 3	COND	1992Q1	20 USCM
ARP 3	COND	1992Q1	20 USCM
ARP 3	COND	1992Q2	22 USCM
ARP 3	COND	1992Q2	22 USCM
ARP 3	COND	1992Q3	20 USCM
ARP 3	COND	1992Q4	18 USCM
ARP 3	COND	1993Q1	20 USCM
ARP 3	COND	1993Q2	22 USCM
ARP 3	COND	1993Q3	22 USCM
ARP 3	COND	1995Q4	19 USCM
ARP 3	COND	1995Q4	20 USCM
ARP 3	COND	1996Q1	27 USCM
ARP 3	COND	1997Q1	18 USCM
ARP 3	COND	1997Q4	22 USCM
ARP 3	COND	1998Q3	24 USCM

CATOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	CATOT	1993Q1		355	UGL
ARP 3	CATOT	1995Q4		441	UGL
ARP 3	CATOT	1995Q4		483	UGL
ARP 3	CATOT	1997Q4		373	UGL
ARP 3	CATOT	1998Q3		521	UGL

KTOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	KTOT	1993Q1	U	500	UGL
ARP 3	KTOT	1995Q4	J	149	UGL
ARP 3	KTOT	1995Q4	J	206	UGL
ARP 3	KTOT	1997Q4		174	UGL
ARP 3	KTOT	1998Q3		217	UGL

NATOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	NATOT	1993Q1		1970	UGL
ARP 3	NATOT	1995Q4		1770	UGL
ARP 3	NATOT	1995Q4		1790	UGL
ARP 3	NATOT	1997Q4		2030	UGL
ARP 3	NATOT	1998Q3		2570	UGL

CRTOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	CRTOT	1993Q1	U		4 UGL
ARP 3	CRTOT	1995Q4			52.6 UGL
ARP 3	CRTOT	1995Q4			57 UGL
ARP 3	CRTOT	1995Q4	U		3.02 UGL
ARP 3	CRTOT	1997Q1			19.7 UGL
ARP 3	CRTOT	1997Q4	J		1.95 UGL
ARP 3	CRTOT	1998Q3			22 UGL

FETOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	FETOT	1993Q1		65.2	UGL
ARP 3	FETOT	1995Q4		84.7	UGL
ARP 3	FETOT	1995Q4		7440	UGL
ARP 3	FETOT	1995Q4		8400	UGL
ARP 3	FETOT	1997Q1		586	UGL
ARP 3	FETOT	1998Q3		5850	UGL

MNTOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	MNTOT	1993Q1		7.36	UGL
ARP 3	MNTOT	1995Q4		5.32	UGL
ARP 3	MNTOT	1995Q4		40.5	UGL
ARP 3	MNTOT	1996Q1		24.3	UGL
ARP 3	MNTOT	1997Q1		8.4	UGL
ARP 3	MNTOT	1997Q4	J	6.59	UGL
ARP 3	MNTOT	1998Q3		44.2	UGL

ALTOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	ALTOT	1993Q1		39.1	UGL
ARP 3	ALTOT	1993Q3	UJ	20	UGL
ARP 3	ALTOT	1995Q4		31.2	UGL
ARP 3	ALTOT	1995Q4		1540	UGL
ARP 3	ALTOT	1995Q4		2950	UGL
ARP 3	ALTOT	1996Q1	J	1380	UGL
ARP 3	ALTOT	1996Q1	J	1530	UGL
ARP 3	ALTOT	1997Q1		106	UGL
ARP 3	ALTOT	1997Q4		70.8	UGL
ARP 3	ALTOT	1998Q3		1290	UGL

PBTOT Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	PBTOT	1993Q1			4.49 UGL
ARP 3	PBTOT	1995Q4	J		1.18 UGL
ARP 3	PBTOT	1995Q4	J		2.45 UGL
ARP 3	PBTOT	1996Q1	J		1.94 UGL
ARP 3	PBTOT	1996Q1	J		2.17 UGL
ARP 3	PBTOT	1996Q1	U		100 UGL
ARP 3	PBTOT	1997Q1	U		5 UGL
ARP 3	PBTOT	1997Q4	U		5 UGL
ARP 3	PBTOT	1998Q3			24 UGL

CL Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	CL	1984Q3		3000	UGL
ARP 3	CL	1984Q4		3100	UGL
ARP 3	CL	1984Q4		3500	UGL
ARP 3	CL	1985Q1		2000	UGL
ARP 3	CL	1985Q2		2730	UGL
ARP 3	CL	1986Q1		6900	UGL
ARP 3	CL	1986Q1		6900	UGL
ARP 3	CL	1987Q1		3100	UGL
ARP 3	CL	1989Q1		2900	UGL
ARP 3	CL	1989Q2		7000	UGL
ARP 3	CL	1991Q1		3250	UGL
ARP 3	CL	1993Q1		2540	UGL
ARP 3	CL	1997Q1		2430	UGL
ARP 3	CL	1997Q1		2470	UGL
ARP 3	CL	1997Q4		2570	UGL
ARP 3	CL	1997Q4		2580	UGL
ARP 3	CL	1998Q3		2640	UGL

CCL4 Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	CCL4	1985Q4		5	UGL
ARP 3	CCL4	1986Q3		1	UGL
ARP 3	CCL4	1986Q4		1	UGL
ARP 3	CCL4	1987Q1		1	UGL
ARP 3	CCL4	1987Q2		1	UGL
ARP 3	CCL4	1987Q3		1	UGL
ARP 3	CCL4	1987Q4		25	UGL
ARP 3	CCL4	1988Q1		1	UGL
ARP 3	CCL4	1988Q1		1	UGL
ARP 3	CCL4	1988Q3		1	UGL
ARP 3	CCL4	1989Q1	U	1	UGL
ARP 3	CCL4	1989Q3		1	UGL
ARP 3	CCL4	1989Q3	U	10	UGL
ARP 3	CCL4	1990Q1		1	UGL
ARP 3	CCL4	1990Q3		2	UGL
ARP 3	CCL4	1991Q1		2	UGL
ARP 3	CCL4	1992Q3	UJ	5	UGL
ARP 3	CCL4	1992Q4	U	5	UGL
ARP 3	CCL4	1993Q1	U	5	UGL
ARP 3	CCL4	1993Q2	U	5	UGL
ARP 3	CCL4	1993Q3	U	5	UGL
ARP 3	CCL4	1995Q4	U	0.5	UGL
ARP 3	CCL4	1995Q4	UJ	0.5	UGL
ARP 3	CCL4	1996Q1	U	2	UGL
ARP 3	CCL4	1997Q1	U	1	UGL
ARP 3	CCL4	1997Q4	U	1	UGL
ARP 3	CCL4	1998Q3	U	1	UGL

TCLEE Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	TCLEE	1985Q4		5	UGL
ARP 3	TCLEE	1986Q3		6.01	UGL
ARP 3	TCLEE	1986Q4		6.31	UGL
ARP 3	TCLEE	1987Q1		6.87	UGL
ARP 3	TCLEE	1987Q2		8.8	UGL
ARP 3	TCLEE	1987Q3		11.2	UGL
ARP 3	TCLEE	1987Q4		25	UGL
ARP 3	TCLEE	1988Q1		12.5	UGL
ARP 3	TCLEE	1988Q1		12.5	UGL
ARP 3	TCLEE	1988Q3		15.8	UGL
ARP 3	TCLEE	1988Q3		29.8	UGL
ARP 3	TCLEE	1989Q1		28.5	UGL
ARP 3	TCLEE	1989Q1		29	UGL
ARP 3	TCLEE	1989Q2		2.93	UGL
ARP 3	TCLEE	1989Q3		26	UGL
ARP 3	TCLEE	1989Q3		45	UGL
ARP 3	TCLEE	1989Q4		49	UGL
ARP 3	TCLEE	1990Q1		47	UGL
ARP 3	TCLEE	1990Q2		56	UGL
ARP 3	TCLEE	1990Q3		28	UGL
ARP 3	TCLEE	1990Q4		34.3	UGL
ARP 3	TCLEE	1991Q1		34.8	UGL
ARP 3	TCLEE	1991Q1		44	UGL
ARP 3	TCLEE	1991Q4	U	10	UGL
ARP 3	TCLEE	1992Q1	U	50	UGL
ARP 3	TCLEE	1992Q2		11.8	UGL
ARP 3	TCLEE	1992Q3	J	13	UGL
ARP 3	TCLEE	1992Q4		20.2	UGL
ARP 3	TCLEE	1993Q1		18.5	UGL
ARP 3	TCLEE	1993Q2		16.5	UGL

ARP 3	TCLEE	1993Q3		12 UGL
ARP 3	TCLEE	1995Q4		9.4 UGL
ARP 3	TCLEE	1995Q4	J	9.1 UGL
ARP 3	TCLEE	1996Q1		10.9 UGL
ARP 3	TCLEE	1997Q1		14 UGL
ARP 3	TCLEE	1997Q4	U	1 UGL
ARP 3	TCLEE	1998Q3		20.2 UGL

TRCLE Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	TRCLE	1985Q4		14	UGL
ARP 3	TRCLE	1986Q2		29.5	UGL
ARP 3	TRCLE	1986Q3		66.6	UGL
ARP 3	TRCLE	1986Q4		1	UGL
ARP 3	TRCLE	1987Q1		148	UGL
ARP 3	TRCLE	1987Q2		248	UGL
ARP 3	TRCLE	1987Q3		76.2	UGL
ARP 3	TRCLE	1987Q4		176	UGL
ARP 3	TRCLE	1988Q1		12.5	UGL
ARP 3	TRCLE	1988Q1		12.5	UGL
ARP 3	TRCLE	1988Q3		213	UGL
ARP 3	TRCLE	1988Q3		214	UGL
ARP 3	TRCLE	1989Q1		337	UGL
ARP 3	TRCLE	1989Q1		490	UGL
ARP 3	TRCLE	1989Q2		549	UGL
ARP 3	TRCLE	1989Q3		451	UGL
ARP 3	TRCLE	1989Q3		840	UGL
ARP 3	TRCLE	1989Q4		856	UGL
ARP 3	TRCLE	1990Q1		608	UGL
ARP 3	TRCLE	1990Q2		757	UGL
ARP 3	TRCLE	1990Q3		1209	UGL
ARP 3	TRCLE	1990Q4		655	UGL
ARP 3	TRCLE	1991Q1		520	UGL
ARP 3	TRCLE	1991Q1		557	UGL
ARP 3	TRCLE	1991Q4		133	UGL
ARP 3	TRCLE	1992Q1		76.1	UGL
ARP 3	TRCLE	1992Q2		161	UGL
ARP 3	TRCLE	1992Q3	J	126	UGL
ARP 3	TRCLE	1992Q4		263	UGL
ARP 3	TRCLE	1993Q1		199	UGL

ARP 3	TRCLE	1993Q2		200 UGL
ARP 3	TRCLE	1993Q3		148 UGL
ARP 3	TRCLE	1995Q4		111 UGL
ARP 3	TRCLE	1995Q4	J	108 UGL
ARP 3	TRCLE	1996Q1		101 UGL
ARP 3	TRCLE	1997Q1		130 UGL
ARP 3	TRCLE	1997Q4		1.02 UGL
ARP 3	TRCLE	1998Q3		191 UGL

ALPHAG Results for ARP 3

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
ARP 3	ALPHAG	1984Q3			10 PCL
ARP 3	ALPHAG	1984Q4			2 PCL
ARP 3	ALPHAG	1985Q1			4 PCL
ARP 3	ALPHAG	1985Q2			2 PCL
ARP 3	ALPHAG	1986Q1			2 PCL
ARP 3	ALPHAG	1987Q1			3 PCL
ARP 3	ALPHAG	1988Q1			3 PCL
ARP 3	ALPHAG	1989Q1			3.45 PCL
ARP 3	ALPHAG	1989Q2	U		3 PCL
ARP 3	ALPHAG	1991Q1	U		2 PCL
ARP 3	ALPHAG	1993Q1	U		2 PCL
ARP 3	ALPHAG	1995Q4			1.58 PCL
ARP 3	ALPHAG	1995Q4			2.19 PCL
ARP 3	ALPHAG	1995Q4			2.38 PCL
ARP 3	ALPHAG	1997Q1			1.72 PCL
ARP 3	ALPHAG	1997Q4			2.99 PCL
ARP 3	ALPHAG	1997Q4			3.01 PCL
ARP 3	ALPHAG	1998Q3	U		0.913 PCL

WELL BGO-33C DATA

FPH Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 10:55

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	FPH	1989Q2		5.8	PH
BGO 33C	FPH	1989Q3		6.4	PH
BGO 33C	FPH	1989Q4		6	PH
BGO 33C	FPH	1990Q1		6.4	PH
BGO 33C	FPH	1990Q1		6.4	PH
BGO 33C	FPH	1990Q2		5.4	PH
BGO 33C	FPH	1990Q2		5.4	PH
BGO 33C	FPH	1990Q3		5.6	PH
BGO 33C	FPH	1990Q3		5.6	PH
BGO 33C	FPH	1990Q4		6.1	PH
BGO 33C	FPH	1991Q1		5.8	PH
BGO 33C	FPH	1991Q2		5.9	PH
BGO 33C	FPH	1991Q3		5.7	PH
BGO 33C	FPH	1991Q3		5.9	PH
BGO 33C	FPH	1991Q4		5.9	PH
BGO 33C	FPH	1992Q1		5.4	PH
BGO 33C	FPH	1992Q1		5.4	PH
BGO 33C	FPH	1992Q2		5.2	PH
BGO 33C	FPH	1992Q2		5.2	PH
BGO 33C	FPH	1992Q2		5.6	PH
BGO 33C	FPH	1992Q3		5.3	PH
BGO 33C	FPH	1992Q4		5.9	PH
BGO 33C	FPH	1992Q4		5.7	PH
BGO 33C	FPH	1993Q1		5.7	PH
BGO 33C	FPH	1993Q2		5.7	PH
BGO 33C	FPH	1993Q3		5.6	PH
BGO 33C	FPH	1993Q4		5.6	PH
BGO 33C	FPH	1994Q1		5.7	PH
BGO 33C	FPH	1994Q2		5.7	PH
BGO 33C	FPH	1994Q3		5.6	PH
BGO 33C	FPH	1994Q4		5.6	PH

BGO 33C FPH	1995Q1	5.6 PH
BGO 33C FPH	1995Q4	5.3 PH
BGO 33C FPH	1996Q4	5.4 PH
BGO 33C FPH	1997Q4	5.4 PH
BGO 33C FPH	1997Q4	5.4 PH
BGO 33C FPH	1998Q2	5.2 PH
BGO 33C FPH	1998Q4	5.2 PH

COND Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 10:55

Well	Analyte	Sample_QRes_Qual	Result	Units
BGO 33C	COND	1989Q2	91	USCM
BGO 33C	COND	1989Q3	97	USCM
BGO 33C	COND	1989Q4	76	USCM
BGO 33C	COND	1990Q1	73	USCM
BGO 33C	COND	1990Q1	73	USCM
BGO 33C	COND	1990Q2	59	USCM
BGO 33C	COND	1990Q2	59	USCM
BGO 33C	COND	1990Q3	61	USCM
BGO 33C	COND	1990Q3	61	USCM
BGO 33C	COND	1990Q4	62	USCM
BGO 33C	COND	1991Q1	65	USCM
BGO 33C	COND	1991Q2	64	USCM
BGO 33C	COND	1991Q3	61	USCM
BGO 33C	COND	1991Q3	66	USCM
BGO 33C	COND	1991Q4	64	USCM
BGO 33C	COND	1992Q1	71	USCM
BGO 33C	COND	1992Q1	71	USCM
BGO 33C	COND	1992Q2	66	USCM
BGO 33C	COND	1992Q2	66	USCM
BGO 33C	COND	1992Q3	63	USCM
BGO 33C	COND	1992Q4	50	USCM
BGO 33C	COND	1992Q4	55	USCM
BGO 33C	COND	1993Q1	56	USCM
BGO 33C	COND	1993Q2	60	USCM
BGO 33C	COND	1993Q3	65	USCM
BGO 33C	COND	1993Q4	54	USCM
BGO 33C	COND	1994Q1	55	USCM
BGO 33C	COND	1994Q2	59	USCM
BGO 33C	COND	1994Q3	57	USCM
BGO 33C	COND	1994Q4	52	USCM

BGO 33C COND	1995Q1	54 USCM
BGO 33C COND	1995Q4	50 USCM
BGO 33C COND	1996Q4	56 USCM
BGO 33C COND	1997Q4	64 USCM
BGO 33C COND	1997Q4	64 USCM
BGO 33C COND	1998Q2	62 USCM
BGO 33C COND	1998Q4	56 USCM

CATOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	CATOT	1992Q4		5090	UGL
BGO 33C	CATOT	1993Q1		4760	UGL
BGO 33C	CATOT	1993Q2	J	4680	UGL
BGO 33C	CATOT	1993Q3		6740	UGL
BGO 33C	CATOT	1993Q3		6910	UGL
BGO 33C	CATOT	1993Q4		4610	UGL
BGO 33C	CATOT	1994Q1		4240	UGL
BGO 33C	CATOT	1994Q2		4370	UGL
BGO 33C	CATOT	1994Q3		4250	UGL
BGO 33C	CATOT	1994Q4		4000	UGL
BGO 33C	CATOT	1994Q4		4070	UGL
BGO 33C	CATOT	1994Q4		4610	UGL
BGO 33C	CATOT	1994Q4		4660	UGL
BGO 33C	CATOT	1994Q4		4770	UGL
BGO 33C	CATOT	1995Q1		4380	UGL
BGO 33C	CATOT	1998Q2		5280	UGL
BGO 33C	CATOT	1998Q4		2970	UGL

KTOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	KTOT	1992Q4	U	500	UGL
BGO 33C	KTOT	1993Q1	U	500	UGL
BGO 33C	KTOT	1993Q2	U	500	UGL
BGO 33C	KTOT	1993Q3		511	UGL
BGO 33C	KTOT	1993Q3		534	UGL
BGO 33C	KTOT	1993Q4	U	500	UGL
BGO 33C	KTOT	1994Q1	J	504	UGL
BGO 33C	KTOT	1994Q2	U	500	UGL
BGO 33C	KTOT	1994Q3		596	UGL
BGO 33C	KTOT	1994Q4	J	533	UGL
BGO 33C	KTOT	1994Q4	U	500	UGL
BGO 33C	KTOT	1994Q4	U	500	UGL
BGO 33C	KTOT	1994Q4	U	500	UGL
BGO 33C	KTOT	1994Q4	U	500	UGL
BGO 33C	KTOT	1995Q1	J	505	UGL
BGO 33C	KTOT	1998Q2		538	UGL
BGO 33C	KTOT	1998Q4		419	UGL

NATOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	NATOT	1992Q4		3180	UGL
BGO 33C	NATOT	1993Q1		3310	UGL
BGO 33C	NATOT	1993Q2		3350	UGL
BGO 33C	NATOT	1993Q3		3270	UGL
BGO 33C	NATOT	1993Q3		3380	UGL
BGO 33C	NATOT	1993Q4		3110	UGL
BGO 33C	NATOT	1994Q1		3250	UGL
BGO 33C	NATOT	1994Q2		3280	UGL
BGO 33C	NATOT	1994Q3		3280	UGL
BGO 33C	NATOT	1994Q4		3370	UGL
BGO 33C	NATOT	1994Q4		3390	UGL
BGO 33C	NATOT	1994Q4		3400	UGL
BGO 33C	NATOT	1994Q4		3400	UGL
BGO 33C	NATOT	1994Q4		3420	UGL
BGO 33C	NATOT	1995Q1		3440	UGL
BGO 33C	NATOT	1998Q2		4610	UGL
BGO 33C	NATOT	1998Q4		3710	UGL

CRTOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	CRTOT	1992Q4	U		4 UGL
BGO 33C	CRTOT	1993Q1	U		4 UGL
BGO 33C	CRTOT	1993Q2	U		4 UGL
BGO 33C	CRTOT	1993Q3	U		4 UGL
BGO 33C	CRTOT	1993Q3	U		4 UGL
BGO 33C	CRTOT	1993Q4	U		4 UGL
BGO 33C	CRTOT	1994Q1	U		4 UGL
BGO 33C	CRTOT	1994Q2	U		4 UGL
BGO 33C	CRTOT	1994Q3	U		4 UGL
BGO 33C	CRTOT	1994Q4	U		4 UGL
BGO 33C	CRTOT	1994Q4	U		4 UGL
BGO 33C	CRTOT	1994Q4	U		4 UGL
BGO 33C	CRTOT	1994Q4	U		4 UGL
BGO 33C	CRTOT	1994Q4	U		4 UGL
BGO 33C	CRTOT	1995Q1	U	6.67	UGL
BGO 33C	CRTOT	1995Q4	J	1.18	UGL
BGO 33C	CRTOT	1996Q4	U	2.29	UGL
BGO 33C	CRTOT	1997Q4	J	2.93	UGL
BGO 33C	CRTOT	1998Q2	J	2.02	UGL
BGO 33C	CRTOT	1998Q4	J	1.46	UGL

FETOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	FETOT	1992Q4		10.3	UGL
BGO 33C	FETOT	1993Q1		12	UGL
BGO 33C	FETOT	1993Q2	U	4	UGL
BGO 33C	FETOT	1993Q3		4.95	UGL
BGO 33C	FETOT	1993Q3		5.03	UGL
BGO 33C	FETOT	1993Q4		7.74	UGL
BGO 33C	FETOT	1994Q1		8.36	UGL
BGO 33C	FETOT	1994Q2	J	6.37	UGL
BGO 33C	FETOT	1994Q3		17.3	UGL
BGO 33C	FETOT	1994Q4		16.9	UGL
BGO 33C	FETOT	1994Q4		39.3	UGL
BGO 33C	FETOT	1994Q4	J	33.8	UGL
BGO 33C	FETOT	1994Q4	U	4	UGL
BGO 33C	FETOT	1994Q4	U	4	UGL
BGO 33C	FETOT	1995Q1	J	5.96	UGL
BGO 33C	FETOT	1998Q2	J	32.1	UGL
BGO 33C	FETOT	1998Q4	U	50	UGL

MNTOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	MNTOT	1992Q4		31.8	UGL
BGO 33C	MNTOT	1993Q1		30.2	UGL
BGO 33C	MNTOT	1993Q2		29.2	UGL
BGO 33C	MNTOT	1993Q3		32.5	UGL
BGO 33C	MNTOT	1993Q3		33.3	UGL
BGO 33C	MNTOT	1993Q4		29.3	UGL
BGO 33C	MNTOT	1994Q1		29	UGL
BGO 33C	MNTOT	1994Q2		30.2	UGL
BGO 33C	MNTOT	1994Q3		32.1	UGL
BGO 33C	MNTOT	1994Q4		31.1	UGL
BGO 33C	MNTOT	1994Q4		31.3	UGL
BGO 33C	MNTOT	1994Q4		33.1	UGL
BGO 33C	MNTOT	1994Q4		33.6	UGL
BGO 33C	MNTOT	1994Q4		33.8	UGL
BGO 33C	MNTOT	1995Q1		34	UGL
BGO 33C	MNTOT	1998Q2		45.3	UGL
BGO 33C	MNTOT	1998Q4		45.4	UGL

ALTOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	ALTOT	1992Q4		61	UGL
BGO 33C	ALTOT	1993Q1		72.5	UGL
BGO 33C	ALTOT	1993Q2		72.3	UGL
BGO 33C	ALTOT	1993Q3		180	UGL
BGO 33C	ALTOT	1993Q3		186	UGL
BGO 33C	ALTOT	1993Q4		659	UGL
BGO 33C	ALTOT	1994Q1		251	UGL
BGO 33C	ALTOT	1994Q2		38.3	UGL
BGO 33C	ALTOT	1994Q3		90.1	UGL
BGO 33C	ALTOT	1994Q4		72.8	UGL
BGO 33C	ALTOT	1994Q4		81.6	UGL
BGO 33C	ALTOT	1994Q4		86.2	UGL
BGO 33C	ALTOT	1994Q4		88.9	UGL
BGO 33C	ALTOT	1994Q4		94	UGL
BGO 33C	ALTOT	1995Q1	J	32.2	UGL
BGO 33C	ALTOT	1998Q2	J	46.1	UGL
BGO 33C	ALTOT	1998Q4	J	40.1	UGL

PBTOT Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	PBTOT	1992Q4	U		3 UGL
BGO 33C	PBTOT	1993Q1	U		3 UGL
BGO 33C	PBTOT	1993Q2	U		3 UGL
BGO 33C	PBTOT	1993Q3	U		3 UGL
BGO 33C	PBTOT	1993Q3	U		3 UGL
BGO 33C	PBTOT	1993Q4	U		3 UGL
BGO 33C	PBTOT	1994Q1	U		3 UGL
BGO 33C	PBTOT	1994Q2	U		3 UGL
BGO 33C	PBTOT	1994Q3	U		3 UGL
BGO 33C	PBTOT	1994Q4	U		3 UGL
BGO 33C	PBTOT	1994Q4	U		3 UGL
BGO 33C	PBTOT	1994Q4	U		3 UGL
BGO 33C	PBTOT	1994Q4	U		3 UGL
BGO 33C	PBTOT	1994Q4	U		3 UGL
BGO 33C	PBTOT	1995Q1	U		5 UGL
BGO 33C	PBTOT	1995Q1	U		5 UGL
BGO 33C	PBTOT	1995Q4	U		5 UGL
BGO 33C	PBTOT	1996Q4	U		2.54 UGL
BGO 33C	PBTOT	1997Q4	U		5 UGL
BGO 33C	PBTOT	1998Q2	J		3.07 UGL
BGO 33C	PBTOT	1998Q4	U		5 UGL

CL Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 12:50

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	CL	1989Q2		4100	UGL
BGO 33C	CL	1989Q3		4500	UGL
BGO 33C	CL	1989Q4		4800	UGL
BGO 33C	CL	1990Q1		4000	UGL
BGO 33C	CL	1990Q2		4200	UGL
BGO 33C	CL	1990Q2		4400	UGL
BGO 33C	CL	1990Q2		5000	UGL
BGO 33C	CL	1990Q2		5000	UGL
BGO 33C	CL	1990Q3		5410	UGL
BGO 33C	CL	1990Q3		5420	UGL
BGO 33C	CL	1990Q4		5080	UGL
BGO 33C	CL	1991Q1		5090	UGL
BGO 33C	CL	1991Q2		4950	UGL
BGO 33C	CL	1991Q2		5200	UGL
BGO 33C	CL	1991Q3		6300	UGL
BGO 33C	CL	1991Q4		5640	UGL
BGO 33C	CL	1992Q1		5500	UGL
BGO 33C	CL	1992Q2		5440	UGL
BGO 33C	CL	1992Q3		5240	UGL
BGO 33C	CL	1992Q4	J	5400	UGL
BGO 33C	CL	1993Q1		5890	UGL
BGO 33C	CL	1993Q2		5420	UGL
BGO 33C	CL	1993Q2		5520	UGL
BGO 33C	CL	1993Q3		5570	UGL
BGO 33C	CL	1993Q3		5720	UGL
BGO 33C	CL	1993Q4		5710	UGL
BGO 33C	CL	1994Q1		5420	UGL
BGO 33C	CL	1994Q2		5970	UGL
BGO 33C	CL	1994Q2		5990	UGL
BGO 33C	CL	1994Q3	J	1450	UGL

BGO 33C CL	1994Q4	5200 UGL
BGO 33C CL	1994Q4	5210 UGL
BGO 33C CL	1994Q4	5300 UGL
BGO 33C CL	1994Q4	5890 UGL
BGO 33C CL	1994Q4	6070 UGL
BGO 33C CL	1995Q1	5480 UGL
BGO 33C CL	1998Q2	8350 UGL
BGO 33C CL	1998Q2	8520 UGL
BGO 33C CL	1998Q4	7700 UGL

CCL4 Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	CCL4	1989Q2	U		5 UGL
BGO 33C	CCL4	1989Q3	U		5 UGL
BGO 33C	CCL4	1989Q4	U		5 UGL
BGO 33C	CCL4	1990Q1	U		1 UGL
BGO 33C	CCL4	1990Q2			2 UGL
BGO 33C	CCL4	1990Q2	U		1 UGL
BGO 33C	CCL4	1990Q2	U		5 UGL
BGO 33C	CCL4	1990Q2	U		5 UGL
BGO 33C	CCL4	1990Q3	U		5 UGL
BGO 33C	CCL4	1990Q4	U		5 UGL
BGO 33C	CCL4	1991Q1	U		5 UGL
BGO 33C	CCL4	1991Q2			1.5 UGL
BGO 33C	CCL4	1991Q3			1.02 UGL
BGO 33C	CCL4	1991Q4			1 UGL
BGO 33C	CCL4	1992Q1	U		1 UGL
BGO 33C	CCL4	1992Q2			1.27 UGL
BGO 33C	CCL4	1992Q3	J		1 UGL
BGO 33C	CCL4	1992Q4	U		1 UGL
BGO 33C	CCL4	1993Q1			1.1 UGL
BGO 33C	CCL4	1993Q2			1.3 UGL
BGO 33C	CCL4	1993Q3			1.07 UGL
BGO 33C	CCL4	1993Q4	U		1 UGL
BGO 33C	CCL4	1994Q1	U		1 UGL
BGO 33C	CCL4	1994Q2	U		1 UGL
BGO 33C	CCL4	1994Q3	U		5 UGL
BGO 33C	CCL4	1994Q4	U		1 UGL
BGO 33C	CCL4	1994Q4	U		1 UGL
BGO 33C	CCL4	1994Q4	U		5 UGL
BGO 33C	CCL4	1994Q4	U		5 UGL
BGO 33C	CCL4	1995Q1	J		1.4 UGL

BGO 33C CCL4	1995Q4	J	1.43 UGL
BGO 33C CCL4	1996Q4	U	2 UGL
BGO 33C CCL4	1997Q4	J	0.933 UGL
BGO 33C CCL4	1998Q2	J	1.11 UGL
BGO 33C CCL4	1998Q4		1 UGL

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
------	---------	----------	----------	--------	-------

BGO 33C	TCLEE	1989Q2	U	5 UGL
BGO 33C	TCLEE	1989Q3	J	4 UGL
BGO 33C	TCLEE	1989Q4	U	5 UGL
BGO 33C	TCLEE	1990Q1		3 UGL
BGO 33C	TCLEE	1990Q2		3 UGL
BGO 33C	TCLEE	1990Q2		6 UGL
BGO 33C	TCLEE	1990Q2	J	3 UGL
BGO 33C	TCLEE	1990Q2	J	3 UGL
BGO 33C	TCLEE	1990Q3	J	3 UGL
BGO 33C	TCLEE	1990Q4		5 UGL
BGO 33C	TCLEE	1991Q1	J	3 UGL
BGO 33C	TCLEE	1991Q2		5.4 UGL
BGO 33C	TCLEE	1991Q3		3.24 UGL
BGO 33C	TCLEE	1991Q4		4.1 UGL
BGO 33C	TCLEE	1992Q1		3.48 UGL
BGO 33C	TCLEE	1992Q2		4.97 UGL
BGO 33C	TCLEE	1992Q3	J	5.5 UGL
BGO 33C	TCLEE	1992Q4		4.1 UGL
BGO 33C	TCLEE	1993Q1		4.3 UGL
BGO 33C	TCLEE	1993Q2		5.9 UGL
BGO 33C	TCLEE	1993Q3		4.42 UGL
BGO 33C	TCLEE	1993Q4		4.4 UGL
BGO 33C	TCLEE	1994Q1		5.1 UGL
BGO 33C	TCLEE	1994Q2		5.2 UGL
BGO 33C	TCLEE	1994Q3	J	4.52 UGL
BGO 33C	TCLEE	1994Q4		4 UGL
BGO 33C	TCLEE	1994Q4		4.2 UGL
BGO 33C	TCLEE	1994Q4		4.74 UGL
BGO 33C	TCLEE	1994Q4		4.98 UGL
BGO 33C	TCLEE	1995Q1		5.7 UGL

BGO 33C TCLEE	1995Q4		5.34 UGL
BGO 33C TCLEE	1996Q4		6 UGL
BGO 33C TCLEE	1997Q4		5.98 UGL
BGO 33C TCLEE	1998Q2	J	6.42 UGL
BGO 33C TCLEE	1998Q4		6.58 UGL

TRCLE Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	TRCLE	1989Q2		11	UGL
BGO 33C	TRCLE	1989Q3		37	UGL
BGO 33C	TRCLE	1989Q4		33	UGL
BGO 33C	TRCLE	1990Q1		18	UGL
BGO 33C	TRCLE	1990Q2		15	UGL
BGO 33C	TRCLE	1990Q2		18	UGL
BGO 33C	TRCLE	1990Q2		19	UGL
BGO 33C	TRCLE	1990Q2		19	UGL
BGO 33C	TRCLE	1990Q3		23	UGL
BGO 33C	TRCLE	1990Q4		15	UGL
BGO 33C	TRCLE	1991Q1		18	UGL
BGO 33C	TRCLE	1991Q2		23.3	UGL
BGO 33C	TRCLE	1991Q3		16.8	UGL
BGO 33C	TRCLE	1991Q4		19.5	UGL
BGO 33C	TRCLE	1992Q1		18.4	UGL
BGO 33C	TRCLE	1992Q2		24.3	UGL
BGO 33C	TRCLE	1992Q3		24.3	UGL
BGO 33C	TRCLE	1992Q4		22.4	UGL
BGO 33C	TRCLE	1993Q1		22.9	UGL
BGO 33C	TRCLE	1993Q2		27	UGL
BGO 33C	TRCLE	1993Q3		28.1	UGL
BGO 33C	TRCLE	1993Q4		22.4	UGL
BGO 33C	TRCLE	1994Q1		25.8	UGL
BGO 33C	TRCLE	1994Q2		28	UGL
BGO 33C	TRCLE	1994Q3		27.4	UGL
BGO 33C	TRCLE	1994Q4		24.4	UGL
BGO 33C	TRCLE	1994Q4		24.9	UGL
BGO 33C	TRCLE	1994Q4		28.1	UGL
BGO 33C	TRCLE	1994Q4		29.6	UGL
BGO 33C	TRCLE	1995Q1		29.2	UGL

BGO 33C TRCLE	1995Q4		25 UGL
BGO 33C TRCLE	1996Q4		30.4 UGL
BGO 33C TRCLE	1997Q4		54.1 UGL
BGO 33C TRCLE	1998Q2	J	48.2 UGL
BGO 33C TRCLE	1998Q4		47.4 UGL

ALPHAG Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 04MAR99 at 14:13

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	ALPHAG	1989Q2	U	3	PCL
BGO 33C	ALPHAG	1989Q3	U	4	PCL
BGO 33C	ALPHAG	1989Q4		3.4	PCL
BGO 33C	ALPHAG	1989Q4	U	2	PCL
BGO 33C	ALPHAG	1990Q1	U	2	PCL
BGO 33C	ALPHAG	1990Q1	U	2	PCL
BGO 33C	ALPHAG	1990Q1	U	3	PCL
BGO 33C	ALPHAG	1990Q2	U	1	PCL
BGO 33C	ALPHAG	1990Q2	U	2	PCL
BGO 33C	ALPHAG	1990Q2	U	2	PCL
BGO 33C	ALPHAG	1990Q2	U	2	PCL
BGO 33C	ALPHAG	1990Q2	U	2	PCL
BGO 33C	ALPHAG	1990Q2	U	2	PCL
BGO 33C	ALPHAG	1990Q3	U	2	PCL
BGO 33C	ALPHAG	1990Q4	U	2	PCL
BGO 33C	ALPHAG	1991Q1	U	3	PCL
BGO 33C	ALPHAG	1991Q2	U	2	PCL
BGO 33C	ALPHAG	1991Q3	U	2	PCL
BGO 33C	ALPHAG	1991Q4	U	2	PCL
BGO 33C	ALPHAG	1992Q1	U	2	PCL
BGO 33C	ALPHAG	1992Q2	U	2	PCL
BGO 33C	ALPHAG	1992Q3	U	2	PCL
BGO 33C	ALPHAG	1992Q4	U	2	PCL
BGO 33C	ALPHAG	1993Q1	U	2	PCL
BGO 33C	ALPHAG	1993Q2		2.04	PCL
BGO 33C	ALPHAG	1993Q3	U	2	PCL
BGO 33C	ALPHAG	1993Q4		3.33	PCL
BGO 33C	ALPHAG	1994Q1	UI	0.4	PCL
BGO 33C	ALPHAG	1994Q2	J	0.917	PCL
BGO 33C	ALPHAG	1994Q3		2.66	PCL
BGO 33C	ALPHAG	1994Q4		9.28	PCL

BGO 33C	ALPHAG	1994Q4	J	3.15 PCL
BGO 33C	ALPHAG	1994Q4	UI	0 PCL
BGO 33C	ALPHAG	1994Q4	UI	0.2 PCL
BGO 33C	ALPHAG	1995Q1	UI	1.09 PCL
BGO 33C	ALPHAG	1995Q4	UI	0.809 PCL
BGO 33C	ALPHAG	1996Q4		1.43 PCL
BGO 33C	ALPHAG	1997Q4		1.13 PCL
BGO 33C	ALPHAG	1997Q4		1.6 PCL
BGO 33C	ALPHAG	1998Q2		1.08 PCL
BGO 33C	ALPHAG	1998Q4		1.73 PCL

TRITIUM Results for BGO 33C

Data Retrieved by AWSA v1 from GIMS on 05MAR99 at 13:25

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	TRITIUM	1989Q2		4400	PCML
BGO 33C	TRITIUM	1989Q2		4400	PCML
BGO 33C	TRITIUM	1989Q2		5255.1	PCML
BGO 33C	TRITIUM	1989Q3		5000	PCML
BGO 33C	TRITIUM	1989Q4		5400	PCML
BGO 33C	TRITIUM	1989Q4		6100	PCML
BGO 33C	TRITIUM	1990Q1		570	PCML
BGO 33C	TRITIUM	1990Q1		580	PCML
BGO 33C	TRITIUM	1990Q1		7160	PCML
BGO 33C	TRITIUM	1990Q2		5200	PCML
BGO 33C	TRITIUM	1990Q2		5400	PCML
BGO 33C	TRITIUM	1990Q2		5900	PCML
BGO 33C	TRITIUM	1990Q2		7190	PCML
BGO 33C	TRITIUM	1990Q2		7280	PCML
BGO 33C	TRITIUM	1990Q3		5400	PCML
BGO 33C	TRITIUM	1990Q4		5100	PCML
BGO 33C	TRITIUM	1991Q1		5400	PCML
BGO 33C	TRITIUM	1991Q2		6360	PCML
BGO 33C	TRITIUM	1991Q3		6270	PCML
BGO 33C	TRITIUM	1991Q4		6840	PCML
BGO 33C	TRITIUM	1992Q1		7570	PCML
BGO 33C	TRITIUM	1992Q2		8020	PCML
BGO 33C	TRITIUM	1992Q3		7400	PCML
BGO 33C	TRITIUM	1992Q4		6890	PCML
BGO 33C	TRITIUM	1993Q1		6790	PCML
BGO 33C	TRITIUM	1993Q2		7220	PCML
BGO 33C	TRITIUM	1993Q3		8170	PCML
BGO 33C	TRITIUM	1993Q4		8010	PCML
BGO 33C	TRITIUM	1994Q1		8200	PCML
BGO 33C	TRITIUM	1994Q2		8780	PCML

BGO 33C TRITIU	1994Q3	10100 PCML
BGO 33C TRITIU	1994Q4	10100 PCML
BGO 33C TRITIU	1994Q4	10200 PCML
BGO 33C TRITIU	1994Q4	10200 PCML
BGO 33C TRITIU	1994Q4	11200 PCML
BGO 33C TRITIU	1994Q4	11200 PCML
BGO 33C TRITIU	1995Q1	10000 PCML
BGO 33C TRITIU	1995Q4	11500 PCML
BGO 33C TRITIU	1996Q4	11400 PCML
BGO 33C TRITIU	1997Q4	12000 PCML
BGO 33C TRITIU	1997Q4	12100 PCML
BGO 33C TRITIU	1998Q2	15400 PCML
BGO 33C TRITIU	1998Q4	12800 PCML

BR in BGO 33C

Data Retrieved by AWSA v1 from GIMS on 08MAR99 at 09:39

Well	Analyte	Sample_Q	Res_Qual	Result	Units
BGO 33C	BR	1997Q4	J		44 UGL
BGO 33C	BR	1998Q2			3180 UGL
BGO 33C	BR	1998Q2			3350 UGL
BGO 33C	BR	1998Q2	U		50 UGL
BGO 33C	BR	1998Q2	U		65 UGL
BGO 33C	BR	1998Q4	U		250 UGL
BGO 33C	BR	1998Q4	U		250 UGL
BGO 33C	BR	1998Q4	U		250 UGL
BGO 33C	BR	1998Q4	U		250 UGL

APPENDIX B

STATISTICAL ANALYSIS OF PWMS GROUNDWATER SAMPLES

WESTINGHOUSE SAVANNAH RIVER COMPANY
Savannah River Technology Center

SRT-SCS-99-004

February 23, 1999

To: C.C. Beardsley, 730-2B

From: S. P. Harris, 773-42A

Statistical Analysis of PWMS Groundwater Samples

R.C. Tuckfield, Manager (SRTC-SCS)

2/27/99
Date

C.P. Reeve, Technical Reviewer (SRTC-SCS)

2-23-99
Date

Summary

A statistical evaluation was done for testing the Purge Water Management System (PWMS) technology using data from routine groundwater monitoring samples of four wells equipped with PWMS tanks in 1997. The data included results from both influent and effluent samples from the PWMS. The wells were designated ABP 1A, ABP 4, ARP 3 and BGO 33C. There was no statistical difference in before or after means for ABP 1A, ABP 4 and ARP 3 with 95% confidence. However, there was a statistical difference with 95% confidence between the before and after means for BGO 33C. This difference can be traced to five of the fifteen analytes under study. As a result, the influent data were examined for these five analytes. Statistical analysis indicates that only one analyte (total recoverable Manganese) remains problematic. Both practical importance as well as statistical significance should be used in interpreting the statistical results.

Data

Data were extracted from the GIMS database on analytes for the following wells: ABP 1A, ABP 4 and ARP 3 and BGO 33C. The data included results from both influent and effluent samples from the PWMS. The results collected on the same day were averaged to eliminate serial correlation in the data and the resulting

data were treated as independent. Data from up to four sampling days were used for the before data if available. Non-detectable results were replaced by half the detection limit for the statistical analysis.

Statistical Analysis

All calculations were done using SAS Ver. 6.12. An F-test was first examined for equality of variance before deciding which t-statistic to use. The t-test for equal variances was used if the variances tested to be equal using the before and after data. Likewise, the t-test for unequal variances was used if the variances did not test to be equal using the before and after data. The t-tests are shown in Tables 1a through 1d for wells ABP 1A, ABP 4 and ARP 3 and BGO 33C, respectively. The full analyte names are included in Appendix 1 and the data on which these t-tests were based are included in Appendix 2.

Over all k analytes, there is no difference between before or after means for ABP 1A, ABP 4 and ARP 3. The individual p-values are greater than $\alpha/k = 0.05/15 = 0.0033$ for each analyte. Therefore, the collective sets of before and after means are not statistically different with 95% confidence using the Bonferroni inequality assuming independence between the analytes. However, the before and after values are different for BGO 33C. This difference can be traced to five of the fifteen analytes under study: CATOT, COND, FETOT, MNTOT and NATOT. Also, KTOT was added to the list for consideration. The influent data for these six analytes were gathered from GIMS and shown in Appendix 3. Statistical analysis indicates that only one analyte (total recoverable Manganese) remains problematic (Table 1e). The before and after values for BGO 33C: MNTOT are included in Chart 1.

Chart 1
Well: BGO 33C, MNTOT

<u>Before</u>	<u>After</u>
0.0302 MGL	0.0453 MGL
0.0321 MGL	0.0454 MGL
0.0324 MGL	
0.0340 MGL	

Tables 1a to 1e should be examined for practical importance as well as statistical significance. Typically more data are needed when comparing two groups for equality of means. The power curve in Plot 1 shows that the difference in means would have to be approximately 3 sigma to be detected a difference with 0.80 probability (power) and 95% confidence. This represents a best case scenario where the variances are assumed to be equal for both before and after samples and the samples consist of four data points in one sample and two in the other. However, going further back in time was not considered to be practical because of groundwater flow. Additional samples were not available for the "after" data set.

Table 1a

Well: ABP 1A
PWMS Influent & Effluent Samples

Analyte						
Code	Units	After	Before	t-Test	df	p
ALPHAG	PCL	1.568	0.694	4.73	4	0.009*
ALTOT	MGL	0.026	0.042	-0.60	3	0.59
CATOT	MGL	0.541	0.591	-0.31	2	0.78
CCL4	MGL	0.0011	0.0022	-1.38	4	0.24
CL	MGL	1.607	2.104	-0.61	4	0.57
COND	USCM	14.0	13.25	0.35	3	0.75
CRTOT	MGL	0.0029	0.0071	-1.17	3	0.33
FETOT	MGL	0.069	0.043	0.52	1	0.70
FPH	PH	4.40	5.40	-0.82	3	0.47
KTOT	MGL	0.244	0.609	-0.93	1	0.52
MNTOT	MGL	0.0034	0.0035	-0.15	4	0.89
NATOT	MGL	0.935	1.157	-1.10	2	0.38
PBTOT	MGL	0.0078	0.0054	0.36	4	0.74
TCLEE	MGL	0.0030	0.0111	-2.97	4	0.041*
TRCLE	MGL	0.0138	0.0545	-3.45	4	0.026*

Table 1b

Well: ABP 4
PWMS Influent & Effluent Samples

Analyte						
Code	Units	After	Before	t-Test	df	p
ALPHAG	PCL	1.299	1.381	-0.15	4	0.89
ALTOT	MGL	0.068	0.048	0.39	4	0.72
CATOT	MGL	0.480	0.547	-0.79	3	0.49
CCL4	MGL	0.0010	0.0015	-0.78	4	0.48
CL	MGL	1.483	1.651	-1.12	4	0.33
COND	USCM	18.0	12.25	3.46	4	0.026*
CRTOT	MGL	0.0017	0.0051	-0.91	4	0.42
FETOT	MGL	0.105	0.032	2.54	2	0.13
FPH	PH	4.75	4.75	0	4	1.00
KTOT	MGL	0.178	0.492	-0.95	3	0.41
MNTOT	MGL	0.011	0.0030	1.08	1	0.47
NATOT	MGL	1.192	0.950	1.04	3	0.37
PBTOT	MGL	0.0074	0.0049	0.54	4	0.62
TCLEE	MGL	0.0045	0.0070	-0.67	4	0.54
TRCLE	MGL	0.0260	0.0447	-0.71	4	0.52

* Differences individually significant at the 5% level

Table 1c

**Well: ARP 3
PWMS Influent & Effluent Samples**

Analyte Code	Units	After	Before	t-Test df	p
ALPHAG	PCL	2.987	1.646	1.91 4	0.13
ALTOT	MGL	0.672	0.959	-0.53 3	0.63
CATOT	MGL	0.447	0.426	0.29 3	0.79
CCL4	MGL	0.00056	0.0005	0.22 4	0.83
CL	MGL	2.603	3.810	-1.12 3	0.34
COND	USCM	22.0	21.00	0.22 3	0.84
CRTOT	MGL	0.0114	0.0195	-0.43 4	0.69
FETOT	MGL	2.970	2.164	1.19 3	0.86
FPH	PH	4.10	4.53	-1.27 3	0.29
KTOT	MGL	0.200	0.202	-0.05 3	0.96
MNTOT	MGL	0.0234	0.0196	0.31 4	0.78
NATOT	MGL	2.260	1.843	2.08 3	0.13
PBTOT	MGL	0.0131	0.0060	1.17 4	0.31
TCLEE	MGL	0.0180	0.0109	3.89 4	0.018*
TRCLE	MGL	0.1748	0.1125	4.96 4	0.008*

Table 1d

**Well: BGO 33C
PWMS Influent & Effluent Samples**

Analyte Code	Units	After	Before	t-Test df	p
ALPHAG	PCL	1.777	1.378	0.41 4	0.70
ALTOT	MGL	0.147	0.061	2.56 3	0.08
CATOT	MGL	5.120	4.339	11.58 3	0.001*
CCL4	MGL	0.00194	0.00133	0.60 1	0.65
CL	MGL	8.629	4.630	1.68 3	0.19
COND	USCM	63.0	53.00	5.74 5	0.002*
CRTOT	MGL	0.0028	0.0019	1.20 4	0.30
FETOT	MGL	0.269	0.011	37.95 3	0.00*
FPH	PH	5.33	5.48	-1.35 5	0.23
KTOT	MGL	1.737	0.418	7.37 3	0.005*
MNTOT	MGL	0.0503	0.0322	10.40 3	0.002*
NATOT	MGL	4.294	3.349	10.36 3	0.002*
PBTOT	MGL	0.0062	0.0019	1.15 1	0.46
TCLEE	MGL	0.0061	0.0054	1.51 4	0.20
TRCLE	MGL	0.0472	0.0278	4.19 4	0.014

* Differences individually significant at the 5% level

Table 1e

Well: BGO 33C
PWMS Influent & Effluent Samples(IE)
PWMS Influent Samples Only (I)

IE Statistics were obtained from Table 1d

<u>Analyte Code</u>	<u>Units</u>	<u>After</u>	<u>Before</u>	<u>t-Test df</u>	<u>p</u>
CATOT(IE)	MGL	5.120	4.339	11.58 3	0.001*
CATOT(I)	MGL	4.125	4.339	-0.19 1	0.883
COND(IE)	USCM	63.0	53.00	5.74 5	0.002*
COND(I)	USCM	62.0	53.00	3.12 3	0.053
FETOT(IE)	MGL	0.269	0.011	37.95 3	0.00*
FETOT(I)	MGL	0.041	0.011	4.16 4	0.014*
KTOT(IE)	MGL	1.737	0.418	7.37 3	0.005*
KTOT(I)	MGL	0.479	0.418	0.48 3	0.655
MNTOT(IE)	MGL	0.0503	0.0322	10.40 3	0.002*
MNTOT(I)	MGL	0.0454	0.0322	11.29 4	0.0004*
NATOT(IE)	MGL	4.294	3.349	10.36 3	0.002*
NATOT(I)	MGL	4.160	3.349	1.79 1	0.322

* Differences individually significant at the 5% level

Plot 1

Power curve for testing the difference in means between two samples assuming 4 data points in one sample and 2 data points in the second sample.

Appendix 1

Analyte Codes and Full Names

Analyte	Full Name
ALPHAG	Gross alpha
ALTOT	Aluminum total recoverable
CATOT	Calcium total recoverable
CCL4	Carbon tetrachloride
CL	Chloride
COND	Specific conductance
CRTOT	Chromium total recoverable
FETOT	Iron total recoverable
KTOT	Potassium total recoverable
MNTOT	Manganese total recoverable
NATOT	Sodium total recoverable
PBTOT	Lead total recoverable
FPH	Field pH
TCLEE	Tetrachloroethylene
TRCLE	Trichloroethylene

Appendix 2

Average Results by Date Including Up To a Maximum of Four "Before" Sampling Days

Sdate: Sample Date

TYPE B: Before PWMS, A: After PWMS

Avg: Analyte Average

N: Number of results including below detects

PropD: Proportion of data above detect

Well	Analyte	SDate	TYPE	Avg	Units	N	PropD
ABP 1A	ALPHAG	7-Jul-94	B	0.47225	PCL	2	0
ABP 1A	ALPHAG	18-Jan-95	B	0.808	PCL	1	1
ABP 1A	ALPHAG	13-Mar-96	B	0.711	PCL	1	1
ABP 1A	ALPHAG	3-Apr-96	B	0.783	PCL	1	1
ABP 1A	ALPHAG	11-Nov-97	A	1.805	PCL	2	1
ABP 1A	ALPHAG	13-Aug-98	A	1.331083	PCL	5	0.4
ABP 1A	ALTOT	7-Jul-94	B	0.01	MGL	1	0
ABP 1A	ALTOT	18-Jan-95	B	0.01665	MGL	1	0
ABP 1A	ALTOT	13-Mar-96	B	0.017325	MGL	2	0
ABP 1A	ALTOT	3-Apr-96	B	0.125	MGL	1	0
ABP 1A	ALTOT	11-Nov-97	A	0.025	MGL	2	0
ABP 1A	ALTOT	13-Aug-98	A	0.026175	MGL	5	1
ABP 1A	CATOT	13-Mar-96	B	0.4345	MGL	2	1
ABP 1A	CATOT	3-Apr-96	B	0.748	MGL	1	1
ABP 1A	CATOT	11-Nov-97	A	0.5055	MGL	2	1
ABP 1A	CATOT	13-Aug-98	A	0.576583	MGL	5	1
ABP 1A	CCL4	7-Jul-94	B	0.0036	MGL	1	1
ABP 1A	CCL4	18-Jan-95	B	0.00205	MGL	1	1
ABP 1A	CCL4	13-Mar-96	B	0.00136	MGL	1	1
ABP 1A	CCL4	3-Apr-96	B	0.00178	MGL	1	1
ABP 1A	CCL4	11-Nov-97	A	0.000778	MGL	2	1
ABP 1A	CCL4	13-Aug-98	A	0.0015	MGL	4	0
ABP 1A	CL	17-May-91	B	3.73	MGL	1	1
ABP 1A	CL	19-Jul-91	B	1.615	MGL	2	1
ABP 1A	CL	1-Nov-91	B	1.52	MGL	1	1
ABP 1A	CL	11-Jan-92	B	1.55	MGL	1	1
ABP 1A	CL	11-Nov-97	A	1.636667	MGL	3	1
ABP 1A	CL	13-Aug-98	A	1.5775	MGL	5	1
ABP 1A	COND	7-Jul-94	B	13	USCM	1	1
ABP 1A	COND	18-Jan-95	B	12	USCM	1	1
ABP 1A	COND	13-Mar-96	B	16	USCM	1	1
ABP 1A	COND	3-Apr-96	B	12	USCM	1	1
ABP 1A	COND	11-Nov-97	A	14	USCM	2	1
ABP 1A	CRTOT	18-Jan-95	B	0.003335	MGL	1	0
ABP 1A	CRTOT	13-Mar-96	B	0.00541	MGL	2	1
ABP 1A	CRTOT	3-Apr-96	B	0.0125	MGL	1	0
ABP 1A	CRTOT	11-Nov-97	A	0.0025	MGL	2	0
ABP 1A	CRTOT	13-Aug-98	A	0.003273	MGL	5	0.6
ABP 1A	FETOT	13-Mar-96	B	0.07155	MGL	2	1
ABP 1A	FETOT	3-Apr-96	B	0.0149	MGL	1	1

ABP 1A	FETOT	13-Aug-98	A	0.068667	MGL	5	1
ABP 1A	FPH	7-Jul-94	B	4.8	PH	1	1
ABP 1A	FPH	18-Jan-95	B	5.2	PH	1	1
ABP 1A	FPH	13-Mar-96	B	7	PH	1	1
ABP 1A	FPH	3-Apr-96	B	4.6	PH	1	1
ABP 1A	FPH	11-Nov-97	A	4.4	PH	2	1
ABP 1A	KTOT	13-Mar-96	B	0.217	MGL	2	1
ABP 1A	KTOT	3-Apr-96	B	1	MGL	1	0
ABP 1A	KTOT	11-Nov-97	A	0.241	MGL	2	1
ABP 1A	KTOT	13-Aug-98	A	0.246583	MGL	5	1
ABP 1A	MNTOT	7-Jul-94	B	0.00332	MGL	1	1
ABP 1A	MNTOT	18-Jan-95	B	0.00228	MGL	1	1
ABP 1A	MNTOT	13-Mar-96	B	0.00337	MGL	3	1
ABP 1A	MNTOT	3-Apr-96	B	0.005	MGL	1	0
ABP 1A	MNTOT	11-Nov-97	A	0.002865	MGL	2	1
ABP 1A	MNTOT	13-Aug-98	A	0.00385	MGL	5	0.4
ABP 1A	NATOT	13-Mar-96	B	0.9635	MGL	2	1
ABP 1A	NATOT	3-Apr-96	B	1.35	MGL	1	1
ABP 1A	NATOT	11-Nov-97	A	0.989	MGL	2	1
ABP 1A	NATOT	13-Aug-98	A	0.88125	MGL	5	1
ABP 1A	PBTOT	7-Jul-94	B	0.0015	MGL	1	0
ABP 1A	PBTOT	18-Jan-95	B	0.0025	MGL	1	0
ABP 1A	PBTOT	13-Mar-96	B	0.017237	MGL	3	0
ABP 1A	PBTOT	3-Apr-96	B	0.000371	MGL	1	1
ABP 1A	PBTOT	11-Nov-97	A	0.0027	MGL	2	0.5
ABP 1A	PBTOT	13-Aug-98	A	0.012945	MGL	5	0.2
ABP 1A	TCLEE	7-Jul-94	B	0.0159	MGL	1	1
ABP 1A	TCLEE	18-Jan-95	B	0.0102	MGL	1	1
ABP 1A	TCLEE	13-Mar-96	B	0.00913	MGL	1	1
ABP 1A	TCLEE	3-Apr-96	B	0.00897	MGL	1	1
ABP 1A	TCLEE	11-Nov-97	A	0.004875	MGL	2	1
ABP 1A	TCLEE	13-Aug-98	A	0.001092	MGL	4	0.5
ABP 1A	TRCLE	7-Jul-94	B	0.0724	MGL	1	1
ABP 1A	TRCLE	18-Jan-95	B	0.0599	MGL	1	1
ABP 1A	TRCLE	13-Mar-96	B	0.0384	MGL	1	1
ABP 1A	TRCLE	3-Apr-96	B	0.0472	MGL	1	1
ABP 1A	TRCLE	11-Nov-97	A	0.0201	MGL	2	1
ABP 1A	TRCLE	13-Aug-98	A	0.007418	MGL	4	1
ABP 4	ALPHAG	8-Jul-94	B	1.94	PCL	1	1
ABP 4	ALPHAG	19-Jan-95	B	1.29	PCL	1	1
ABP 4	ALPHAG	14-Mar-96	B	1.212583	PCL	5	0.8
ABP 4	ALPHAG	3-Apr-96	B	1.08	PCL	1	1
ABP 4	ALPHAG	11-Nov-97	A	2.086667	PCL	3	1
ABP 4	ALPHAG	28-Sep-98	A	0.51125	PCL	2	0.5
ABP 4	ALTOT	8-Jul-94	B	0.01	MGL	1	0
ABP 4	ALTOT	19-Jan-95	B	0.01665	MGL	1	0
ABP 4	ALTOT	14-Mar-96	B	0.040988	MGL	5	0
ABP 4	ALTOT	3-Apr-96	B	0.125	MGL	1	0
ABP 4	ALTOT	11-Nov-97	A	0.12	MGL	2	0.5

ABP 4	ALTOT	28-Sep-98	A	0.0162	MGL	2	1
ABP 4	CATOT	22-Jan-93	B	0.610083	MGL	5	1
ABP 4	CATOT	14-Mar-96	B	0.474083	MGL	5	1
ABP 4	CATOT	3-Apr-96	B	0.557	MGL	1	1
ABP 4	CATOT	11-Nov-97	A	0.388	MGL	2	1
ABP 4	CATOT	28-Sep-98	A	0.571333	MGL	3	1
ABP 4	CCL4	8-Jul-94	B	0.0005	MGL	1	0
ABP 4	CCL4	19-Jan-95	B	0.00219	MGL	1	1
ABP 4	CCL4	14-Mar-96	B	0.001684	MGL	5	1
ABP 4	CCL4	3-Apr-96	B	0.0015	MGL	1	1
ABP 4	CCL4	11-Nov-97	A	0.00147	MGL	2	1
ABP 4	CCL4	28-Sep-98	A	0.000523	MGL	2	1
ABP 4	CL	19-Jul-91	B	1.86	MGL	1	1
ABP 4	CL	1-Nov-91	B	1.63	MGL	1	1
ABP 4	CL	11-Jan-92	B	1.72	MGL	1	1
ABP 4	CL	22-Jan-93	B	1.393333	MGL	5	1
ABP 4	CL	11-Nov-97	A	1.535	MGL	2	1
ABP 4	CL	28-Sep-98	A	1.43	MGL	3	1
ABP 4	COND	8-Jul-94	B	14	USCM	1	1
ABP 4	COND	19-Jan-95	B	11	USCM	1	1
ABP 4	COND	14-Mar-96	B	14	USCM	1	1
ABP 4	COND	3-Apr-96	B	10	USCM	1	1
ABP 4	COND	11-Nov-97	A	19	USCM	2	1
ABP 4	COND	28-Sep-98	A	17	USCM	2	1
ABP 4	CRTOT	22-Jan-93	B	0.002	MGL	5	0
ABP 4	CRTOT	19-Jan-95	B	0.003335	MGL	1	0
ABP 4	CRTOT	14-Mar-96	B	0.002414	MGL	5	0.2
ABP 4	CRTOT	3-Apr-96	B	0.0125	MGL	1	0
ABP 4	CRTOT	11-Nov-97	A	0.00198	MGL	2	0.5
ABP 4	CRTOT	28-Sep-98	A	0.00136	MGL	2	1
ABP 4	FETOT	22-Jan-93	B	0.00425	MGL	5	0.4
ABP 4	FETOT	14-Mar-96	B	0.0436	MGL	5	0.8
ABP 4	FETOT	3-Apr-96	B	0.05	MGL	1	0
ABP 4	FETOT	28-Sep-98	A	0.1054	MGL	2	1
ABP 4	FPH	8-Jul-94	B	4.8	PH	1	1
ABP 4	FPH	19-Jan-95	B	5	PH	1	1
ABP 4	FPH	14-Mar-96	B	4.6	PH	1	1
ABP 4	FPH	3-Apr-96	B	4.6	PH	1	1
ABP 4	FPH	11-Nov-97	A	3.8	PH	2	1
ABP 4	FPH	28-Sep-98	A	5.7	PH	2	1
ABP 4	KTOT	22-Jan-93	B	0.294833	MGL	5	0.2
ABP 4	KTOT	14-Mar-96	B	0.17975	MGL	5	1
ABP 4	KTOT	3-Apr-96	B	1	MGL	1	0
ABP 4	KTOT	11-Nov-97	A	0.1645	MGL	2	1
ABP 4	KTOT	28-Sep-98	A	0.191	MGL	3	1
ABP 4	MNTOT	8-Jul-94	B	0.00233	MGL	1	1
ABP 4	MNTOT	19-Jan-95	B	0.00232	MGL	1	1
ABP 4	MNTOT	14-Mar-96	B	0.00251	MGL	5	1
ABP 4	MNTOT	3-Apr-96	B	0.005	MGL	1	0

ABP 4	MNTOT	11-Nov-97	A	0.018655	MGL	2	1
ABP 4	MNTOT	28-Sep-98	A	0.003695	MGL	2	1
ABP 4	NATOT	22-Jan-93	B	0.8915	MGL	5	1
ABP 4	NATOT	14-Mar-96	B	0.849583	MGL	5	1
ABP 4	NATOT	3-Apr-96	B	1.11	MGL	1	1
ABP 4	NATOT	11-Nov-97	A	1.468	MGL	2	1
ABP 4	NATOT	28-Sep-98	A	0.915	MGL	3	1
ABP 4	PBTOT	8-Jul-94	B	0.0015	MGL	1	0
ABP 4	PBTOT	19-Jan-95	B	0.0025	MGL	1	0
ABP 4	PBTOT	14-Mar-96	B	0.014063	MGL	5	0
ABP 4	PBTOT	3-Apr-96	B	0.00162	MGL	1	1
ABP 4	PBTOT	11-Nov-97	A	0.007755	MGL	2	1
ABP 4	PBTOT	28-Sep-98	A	0.007032	MGL	2	1
ABP 4	TCLEE	8-Jul-94	B	0.0005	MGL	1	0
ABP 4	TCLEE	19-Jan-95	B	0.0115	MGL	1	1
ABP 4	TCLEE	14-Mar-96	B	0.00833	MGL	5	1
ABP 4	TCLEE	3-Apr-96	B	0.00761	MGL	1	1
ABP 4	TCLEE	11-Nov-97	A	0.00642	MGL	2	1
ABP 4	TCLEE	28-Sep-98	A	0.002645	MGL	2	1
ABP 4	TRCLE	8-Jul-94	B	0.0005	MGL	1	0
ABP 4	TRCLE	19-Jan-95	B	0.0834	MGL	1	1
ABP 4	TRCLE	14-Mar-96	B	0.050375	MGL	5	1
ABP 4	TRCLE	3-Apr-96	B	0.0444	MGL	1	1
ABP 4	TRCLE	11-Nov-97	A	0.0358	MGL	2	1
ABP 4	TRCLE	28-Sep-98	A	0.0161	MGL	2	1
ARP 3	ALPHAG	20-Jan-93	B	1	PCL	1	0
ARP 3	ALPHAG	10-Nov-95	B	1.58	PCL	1	1
ARP 3	ALPHAG	12-Dec-95	B	2.285	PCL	2	1
ARP 3	ALPHAG	27-Feb-97	B	1.72	PCL	1	1
ARP 3	ALPHAG	12-Nov-97	A	3.93	PCL	3	1
ARP 3	ALPHAG	13-Aug-98	A	2.04325	PCL	2	0.5
ARP 3	ALTOT	10-Nov-95	B	2.245	MGL	2	1
ARP 3	ALTOT	12-Dec-95	B	0.0312	MGL	1	1
ARP 3	ALTOT	15-Jan-96	B	1.455	MGL	2	1
ARP 3	ALTOT	27-Feb-97	B	0.106	MGL	1	1
ARP 3	ALTOT	12-Nov-97	A	0.6804	MGL	2	1
ARP 3	ALTOT	13-Aug-98	A	0.663	MGL	2	1
ARP 3	CATOT	20-Jan-93	B	0.355	MGL	1	1
ARP 3	CATOT	10-Nov-95	B	0.483	MGL	1	1
ARP 3	CATOT	12-Dec-95	B	0.441	MGL	1	1
ARP 3	CATOT	12-Nov-97	A	0.3815	MGL	2	1
ARP 3	CATOT	13-Aug-98	A	0.5115	MGL	2	1
ARP 3	CCL4	10-Nov-95	B	0.00025	MGL	1	0
ARP 3	CCL4	12-Dec-95	B	0.00025	MGL	1	0
ARP 3	CCL4	15-Jan-96	B	0.001	MGL	1	0
ARP 3	CCL4	27-Feb-97	B	0.0005	MGL	1	0
ARP 3	CCL4	12-Nov-97	A	0.00062	MGL	2	0.5
ARP 3	CCL4	13-Aug-98	A	0.0005	MGL	2	0
ARP 3	CL	2-Apr-89	B	7	MGL	1	1

ARP 3	CL	22-Jan-91	B	3.25	MGL	1	1
ARP 3	CL	20-Jan-93	B	2.54	MGL	1	1
ARP 3	CL	27-Feb-97	B	2.45	MGL	2	1
ARP 3	CL	12-Nov-97	A	2.6	MGL	3	1
ARP 3	CL	13-Aug-98	A	2.605	MGL	2	1
ARP 3	COND	10-Nov-95	B	20	USCM	1	1
ARP 3	COND	12-Dec-95	B	19	USCM	1	1
ARP 3	COND	15-Jan-96	B	27	USCM	1	1
ARP 3	COND	27-Feb-97	B	18	USCM	1	1
ARP 3	COND	12-Nov-97	A	22	USCM	2	1
ARP 3	CRTOT	20-Jan-93	B	0.002	MGL	1	0
ARP 3	CRTOT	10-Nov-95	B	0.0548	MGL	2	1
ARP 3	CRTOT	12-Dec-95	B	0.00151	MGL	1	0
ARP 3	CRTOT	27-Feb-97	B	0.0197	MGL	1	1
ARP 3	CRTOT	12-Nov-97	A	0.008825	MGL	2	1
ARP 3	CRTOT	13-Aug-98	A	0.013925	MGL	2	1
ARP 3	FETOT	20-Jan-93	B	0.0652	MGL	1	1
ARP 3	FETOT	10-Nov-95	B	7.92	MGL	2	1
ARP 3	FETOT	12-Dec-95	B	0.0847	MGL	1	1
ARP 3	FETOT	27-Feb-97	B	0.586	MGL	1	1
ARP 3	FETOT	13-Aug-98	A	2.97	MGL	2	1
ARP 3	FPH	10-Nov-95	B	4.9	PH	1	1
ARP 3	FPH	12-Dec-95	B	4.2	PH	1	1
ARP 3	FPH	15-Jan-96	B	4.6	PH	1	1
ARP 3	FPH	27-Feb-97	B	4.4	PH	1	1
ARP 3	FPH	12-Nov-97	A	4.1	PH	2	1
ARP 3	KTOT	20-Jan-93	B	0.25	MGL	1	0
ARP 3	KTOT	10-Nov-95	B	0.206	MGL	1	1
ARP 3	KTOT	12-Dec-95	B	0.149	MGL	1	1
ARP 3	KTOT	12-Nov-97	A	0.197	MGL	2	1
ARP 3	KTOT	13-Aug-98	A	0.2025	MGL	2	1
ARP 3	MNTOT	10-Nov-95	B	0.0405	MGL	1	1
ARP 3	MNTOT	12-Dec-95	B	0.00532	MGL	1	1
ARP 3	MNTOT	15-Jan-96	B	0.0243	MGL	1	1
ARP 3	MNTOT	27-Feb-97	B	0.0084	MGL	1	1
ARP 3	MNTOT	12-Nov-97	A	0.021395	MGL	2	1
ARP 3	MNTOT	13-Aug-98	A	0.02532	MGL	2	1
ARP 3	NATOT	20-Jan-93	B	1.97	MGL	1	1
ARP 3	NATOT	10-Nov-95	B	1.79	MGL	1	1
ARP 3	NATOT	12-Dec-95	B	1.77	MGL	1	1
ARP 3	NATOT	12-Nov-97	A	2.015	MGL	2	1
ARP 3	NATOT	13-Aug-98	A	2.505	MGL	2	1
ARP 3	PBTOT	10-Nov-95	B	0.00245	MGL	1	1
ARP 3	PBTOT	12-Dec-95	B	0.00118	MGL	1	1
ARP 3	PBTOT	15-Jan-96	B	0.018037	MGL	3	0.6667
ARP 3	PBTOT	27-Feb-97	B	0.0025	MGL	1	0
ARP 3	PBTOT	12-Nov-97	A	0.0137	MGL	2	0.5
ARP 3	PBTOT	13-Aug-98	A	0.0125	MGL	2	0.5
ARP 3	TCLEE	10-Nov-95	B	0.0091	MGL	1	1

ARP 3	TCLEE	12-Dec-95	B	0.0094	MGL	1	1
ARP 3	TCLEE	15-Jan-96	B	0.0109	MGL	1	1
ARP 3	TCLEE	27-Feb-97	B	0.014	MGL	1	1
ARP 3	TCLEE	12-Nov-97	A	0.0168	MGL	2	0.5
ARP 3	TCLEE	13-Aug-98	A	0.01915	MGL	2	1
ARP 3	TRCLE	10-Nov-95	B	0.108	MGL	1	1
ARP 3	TRCLE	12-Dec-95	B	0.111	MGL	1	1
ARP 3	TRCLE	15-Jan-96	B	0.101	MGL	1	1
ARP 3	TRCLE	27-Feb-97	B	0.13	MGL	1	1
ARP 3	TRCLE	12-Nov-97	A	0.16101	MGL	2	1
ARP 3	TRCLE	13-Aug-98	A	0.1885	MGL	2	1
BGO 33C	ALPHAG	2-Nov-94	B	3.1325	PCL	4	0.5
BGO 33C	ALPHAG	31-Jan-95	B	0.545	PCL	1	0
BGO 33C	ALPHAG	26-Oct-95	B	0.4045	PCL	1	0
BGO 33C	ALPHAG	11-Nov-96	B	1.43	PCL	1	1
BGO 33C	ALPHAG	16-Dec-97	A	1.365	PCL	2	1
BGO 33C	ALPHAG	15-Jun-98	A	2.18825	PCL	6	1
BGO 33C	ALTOT	11-Apr-94	B	0.0383	MGL	1	1
BGO 33C	ALTOT	8-Aug-94	B	0.0901	MGL	1	1
BGO 33C	ALTOT	2-Nov-94	B	0.083833	MGL	5	1
BGO 33C	ALTOT	31-Jan-95	B	0.0322	MGL	1	1
BGO 33C	ALTOT	15-Jun-98	A	0.147017	MGL	5	1
BGO 33C	CATOT	11-Apr-94	B	4.37	MGL	1	1
BGO 33C	CATOT	8-Aug-94	B	4.25	MGL	1	1
BGO 33C	CATOT	2-Nov-94	B	4.3575	MGL	5	1
BGO 33C	CATOT	31-Jan-95	B	4.38	MGL	1	1
BGO 33C	CATOT	15-Jun-98	A	5.12	MGL	5	1
BGO 33C	CCL4	2-Nov-94	B	0.0015	MGL	4	0
BGO 33C	CCL4	31-Jan-95	B	0.0014	MGL	1	1
BGO 33C	CCL4	26-Oct-95	B	0.00143	MGL	1	1
BGO 33C	CCL4	11-Nov-96	B	0.001	MGL	1	0
BGO 33C	CCL4	16-Dec-97	A	0.000933	MGL	1	1
BGO 33C	CCL4	15-Jun-98	A	0.002949	MGL	6	0.5
BGO 33C	CL	11-Apr-94	B	5.98	MGL	2	1
BGO 33C	CL	8-Aug-94	B	1.45	MGL	1	1
BGO 33C	CL	2-Nov-94	B	5.608333	MGL	5	1
BGO 33C	CL	31-Jan-95	B	5.48	MGL	1	1
BGO 33C	CL	15-Jun-98	A	8.62875	MGL	5	1
BGO 33C	COND	2-Nov-94	B	52	USCM	1	1
BGO 33C	COND	31-Jan-95	B	54	USCM	1	1
BGO 33C	COND	26-Oct-95	B	50	USCM	1	1
BGO 33C	COND	11-Nov-96	B	56	USCM	1	1
BGO 33C	COND	15-Dec-97	A	64	USCM	1	1
BGO 33C	COND	16-Dec-97	A	64	USCM	1	1
BGO 33C	COND	15-Jun-98	A	61	USCM	2	1
BGO 33C	CRTOT	2-Nov-94	B	0.002	MGL	5	0
BGO 33C	CRTOT	31-Jan-95	B	0.003335	MGL	1	0
BGO 33C	CRTOT	26-Oct-95	B	0.00118	MGL	1	1
BGO 33C	CRTOT	11-Nov-96	B	0.001145	MGL	1	0

BGO 33C	CRTOT	16-Dec-97	A	0.00293	MGL	1	1
BGO 33C	CRTOT	15-Jun-98	A	0.00275	MGL	5	1
BGO 33C	FETOT	11-Apr-94	B	0.00637	MGL	1	1
BGO 33C	FETOT	8-Aug-94	B	0.0173	MGL	1	1
BGO 33C	FETOT	2-Nov-94	B	0.016	MGL	5	0.6
BGO 33C	FETOT	31-Jan-95	B	0.00596	MGL	1	1
BGO 33C	FETOT	15-Jun-98	A	0.26935	MGL	5	1
BGO 33C	FPH	2-Nov-94	B	5.6	PH	1	1
BGO 33C	FPH	31-Jan-95	B	5.6	PH	1	1
BGO 33C	FPH	26-Oct-95	B	5.3	PH	1	1
BGO 33C	FPH	11-Nov-96	B	5.4	PH	1	1
BGO 33C	FPH	15-Dec-97	A	5.4	PH	1	1
BGO 33C	FPH	16-Dec-97	A	5.4	PH	1	1
BGO 33C	FPH	15-Jun-98	A	5.2	PH	2	1
BGO 33C	KTOT	11-Apr-94	B	0.25	MGL	1	0
BGO 33C	KTOT	8-Aug-94	B	0.596	MGL	1	1
BGO 33C	KTOT	2-Nov-94	B	0.32075	MGL	5	0.2
BGO 33C	KTOT	31-Jan-95	B	0.505	MGL	1	1
BGO 33C	KTOT	15-Jun-98	A	1.737167	MGL	5	1
BGO 33C	MNTOT	11-Apr-94	B	0.0302	MGL	1	1
BGO 33C	MNTOT	8-Aug-94	B	0.0321	MGL	1	1
BGO 33C	MNTOT	2-Nov-94	B	0.03235	MGL	5	1
BGO 33C	MNTOT	31-Jan-95	B	0.034	MGL	1	1
BGO 33C	MNTOT	15-Jun-98	A	0.050258	MGL	5	1
BGO 33C	NATOT	11-Apr-94	B	3.28	MGL	1	1
BGO 33C	NATOT	8-Aug-94	B	3.28	MGL	1	1
BGO 33C	NATOT	2-Nov-94	B	3.395833	MGL	5	1
BGO 33C	NATOT	31-Jan-95	B	3.44	MGL	1	1
BGO 33C	NATOT	15-Jun-98	A	4.294167	MGL	5	1
BGO 33C	PBTOT	2-Nov-94	B	0.0015	MGL	5	0
BGO 33C	PBTOT	31-Jan-95	B	0.0025	MGL	2	0
BGO 33C	PBTOT	26-Oct-95	B	0.0025	MGL	1	0
BGO 33C	PBTOT	11-Nov-96	B	0.00127	MGL	1	0
BGO 33C	PBTOT	16-Dec-97	A	0.0025	MGL	1	0
BGO 33C	PBTOT	15-Jun-98	A	0.00987	MGL	5	1
BGO 33C	TCLEE	2-Nov-94	B	0.00448	MGL	4	1
BGO 33C	TCLEE	31-Jan-95	B	0.0057	MGL	1	1
BGO 33C	TCLEE	26-Oct-95	B	0.00534	MGL	1	1
BGO 33C	TCLEE	11-Nov-96	B	0.006	MGL	1	1
BGO 33C	TCLEE	16-Dec-97	A	0.00598	MGL	1	1
BGO 33C	TCLEE	15-Jun-98	A	0.006305	MGL	6	1
BGO 33C	TRCLE	2-Nov-94	B	0.02675	MGL	4	1
BGO 33C	TRCLE	31-Jan-95	B	0.0292	MGL	1	1
BGO 33C	TRCLE	26-Oct-95	B	0.025	MGL	1	1
BGO 33C	TRCLE	11-Nov-96	B	0.0304	MGL	1	1
BGO 33C	TRCLE	16-Dec-97	A	0.0541	MGL	1	1
BGO 33C	TRCLE	15-Jun-98	A	0.040242	MGL	5	1

Appendix 3

Well: BGO 33C, Influent Sample Results Only
S_Date: Sample Date
S_Time: Sample Time
Detect: 1= Above Detect, 0= Below Detect

Stream	Well	Analyte	S_Date	S_Time	Result	Units	Detected
influent	BGO 33C	CATOT	22-Dec-98	10:06 AM	2.97	MGL	1
influent	BGO 33C	CATOT	15-Jun-98	10:08 AM	5.28	MGL	1
influent	BGO 33C	COND	15-Jun-98	10:08 AM	62	USCM	1
influent	BGO 33C	FETOT	22-Dec-98	10:06 AM	0.05	MGL	0
influent	BGO 33C	FETOT	15-Jun-98	10:08 AM	0.0321	MGL	1
influent	BGO 33C	KTOT	22-Dec-98	10:06 AM	0.419	MGL	1
influent	BGO 33C	KTOT	15-Jun-98	10:08 AM	0.538	MGL	1
influent	BGO 33C	MNTOT	22-Dec-98	10:06 AM	0.0454	MGL	1
influent	BGO 33C	MNTOT	15-Jun-98	10:08 AM	0.0453	MGL	1
influent	BGO 33C	NATOT	22-Dec-98	10:06 AM	3.71	MGL	1
influent	BGO 33C	NATOT	15-Jun-98	10:08 AM	4.61	MGL	1