

3B1a

6980601

**SEMI-ANNUAL
GROUNDWATER MONITORING REPORT**
ALLIED SIGNAL INDUSTRIAL COMPLEX VRP
SOUTH BEND, INDIANA #6980601
3B1a

PROJECT NUMBER 9822-02

JULY 1999

**SEMI-ANNUAL
GROUNDWATER MONITORING REPORT**

**ALLIEDSIGNAL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA**

PREPARED FOR:

**ALLIEDSIGNAL, INC.
717 N. BENDIX DRIVE
SOUTH BEND, INDIANA 46620**

PREPARED BY:

**HARDING LAWSON ASSOCIATES
39255 COUNTRY CLUB DRIVE, SUITE B-25
FARMINGTON HILLS, MICHIGAN 48331**

PROJECT NUMBER 9822-02

JULY 1999

TABLE OF CONTENTS

SECTION NO.	TITLE	PAGE No.
1.	INTRODUCTION.....	1
1.1	BACKGROUND	1
1.2	QUARTERLY MONITORING PROGRAM	2
2.	SAMPLE METHODOLOGY	4
2.1	WATER LEVEL MEASUREMENTS.....	4
2.2	GROUNDWATER SAMPLING.....	4
3.	ANALYTICAL PROCEDURES	6
3.1	LABORATORY METHODS.....	6
3.2	DATA EVALUATION.....	6
4.	RESULTS	7
4.1	QUALITY CONTROL REVIEW	7
4.2	SHALLOW/INTERMEDIATE MONITORING WELLS.....	7
4.2.1	Volatile Organic Compounds	8
4.2.2	Total Phenols.....	8
4.2.3	Inorganic Compounds.....	8
4.3	DEEP MONITORING WELLS.....	9
4.3.1	Volatile Organic Compounds	9
4.3.2	Total Phenols.....	10
4.3.3	Inorganic Compounds.....	10
4.4	NAPHTHA RECOVERY WELLS	10
4.5	VOC RECOVERY WELLS.....	10

TABLE No.	TITLE	PAGE No.
TABLE 1:	GROUNDWATER ELEVATION SUMMARY, APRIL 1999	12
TABLE 2:	GROUNDWATER ELEVATION SUMMARY, JUNE 1999	14

FIGURE No.	TITLE	PAGE No.
FIGURE 1:	SITE LOCATION MAP	16
FIGURE 2:	MONITORING AND RECOVERY WELL NETWORK.....	17
FIGURE 3:	POTENTIOMETRIC SURFACE MAP, SHALLOW WELLS - APRIL 1999	18
FIGURE 4:	POTENTIOMETRIC SURFACE MAP, SHALLOW WELLS - JUNE 1999	19
FIGURE 5:	POTENTIOMETRIC SURFACE MAP, DEEP WELLS - JUNE 1999	20

TABLE OF CONTENTS

APPENDICES

APPENDIX A -	GROUNDWATER SAMPLING RECORDS
APPENDIX B -	ANALYTICAL RESULTS - JUNE 1999
APPENDIX C -	CURRENT AND HISTORIC ANALYTICAL DATA TABLES
APPENDIX D -	TRENDLINE PLOTS

1. INTRODUCTION

AlliedSignal Inc. (AlliedSignal) has retained Harding Lawson Associates (HLA) to assist with the quarterly groundwater monitoring program at the AlliedSignal Industrial Complex, 717 N. Bendix Drive, South Bend, Indiana (Figure 1). This report presents the results of the 1st and 2nd Quarter 1999 groundwater sampling events conducted by HLA.

1.1 BACKGROUND

Environmental assessment activities at the AlliedSignal facility date back to the 1970s. Investigations have indicated that two groundwater contaminant plumes exist beneath the facility. The two plumes are labeled as a naphtha plume in the area of Plant 6/16 and a dissolved volatile organic compound (VOC) plume in the area of Plant 1.

In 1978, a free-phase plume of naphtha and Stoddard solvent was discovered on the water table beneath the Plant 6/16 area (in the central portion of the facility). A naphtha recovery well was first installed at the Complex in 1978 for removal of naphtha free product from the top of the water table (well E3 on Figure 2). Four additional recovery wells were installed in 1982. Each of the five recovery wells consists of a pumping well and a product collection well. Two of the five naphtha recovery wells have been deactivated because free product is no longer present. An additional naphtha recovery well (RWB-23) was installed and placed on line in January 1999 to enhance containment of groundwater on-site. The amount of product currently being recovered by the three operating wells is negligible, but operation of the system is beneficial because it maintains an inward gradient of groundwater flow at the site.

In 1988, a VOC recovery well system was installed on the north side of Plant 1 and Plant 9 just south of Bendix Drive and Bertrand Street. The recovery well system included 20 shallow and 1 deep VOC recovery wells, and was installed to inhibit off-site migration of impacted groundwater from the Plant 1/9 area.

Beginning in December 1993, certain shallow wells were taken off-line due to low yield of groundwater. The deep VOC recovery well was taken off-line due to the presence of gravel pack material in the well. In 1997, AlliedSignal modified the well configuration to provide a system that more effectively captures groundwater migrating from the Plant 1/9 area. Three additional extraction wells (EW-1, EW-2 and EW-3) were installed and the existing system was abandoned in accordance with Indiana Administrative Code, Title 310, Article 16 (see Figure 2). Select existing recovery wells (RW-3, RW-4, RW-7, RW-14, RW-16, and RW-17) were retained as groundwater level measurement locations.

A network of monitoring wells has also been installed at the facility to monitor the effectiveness of the recovery systems and the movement and quality of groundwater. In addition to the three VOC and four currently active naphtha recovery wells, the current monitoring network consists of 59 shallow wells, 4 intermediate wells screened in the deep portion of the shallow aquifer, and 12 deep groundwater monitoring wells screened in the deeper aquifer. Monitoring well locations are shown on Figure 2.

1.2 QUARTERLY MONITORING PROGRAM

Groundwater monitoring requirements are set forth in Discharge Permit SB004:4 issued by the Department of Public Works, City of South Bend, Indiana. Under the permit, AlliedSignal must report the analytical results of VOCs, total lead, total nickel, total chromium, total phenols and total cyanide for groundwater samples collected from all wells discharging into city sewers. Currently, 15 shallow VOC recovery wells, 1 deep VOC recovery well, and 3 naphtha recovery wells are included under the discharge permit. Changes in the recovery well network have resulted in 4 naphtha and 3 VOC recovery wells discharging to city sewers. These changes to the system were presented to and approved by the City of South Bend.

In addition to groundwater samples collected from the VOC and naphtha recovery wells, AlliedSignal collects groundwater samples from 32 groundwater monitoring wells to obtain information on groundwater quality across the site. As of the 1st Quarter 1998, the monitoring program at the facility was modified as follows:

- Water levels are measured in all wells on a quarterly basis to demonstrate the effectiveness of the naphtha and VOC recovery systems;
- Sampling of the recovery wells is conducted on a quarterly basis to comply with the permit requirements. Discharge water is sampled quarterly for VOCs, and semi-annually for total lead, total chromium, total nickel, total phenols and total cyanide; and
- Monitoring well groundwater samples are collected semi-annually for VOCs, and annually for dissolved lead, dissolved chromium, dissolved nickel, total phenols and total cyanide.
- Shallow monitoring wells MW-10, MW-11, MW-12 and MW-13 (installed between June 1997 and May 1998) have been incorporated into the monitoring program as of the 2nd Quarter 1998 sampling event;
- Shallow monitoring well 8-27 was abandoned in May 1998 due to a collapsed well screen; and

- In the 1st Quarter of 1999, an additional naphtha recovery well was brought on line to enhance groundwater control at the site. This recovery well was incorporated into the quarterly monitoring program.

Quality control (QC) samples are also collected during each sampling event. Duplicate samples are collected at a frequency of 10 percent. Duplicates are analyzed for the same parameters as the respective primary samples to assess the homogeneity of sampled media and the precision of the sampling and analytical protocols. Trip blank samples for VOC analysis are collected at a frequency of one per cooler of VOC samples. Analysis of trip blanks is used to confirm that sample contamination has not occurred during shipment. Equipment blanks are collected during the sampling program when non-dedicated sampling devices are used. Equipment blank results are used to assess whether cross-contamination has occurred between sampling locations due to the sampling device.

2. SAMPLE METHODOLOGY

Procedures for measuring water levels and collecting groundwater samples are described in this section.

2.1 WATER LEVEL MEASUREMENTS

The 1st Quarter water level measurements were not measured in March of 1999 because certain extraction wells were off line. The water level measurements were collected in April after the wells were repaired and placed back on line. During the April event well 86-6 could not be located. Monitoring well MW-10 was covered with construction material. Monitoring well S-24 was submerged under water. Water levels were not measured at these three locations. The April water level measurements are listed on Table 1.

The 2nd Quarter groundwater measurements were collected in June. These measurements are listed on Table 2. During this sampling event, well 86-6 was damaged, and MW-10 monitoring was covered with construction material. Water levels were not measured at these two locations.

After opening the well and allowing the water level to equilibrate, the depth to groundwater was measured at each location to the nearest 0.01 foot using an electronic water level indicator. After each measurement, the water level indicator was washed with a solution of LiquiNox and distilled water and rinsed with distilled water. Water level measurements were referenced to the top of the well casing.

Groundwater elevations were calculated by subtracting the depth-to-groundwater at each well from the top-of-well casing elevation. Groundwater elevations based upon the April and June 1999 events demonstrate the groundwater flow conditions when the 3 VOC and 4 naphtha recovery wells are fully operational (Figure 3 and Figure 4).

2.2 GROUNDWATER SAMPLING

During the March 1999 (1st Quarter) sampling event, groundwater discharge samples were collected from the naphtha and VOC recovery wells indicated on Table 1. During the June 1999 (2nd Quarter) sampling event, groundwater samples were collected from the 37 locations indicated on Table 2. Sampling locations in June included 31 monitoring wells on and adjacent to the site, the 4 active naphtha recovery wells and the 3 VOC recovery wells. Deep monitoring well 4D could not be sampled in June due to a faulty pump. Pump repair is scheduled during the September 1999 monitoring event.

Monitoring wells were purged of stagnant groundwater prior to sample collection. During purging, the pH, specific conductivity and temperature of the groundwater was measured in the field with a Horiba U10 Water Checker. Groundwater was purged from the monitoring wells until a minimum of three well volumes was evacuated and the pH, specific conductivity, and temperature were stabilized (within 10 percent between the final two readings). Once purging was completed, a groundwater sample was collected. Monitoring wells were purged and sampled with either dedicated bladder pumps, dedicated PVC bailers, disposable bailers, or a stainless-steel bailer. Non-dedicated equipment (i.e., the stainless-steel bailer) was washed with a solution of LiquiNox and distilled water and rinsed with distilled water before each use.

VOC and naphtha recovery wells were purged and sampled through existing spigots on discharge lines. In general, approximately 5 gallons of water were purged from each well prior to sampling.

In accordance with QC procedures, duplicate samples were collected at a frequency of 10 percent. Duplicate samples were collected from shallow monitoring well S4A, naphtha recovery well RWB16 and deep monitoring well D5. The laboratory-prepared trip blank included with each cooler containing samples for VOC analysis were also analyzed for VOCs. An equipment rinsate blank was collected from the stainless-steel bailer. This sample was collected prior to sampling by pouring distilled water into the bailer and then transferring the distilled water to the appropriate sample containers.

Samples were placed in insulated coolers with sealed bags of ice and picked up by TriMatrix Laboratories, Inc. of Grand Rapids, Michigan. Chain-of-Custody (COC) documentation accompanied each set of samples and included the following information: date and time of sample collection, sample name, analysis method, and sampler's signature. Details of daily activities (including times, dates and methods of sample collection) were recorded in a site-specific field notebook. Details on the purging and sampling procedures were recorded on Groundwater Sample Record Sheets, included as Appendix A.

3. ANALYTICAL PROCEDURES

Analytical methods and QC procedures are discussed below.

3.1 LABORATORY METHODS

Groundwater samples collected from the naphtha and VOC recovery wells during the April 1999 (1st Quarter). Monitoring wells sampled during the April 1999 monitoring event were also analyzed for VOCs only. In June 1999 (2nd Quarter), groundwater samples from the monitoring wells were analyzed for VOCs, total phenols, dissolved chromium, dissolved lead, dissolved nickel, and total cyanide. Groundwater samples from the recovery wells were analyzed for VOCs, total phenols, total chromium, total lead, total nickel, and total cyanide. Analytical methods are as follows:

Analysis	Method
VOCs	8260
Total phenols	420.2
Dissolved/total chromium, lead and nickel	6010/7471
Total cyanide	335.3

3.2 DATA EVALUATION

TriMatrix Laboratories conducted a systematic review of the data for compliance with the established QC criteria. An evaluation of data accuracy, precision, sensitivity and completeness was performed and presented in the analytical reports. Non-compliant data were qualified and a case narrative prepared to describe the corrective actions taken and the implications on data quality.

Laboratory results were then submitted to HLA in the form of laboratory data sheets and on computer disk. Data was electronically transferred from the computer disk into a database maintained by HLA. Upon transfer of the data, HLA reviewed each data package to evaluate the "usability" of the data. The data was evaluated based upon the following parameters: completeness of the data package, holding times, trip blanks, equipment rinsate blanks, duplicates and laboratory case narratives. Data were flagged with qualifiers as necessary to indicate its usability.

4. RESULTS

Analytical summary tables for the June 1999 sampling event are presented in Appendix B. The tables include a comparison of the analytical results to U.S. Environmental Protection Agency Primary Maximum Contaminant Levels (PMCLs). Data qualifiers are also shown on the tables. A description of the qualifiers is provided in a table at the beginning of Appendix B. Appendix C contains both the current and historic data showing only the constituents reported above the laboratory detection limit for each sampling location (including results for the March 1999 sampling event).

4.1 QUALITY CONTROL REVIEW

For the 1st and 2nd quarter sampling events, no VOCs were detected in any of the trip blanks or the equipment rinsate blank collected from the stainless-steel bailer. As part of the quality control program, three duplicate samples were collected in June 1999 (at wells S4A, RWB16 and D5). In all cases good correlation was observed between original and duplicate samples for all parameters analyzed, with the exception of 1,1-dichloroethane in sample S4A (and its duplicate). The variance in concentrations between the sample and its duplicate resulted in these two samples being flagged with a "J". The "J" flag indicates that the results should be considered estimated.

4.2 SHALLOW/INTERMEDIATE MONITORING WELLS

Figure 3 and Figure 4 are potentiometric surface maps of the water table aquifer based upon water level measurements collected in April and June 1999, respectively. The maps demonstrate shallow groundwater flow patterns based on monitoring wells screened in the shallow portion of the shallow aquifer. Four intermediate wells (7-50, 8D, D8 and I1) are included on the figures as shallow wells, but their measurements are not used for the potentiometric maps because the wells are screened in the lower portion of the shallow aquifer.

Figure 3 reflects groundwater measurements made in April 1999 when the 3 VOC and 4 naphtha recovery wells were fully operational. As indicated on the figure, VOC recovery wells EW-1 and EW-2 provide containment of groundwater in the Plant 1 area. Recovery well EW-3 contains groundwater in the Plant 9 area. Shallow groundwater flow from the western and central portions of the site is generally to the east (toward the naphtha recovery wells). Northeast of Plant 1, shallow groundwater flow is generally to the north, toward Kennedy Park.

Figure 4 is a potentiometric map of the water table based upon water levels measured in June 1999 during the 2nd Quarter sampling event. The seven recovery wells were also operating in June, and the shallow groundwater flow pattern is similar to that of the April measurements.

4.2.1 Volatile Organic Compounds

Total VOC concentrations in groundwater samples collected from shallow monitoring ranged from non-detectable to 4,192 micrograms per liter ($\mu\text{g/l}$) at well MW-2. VOCs in groundwater samples from the shallow monitoring wells were highest in on-site wells. VOCs were non-detectable in groundwater from wells located along the downgradient boundary of the western two-thirds of the site (along West Westmoor Street, west of Bendix Drive). Consistent with previous sampling events, VOCs were detected in shallow wells located north and northeast of Plant 1.

Trendline plots for select shallow wells area provided in Appendix D. The plots are updated after each sampling event and provide information on VOC concentrations in groundwater samples collected from the monitoring well locations over time. Three shallow wells (86-10, 86-15, and S4A) were selected for trendline plotting to represent sampling points near the origin of the groundwater plume. Shallow monitoring wells S9, S24 and S27 were selected to assess the central portion of the groundwater plume, and wells S21, S22, and S25 were selected to represent sampling points along the downgradient boundary of the plume.

The majority of nine shallow well graphs indicate stable or decreasing trends of VOC concentrations. Graphs for wells S9 and S24 indicate possible increases, although the potential for a continuation of this trend should be evaluated based upon future sampling events.

4.2.2 Total Phenols

During this sampling event, total phenols were detected in 8 of the 27 groundwater samples collected from the shallow and intermediate monitoring wells. A concentration of 20 $\mu\text{g/l}$ was reported at shallow monitoring wells S9, S15, S16, S17, S21, and MW-5, and a concentration of 10 $\mu\text{g/l}$ at 7D and 8D. Total phenols were not previously detected in groundwater samples from these locations.

4.2.3 Inorganic Compounds

Groundwater samples from the 27 shallow and intermediate monitoring wells were analyzed for dissolved chromium, lead, and nickel and total cyanide. The results are described below.

Dissolved chromium was reported in 6 of the 27 samples, with detected concentrations ranging from 6.4 µg/l at S24 to 48 µg/l at 9-33. No detectable concentrations of dissolved lead or nickel were reported, with the exception of dissolved lead reported at concentration of 76 µg/l in well 9-33. No detections of dissolved chromium or lead have been reported at well 9-33.

Cyanide was detected in 7 of the 27 groundwater samples from the shallow and intermediate monitoring wells. The detected concentrations ranged from 6 µg/l at well 86-10 to 80 µg/l at well 8D. Historically, total cyanide has not been detected in samples collected from MW-13. The duplicate sample from S4A had no detectable concentrations of total cyanide, but the primary sample collected from this location had a reported concentration of 20 µg/l. Low concentrations of total cyanide were at MW-2, MW-5 and MW-13. Detectable concentrations were not previously reported at these locations.

4.3 DEEP MONITORING WELLS

Figure 5 is a potentiometric surface map based on water levels measured in the 12 deep monitoring wells during the 2nd Quarter sampling event. As indicated on the figure, the deep groundwater flow direction is northeasterly. It should be noted that the potentiometric map for the deeper portion of the aquifer includes groundwater level data from wells ranging in depth from 75 feet to over 200 feet deep. Considering the range in well depths, the potentiometric map for the deeper portion of the aquifer represents the general direction of groundwater flow but does not consider the potential for vertical gradients within the aquifer.

4.3.1 Volatile Organic Compounds

Four deep monitoring wells (2D, 5D, D5, and D7) were sampled during the 2nd Quarter 1999 sampling event. Well 4D was scheduled for sampling but the pump would not produce water in sufficient quantities to collect a groundwater sample. VOCs were reported in samples from two of the four sampling locations (wells 2D and D7), with detected concentrations ranging from 29 µg/l to 50 µg/l, respectively. The detected concentration of 1,2-dichloroethane increase since the last sampling event. Samples collected from downgradient deep well 5D remain non-detectable for VOCs.

Trendline plots for deep wells 2D and 5D have been prepared using all available VOC analytical data from past sampling events. Well 2D is located within the deep VOC plume and well 5D is located at the leading edge of the plume. The plots, provided in Appendix D, all other volatile constituent concentrations in well 2D are stable.

4.3.2 Total Phenols

Total phenols were reported in samples from two of the four deep monitoring well locations (wells 2D and D5), with detected concentrations of 20 µg/l at each location. During the June 1997 event, total phenols were reported at low concentrations in the groundwater sample collected from well D7.

4.3.3 Inorganic Compounds

Groundwater samples from the deep monitoring wells were analyzed for dissolved chromium, dissolved lead, dissolved nickel and total cyanide. No detectable concentrations of dissolved chromium, lead, and nickel were reported during this sampling event. Total chromium had previous been detected in the sample from well 2D during the July 1988. Total cyanide was detected at 10 µg/l in the primary groundwater sample from well 5D. No detectable concentrations were reported in the duplicate sample collected from this location. Historically, total cyanide has not been reported in groundwater samples from this location.

4.4 NAPHTHA RECOVERY WELLS

For the 1st and 2nd Quarter 1999 sampling events, VOC constituents detected in the naphtha recovery wells were generally consistent with previous sampling events. Reported concentrations in samples from this event ranged from 26.5 µg/l at RWB22 to 1,786 µg/l at RWB23.

Naphtha recovery wells were also sampled in March 1999 for total lead, total nickel, total chromium, total cyanide and total phenols. No detectable concentrations of total phenols and total nickel were reported. Total chromium and total lead were detected in sample from RWB22 at concentrations of 7.4 µg/l and 3.9 µg/l, respectively. Total lead was reported at 4.8 µg/l in the sample from well E3 from March 1998 and was not detected in sample from this event. Total cyanide was detected in samples from RWB16 and RWB23 at concentrations of 20 µg/l. The duplicate sample collect from RWB16 had no detectable levels of total cyanide. Historically, cyanide has not been detected at this location.

4.5 VOC RECOVERY WELLS

Samples are collected from wells EW-1, EW-2 and EW-3 along the north side of Plant 1 and Plant 9 to evaluate the quality of groundwater extracted by the VOC recovery system. The VOC samples collected from these wells in March 1999 reported total VOC concentrations ranging from 173 µg/l at well EW-3 to 433 µg/l at well EW-1. In general, these results are relatively consistent with previous sampling events.

The TCE concentrations observed at well EW-1 remains stable. Initially through 1998 an increasing trend of TCE concentrations was observed. The VOC concentrations in wells EW-2 and EW-3 continue to remain stable.

No phenols were detected in samples collected during this event. Total chromium (7.1 $\mu\text{g/l}$) was detected in sample from EW-3. The total lead was detected in samples from EW-2 and EW-3 at concentrations of 4.1 $\mu\text{g/l}$ and 3.6 $\mu\text{g/l}$, respectively. Total cyanide was detected in samples from EW-1 and EW-2. Reported concentrations were 40 $\mu\text{g/l}$ and 60 $\mu\text{g/l}$. Historical results from EW-1 indicate a slight increasing trend in total cyanide concentrations.

Table 1
Groundwater Elevation Summary
1st Quarter Groundwater Monitoring - March 1999
AlliedSignal Industrial Complex - South Bend, Indiana

Well No.	Well Depth (feet)	Measuring Point Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)	Locations Sampled	Sampling Method
Shallow Monitoring Wells						
7-25	26.6	720.47	19.92	700.55		
86-2	28.3	714.98	17.70	697.28		
86-4	23.8	715.09	17.55	697.54		
86-5	30.1	715.04	17.57	697.47		
86-6	25.9	715.00	NM	NM		
86-7	27.2	714.15	15.58	698.57		
86-8	28.5	714.62	16.00	698.62		
86-9	26.8	715.25	16.76	698.49		
86-10	27.1	715.06	16.68	698.38		
86-11	27.0	715.14	16.83	698.31		
86-12	25.4	715.71	17.39	698.32		
86-13	28.8	714.75	16.34	698.41		
86-15	25.3	715.06	16.84	698.22		
86-19	28.1	714.33	16.73	697.60		
9-33	27.3	716.20	18.40	697.80		
MW-1	25.3	720.88	18.04	702.84		
MW-2	15.4	713.93	12.14	701.79		
MW-3	17.2	713.10	13.91	699.19		
MW-4	21.0	712.66	16.02	696.64		
MW-5	20.8	713.21	16.32	696.89		
MW-6 (a)	18.0	709.98	NM	NM		
MW-7	18.2	712.59	15.08	697.51		
MW-8 (a)	19.0	712.79	NM	NM		
MW-9	19.8	710.90	15.49	695.41		
MW-10	19.4	716.01	NM	NM		
MW-11 (a)	21.7	717.74	17.77	699.97		
MW-12	13.8	711.58	10.66	700.92		
MW-13	18.8	712.55	15.42	697.13		
OW-1	37.4	711.48	14.06	697.42		
OW-2	35.0	711.45	14.14	697.31		
S1	35.6	728.09	24.78	703.31		
S3	24.6	716.65	20.65	696.00		
S4A	31.6	711.37	14.00	697.37		
S5	33.0	712.83	13.37	699.46		
S6	32.4	716.91	19.48	697.43		
S8	22.6	714.65	19.07	695.58		
S9	21.1	714.17	17.56	696.61		
S12	30.0	721.45	19.71	701.74		
S14	20.2	711.86	15.86	696.00		
S15	22.0	714.37	19.42	694.95		
S16	21.5	716.18	18.51	697.67		
S17	24.8	716.97	19.00	697.97		
S18	32.4	715.41	16.25	699.16		
S19	36.4	723.38	19.75	703.63		
S20	18.8	709.97	15.55	694.42		
S21	23.4	711.33	NM	NM		
S22	26.0	709.33	15.06	694.27		
S23	28.2	710.24	18.35	691.89		
S24	21.4	713.03	NM	NM		
S25	26.8	710.60	15.88	694.72		
S26	26.9	714.50	17.50	697.00		
S27	27.9	715.40	19.07	696.33		
S28	23.5	714.48	17.65	696.83		

Depth to water measured from the top of well casing

Water elevations are referenced to Mean Sea Level

Locations and top-of-well casings for MW-1, MW-10, MW-11, MW-12, MW-13, 9-33, 3D, 4D, EW-1, EW-2, EW-3, RW-3, RW-4, RW-7, RW-14, RW-16, RW-17, OW-1, OW-2 and S4A were surveyed in June 1998.

Wells 8-27, 86-1 and D10 are abandoned.

(a) Wells MW-6, MW-8 and MW-11 not measured due to presence of free product

NM = Not Measured

**Table 1
Groundwater Elevation Summary
1st Quarter Groundwater Monitoring - March 1999
AlliedSignal Industrial Complex - South Bend, Indiana**

Intermediate Monitoring Wells (50 - 75 feet)					
7-50	50.0	719.84	20.43	699.41	
8D	59.5	714.56	17.53	697.03	
D8	61.9	717.07	19.79	697.28	
I1	47.6	711.58	NM	NM	
Deep Monitoring Wells (75 - 210 feet)					
D3	133.1	714.45	17.74	696.71	
D4	118.6	717.85	20.68	697.17	
D5	186.8	712.07	15.09	696.98	
D7	78.4	713.83	16.28	697.55	
D9	96.9	717.00	17.14	699.86	
D12	147.1	710.35	19.83	690.52	
1D	208.6	714.17	15.99	698.18	
2D	188.3	715.36	17.67	697.69	
3D	196.9	712.91	17.45	695.46	
4D	192.7	711.68	20.18	691.50	
5D	192.2	712.01	20.88	691.13	
7D	95.1	714.85	18.82	696.03	
Recovery Wells					
Former VOC System:					
RW-3	30.7	710.93	13.22	697.71	
RW-4	24.4	709.81	12.11	697.70	
RW-7	21.6	710.73	14.98	695.75	
RW-14	28.8	712.63	15.06	697.57	
RW-16	22.1	712.51	14.99	697.52	
RW-17	28.8	712.78	15.31	697.47	
Naphtha System:					
E3	36.0	714.50	21.45	693.05	█
RWB6	36.0	715.80	19.49	696.31	█ Spigot
RWB16	45.0	715.30	18.5	696.80	█ Duplicate Spigot
RWB21	29.5	717.62	20.68	696.94	█
RWB22	36.0	715.11	19.26	695.85	█ Spigot
RWB22	36.0	715.11	19.26	695.85	█ Spigot
VOC System:					
EW-1	56.3	712.26	19.26	693.00	█ Spigot
EW-2	43.2	711.58	15.65	695.93	█ Spigot
EW-3	30.6	712.59	16.32	696.27	█ Spigot

Depth to water measured from the top of well casing

Water elevations are referenced to Mean Sea Level

Locations and top-of-well casings for MW-1, MW-10, MW-11, MW-12, MW-13, 9-33, 3D, 4D, EW-1, EW-2, EW-3, RW-3, RW-4, RW-7, RW-14, RW-16, RW-17, OW-1, OW-2 and S4A were surveyed in June 1998.

Wells 8-27, 86-1 and D10 are abandoned.

(a) Wells MW-6, MW-8 and MW-11 not measured due to presence of free product

NM = Not Measured

Table 2
Groundwater Elevation Summary
2nd Quarter Groundwater Monitoring - June 1999
AlliedSignal Industrial Complex - South Bend, Indiana

Well No.	Well Depth (feet)	Measuring Point Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)	Locations Sampled	Sampling Method
Shallow Monitoring Wells						
7-25	26.6	720.47	20.49	699.98	█	Stainless -Steel Bailer
86-2	28.3	714.98	17.75	697.23		
86-4	23.8	715.09	17.63	697.46		
86-5	30.1	715.04	17.62	697.42		
86-6	25.9	715.00	NM	NM		
86-7	27.2	714.15	15.64	698.51		
86-8	28.5	714.62	16.05	698.57		
86-9	26.8	715.25	16.71	698.54		
86-10	27.1	715.06	16.63	698.43	█	Dedicated PVC Bailer
86-11	27.0	715.14	16.77	698.37		
86-12	25.4	715.71	17.37	698.34		
86-13	28.8	714.75	16.43	698.32		
86-15	25.3	715.06	16.40	698.66	█	Dedicated PVC Bailer
86-19	28.1	714.33	15.76	698.57		
9-33	27.3	716.20	18.11	698.09	█	Stainless-Steel Bailer
MW-1	25.3	720.88	18.22	702.66		
MW-2	15.4	713.93	14.47	699.46	█	Disposable Bailer
MW-3	17.2	713.10	13.84	699.26		
MW-4	21.0	712.66	16.96	695.70	█	Disposable Bailer
MW-5	20.8	713.21	16.29	696.92	█	Disposable Bailer
MW-6 (a)	18.0	709.98	NM	NM	█	Disposable Bailer
MW-7	18.2	712.59	15.12	697.47	█	Disposable Bailer
MW-8 (a)	19.0	712.79	NM	NM		
MW-9	19.8	710.90	15.20	695.70	█	Disposable Bailer
MW-10	19.4	716.01	NM	NM	█	Disposable Bailer
MW-11 (a)	21.7	717.74	17.73	700.01	█	Disposable Bailer
MW-12	13.8	711.58	11.73	699.85	█	Disposable Bailer
MW-13	18.8	712.55	13.84	698.71	█	Disposable Bailer
OW-1	37.4	711.48	14.14	697.34		Disposable Bailer
OW-2	35.0	711.45	14.20	697.25		
S1	35.6	728.09	24.60	703.49		
S3	24.6	716.65	20.45	696.20	█	Bladder Pump
S4A	31.6	711.37	14.14	697.23	█ Duplicate	
S5	33.0	712.83	13.14	699.69		Bladder Pump
S6	32.4	716.91	19.56	697.35		
S8	22.6	714.65	19.98	694.67		
S9	21.1	714.17	17.50	696.67	█	Disposable Bailer
S12	30.0	721.45	19.70	701.75		
S14	20.2	711.86	16.02	695.84		
S15	22.0	714.37	19.32	695.05	█	Disposable Bailer
S16	21.5	716.18	18.25	697.93	█	Dedicated PVC Bailer
S17	24.8	716.97	14.73	702.24	█	
S18	32.4	715.41	15.78	699.63	█	Bladder Pump
S19	36.4	723.38	19.80	703.58		
S20	18.8	709.97	15.17	694.80	█	Bladder Pump
S21	23.4	711.33	21.15	690.18	█	
S22	26.0	709.33	15.45	693.88	█	Bladder Pump
S23	28.2	710.24	17.80	692.44	█	Bladder Pump
S24	21.4	713.03	18.09	694.94	█	Bladder Pump
S25	26.8	710.60	15.62	694.98	█	Bladder Pump
S26	26.9	714.50	17.44	697.06		
S27	27.9	715.40	18.53	696.87	█	Bladder Pump
S28	23.5	714.48	16.22	698.26		

Depth to water measured from the top of well casing

Water elevations are referenced to Mean Sea Level

Locations and top-of-well casings for MW-1, MW-10, MW-11, MW-12, MW-13, 9-33, 3D, 4D, EW-1, EW-2, EW-3, RW-3, RW-4, RW-7, RW-14, RW-16, RW-17, OW-1, OW-2 and S4A were surveyed in June 1998.

Wells 8-27, 86-1 and D10 are abandoned.

(a) Wells MW-6, MW-8 and MW-11 not measured due to presence of free product

NM = Not Measured

**Table 2
Groundwater Elevation Summary
2nd Quarter Groundwater Monitoring - June 1999
AlliedSignal Industrial Complex - South Bend, Indiana**

Well No.	Well Depth (feet)	Measuring Point Elevation (feet)	Depth to Water (feet)	Water Elevation (feet)	Locations Sampled	Sampling Method
Intermediate Monitoring Wells (50 - 75 feet)						
7-50	50.0	719.84	19.99	699.85	█	Dedicated PVC Bailor
8D	59.5	714.56	17.51	697.05	█	Bladder Pump
D8	61.9	717.07	19.81	697.26		
I1	47.6	711.58	18.12	693.46		
Deep Monitoring Wells (75 - 210 feet)						
D3	133.1	714.45	17.70	696.75		
D4	118.6	717.85	20.63	697.22		
D5	186.8	712.07	15.00	697.07	█	Bladder Pump
D7	78.4	713.83	16.30	697.53	█	Bladder Pump
D9	96.9	717.00	16.9	700.10		
D12	147.1	710.35	19.88	690.47		
1D	208.6	714.17	15.87	698.30		
2D	188.3	715.36	17.75	697.61	█	Bladder Pump
3D	196.9	712.91	17.15	695.76		
4D	192.7	711.68	20.54	691.14		
5D	192.2	712.01	15.58	696.43	█ Duplicate	Bladder Pump
7D	95.1	714.85	17.80	697.05		
Recovery Wells						
Former VOC System:						
RW-3	30.7	710.93	13.44	697.49		
RW-4	24.4	709.81	12.27	697.54		
RW-7	21.6	710.73	13.31	697.42		
RW-14	28.8	712.63	14.4	698.23		
RW-16	22.1	712.51	14.3	698.21		
RW-17	28.8	712.78	14.66	698.12		
Naphtha System:						
E3	36.0	714.50	21.5	693.00	█	Spigot
RWB6	36.0	715.80	19.43	696.37		
RWB16	45.0	715.30	20.48	694.82	█ Duplicate	Spigot
RWB21	29.5	717.62	20.63	696.99		
RWB22	36.0	715.11	19.28	695.83	█	Spigot
RWB23	50.0	713.01	18.58	694.43	█	Spigot
VOC System:						
EW-1	56.3	712.26	19.77	692.49	█	Spigot
EW-2	43.2	711.58	17.76	693.82	█	Spigot
EW-3	30.6	712.59	15.85	696.74	█	Spigot

Depth to water measured from the top of well casing

Water elevations are referenced to Mean Sea Level

Locations and top-of-well casings for MW-1, MW-10, MW-11, MW-12, MW-13, 9-33, 3D, 4D, EW-1, EW-2, EW-3, RW-3, RW-4, RW-7, RW-14, RW-16, RW-17, OW-1, OW-2 and S4A were surveyed in June 1998.

Wells 8-27, 86-1 and D10 are abandoned.

(a) Wells MW-6, MW-8 and MW-11 not measured due to presence of free product

NM = Not Measured

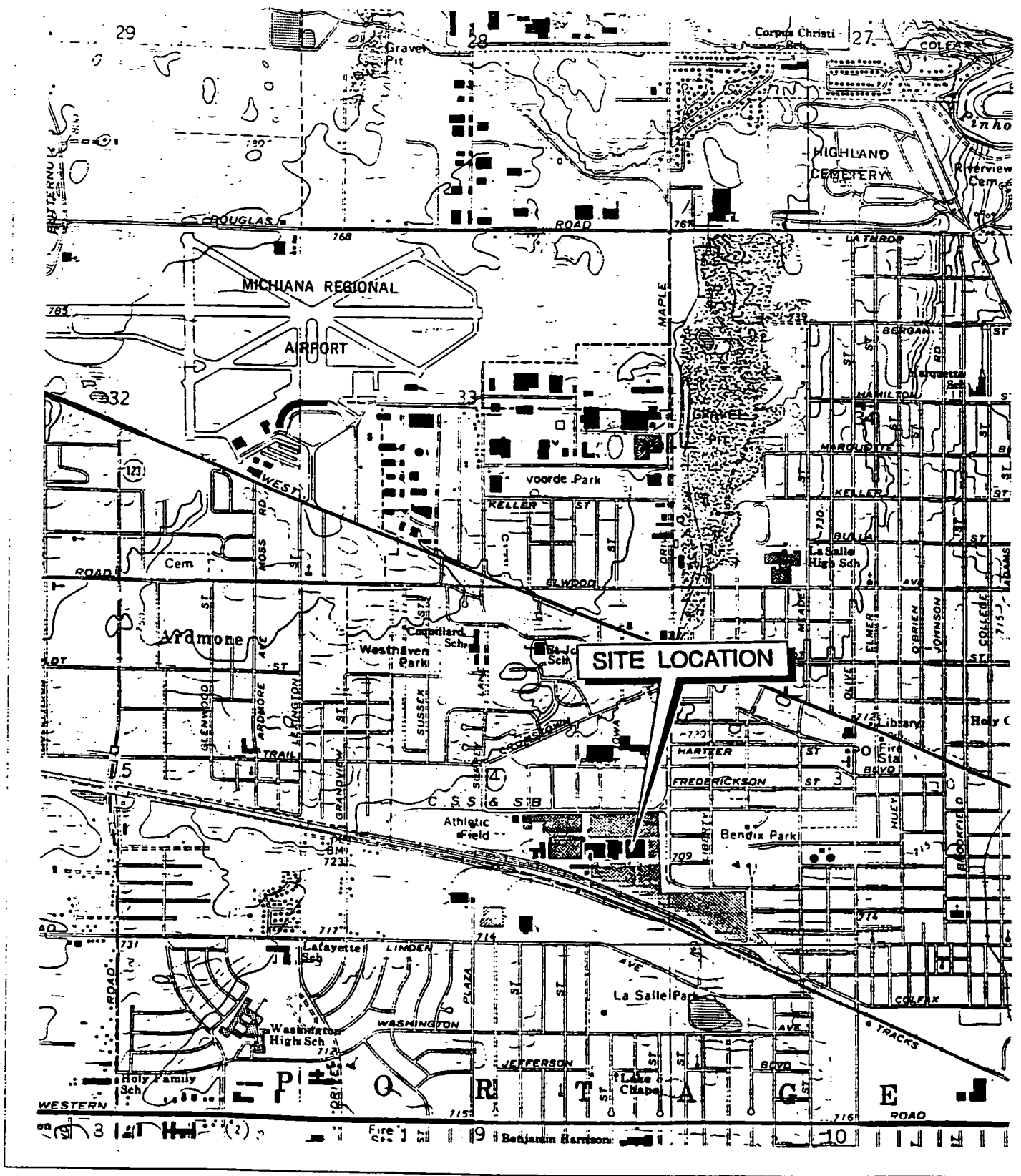
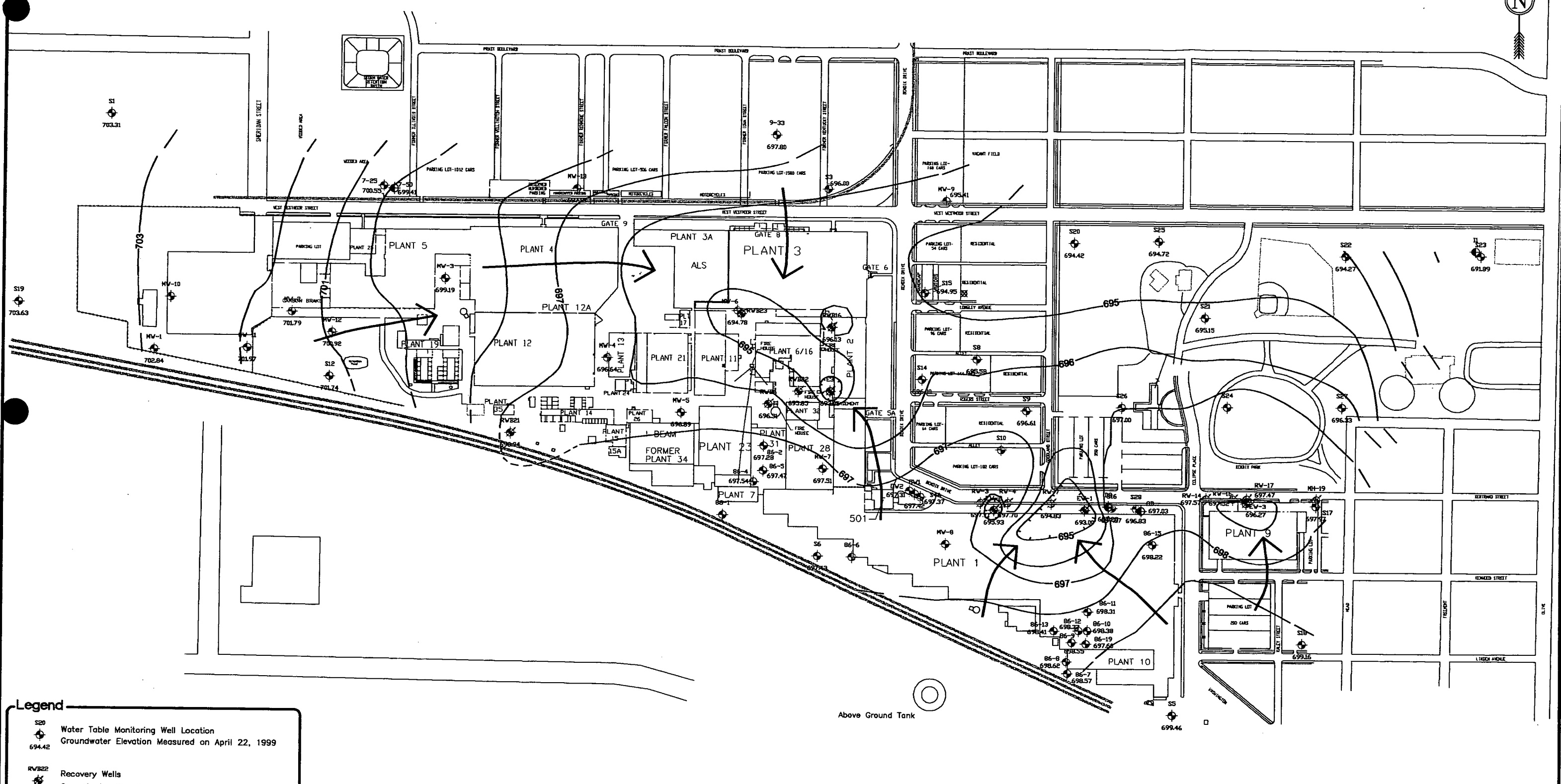


FIGURE 1
 SITE LOCATION MAP
 QUARTERLY GROUNDWATER MONITORING
 ALLIEDSIGNAL INDUSTRIAL COMPLEX
 SOUTH BEND, INDIANA

— ABB Environmental Services, Inc. —



Legend

- Water Table Monitoring Well Location
- Groundwater Elevation Measured on April 22, 1999
- Recovery Wells
- Groundwater Elevation Measured on April 22, 1999
- Groundwater Potentiometric Contour, feet above Mean Sea Level
- Groundwater Flow Direction

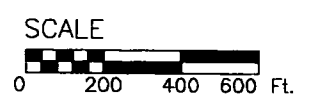
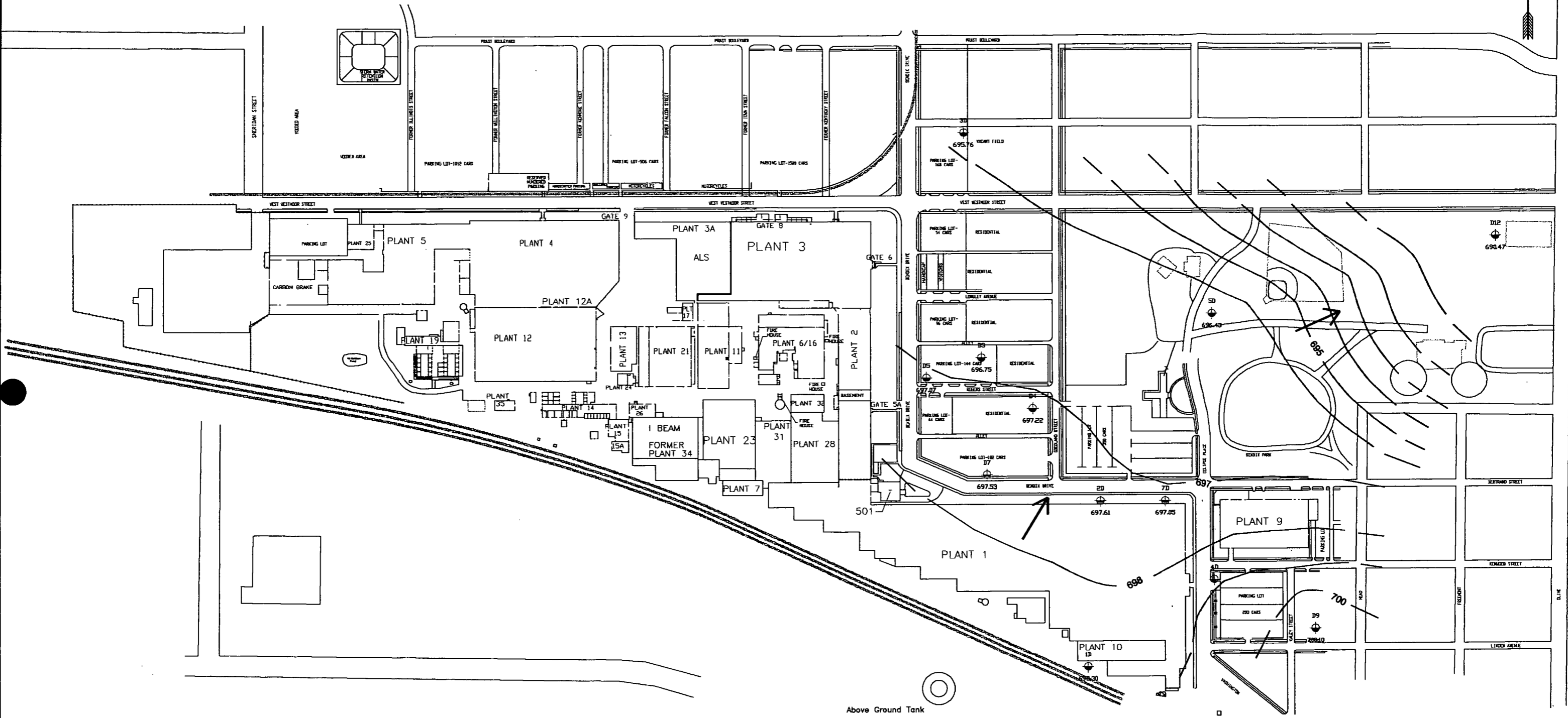


FIGURE 3
POTENTIOMETRIC SURFACE MAP, SHALLOW WELLS, APRIL 1999
QUARTERLY GROUNDWATER MONITORING
ALLIEDSIGNAL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA
 Harding Lawson Associates



Legend

- Deep Monitoring Well Location
- Groundwater Elevation Measured on June 1999
- Groundwater Potentiometric Contour, feet above Mean Sea Level
- Groundwater Flow Direction

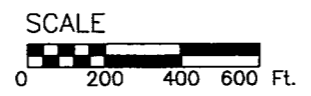


FIGURE 5
POTENTIOMETRIC SURFACE MAP, DEEP WELLS, JUNE 1999
QUARTERLY GROUNDWATER MONITORING
ALLIEDSIGNAL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA
 Harding Lawson Associates

1-2000-02 1882-02-03-88
 1-2000-03 1-2000-03-88
 1-2000-03 1-2000-03-88

GROUNDWATER SAMPLING RECORDS

HARDING LAWSON ASSOCIATES

GROUNDWATER SAMPLE RECORD

Sample No.: 5-3
 Sample Date: 6/28/99
 Sample Time: 1205

SITE/SAMPLE LOCATION

Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: Abn AR
 Activity Start: 1150 Activity End: _____
 Weather: P. Sunny 70°
 Well Type and Location: 4" steel galvanneal

WATER LEVEL/WELL DATA

Well Depth: 24.6 feet using Solinst Water Depth: 20.45 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 8.0 gallons to purge
4.15 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)
 Purge Method (see Note 2): Disposable bailer dedicated to bladder purg

	2.7	5.0	8.0
Purge Vol. (gal)	2.7	5.0	8.0
Time (Min.)	1152	1156	1202
Temperature (C°)	16.6	15.2	15.4
pH (Units)	7.33	7.25	7.29
Conductivity at 25°C (mS/cm)	.515	.554	.556
Total Volume Purged			
Water Appearance (describe color, clarity odor):	<u>clear</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): Disposable bailer Same
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: S-15
 Sample Date: 6/23/99
 Sample Time: 1555

SITE/SAMPLE LOCATION

Site Name: Allied signi south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AG - AR
 Activity Start: 1510 Activity End: 1610
 Weather: P. Sunny 75°
 Well Type and Location: 4" GAV steel

WATER LEVEL/WELL DATA

Well Depth: 22.0 feet using Solinst Water Depth: 19.32 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.1 gallons to purge
2.68 X 4 .65 gal/ft (4 in)
 () gal/ft (in)
 Purge Method (see Note 2): Disposable bailer

	<u>1.7</u>	<u>3.4</u>	<u>5.1</u>
Purge Vol. (gal)	<u>1.7</u>	<u>3.4</u>	<u>5.1</u>
Time (Min.)	<u>1515</u>	<u>1532</u>	<u>1544</u>
Temperature (C°)	<u>16.4</u>	<u>16.4</u>	<u>16.6</u>
pH (Units)	<u>8.33</u>	<u>8.33</u>	<u>8.25</u>
Conductivity at 25°C (mS/cm)	<u>1.66</u>	<u>1.63</u>	<u>1.60</u>
Total Volume Purged	_____ gallons		
Water Appearance (describe color, clarity odor):	<u>gray-brown clarity</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): clear.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool to 4°C?
					Filtered?		
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(Y) N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N	(Y) N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(Y) N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y) N
					Y	N	Y N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: Alex Boul

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 8D
 Sample Date: 6/23/99
 Sample Time: 1642

SITE/SAMPLE LOCATION

Site Name: Allied signall south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: Abi AR.
 Activity Start: _____ Activity End: _____
 Weather: P. sunny 75°
 Well Type and Location: .092 PVC stickup.

WATER LEVEL/WELL DATA

Well Depth: 59.5 feet using Solinst Water Depth: 17.51 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X 41.99 .16 gal/ft (2 in) X 3 casing volumes = 20. gallons to purge
 () .65 gal/ft (4 in)
 () gal/ft (in)
 Purge Method (see Note 2): Disposable bailer Desl b. pump

Purge Vol. (gal)	<u>6.7</u>	<u>13.0</u>	<u>20</u>
Time (Min.)	<u>1618</u>	<u>1624</u>	<u>1632</u>
Temperature (C°)	<u>17.7</u>	<u>16.7</u>	<u>16.9</u>
pH (Units)	<u>6.96</u>	<u>6.86</u>	<u>6.89</u>
Conductivity at 25°C (mS/cm)	<u>1.73</u>	<u>1.74</u>	<u>1.76</u>
Total Volume Purged	_____ gallons		
Water Appearance (describe color, clarity odor):	<u>rusty brown / translucent</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): Same.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	<u>8260</u>	<u>2x40 ML VIAL</u>	_____	<u>HCL</u>	Y <u>(N)</u>	Y <u>(N)</u>
Diss. Pb, Ni, Cr	<u>6010/7471</u>	<u>1x500ml poly</u>	_____	<u>hno3</u>	Y <u>(N)</u>	Y <u>(N)</u>
Total CN	<u>335</u>	<u>1x500ml poly</u>	_____	<u>NaOH</u>	Y <u>(N)</u>	Y <u>(N)</u>
Total Phenols	<u>420</u>	<u>1x500ml poly</u>	_____	<u>H2SO4</u>	Y <u>(N)</u>	Y <u>(N)</u>

OTHER OBSERVATIONS

NAME (Print) Adam Bourde
 SIGNATURE: [Signature]

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES

GROUNDWATER SAMPLE RECORD

Sample No.: 70
 Sample Date: 6/27/99
 Sample Time: 1736

WELL/SAMPLE LOCATION

Well Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: Ala, AR
 Activity Start: _____ Activity End: _____
 Weather: P. sunny 75°
 Well Type and Location: .092 PVC sump

WATER LEVEL/WELL DATA

Well Depth: 45.1 feet using Solinst Water Depth: 17.80 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Loading Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Weight of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 21.3 gallons to purge
 () .65 gal/ft (4 in)
17.3 () .092 gal/ft (in)
 Purge Method (see Note 2): Disposable bailer D. b. pump.

Purge Vol. (gal)	<u>7.1</u>	<u>14.2</u>	<u>21.3</u>	
Time (Min.)	<u>1712</u>	<u>1720</u>	<u>1732</u>	
Temperature (C°)	<u>17.0</u>	<u>17.2</u>	<u>17.2</u>	
pH (Units)	<u>6.77</u>	<u>6.79</u>	<u>6.82</u>	
Conductivity at 25°C (mS/cm)	<u>1.78</u>	<u>1.82</u>	<u>1.84</u>	
Total Volume Purged	_____ gallons			
Water Appearance (describe color, clarity, odor):	<u>Rusty brown / translucent</u>			

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): going More clear w/ sh. orange tint still translucent.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?	to 4°C?	Y	N
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(Y)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N	(Y)	N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(Y)	N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y)	N
					Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) Adrian Gada
 SIGNATURE: _____

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: S-21
 Sample Date: 6/22/99
 Sample Time: 850

SITE/SAMPLE LOCATION

Site Name: Allied signi south bend complex 1/4ly monitoring
 Personnel Present: Ala - AR
 Activity Start: _____ Activity End: _____
 Weather: P. Sunny 75°
 Well Type and Location: 4" Gal. Steel
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 23.4 feet using Solinst Water Depth: 21.15 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 4.4 gallons to purge
2.25 () .65 gal/ft (4 in)
 () gal/ft (in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	Time (Min.)	Temperature (C°)	pH (Units)	Conductivity at 25°C (mS/cm)	Total Volume Purged	Water Appearance (describe color, clarity odor:)
<u>1.5</u>	<u>1629</u>	<u>15.9</u>	<u>7.07</u>	<u>2.37</u>	gallons	<u>clear</u>
<u>3.0</u>	<u>1637</u>	<u>15.9</u>	<u>7.16</u>	<u>2.42</u>		
<u>4.4</u>	<u>1645</u>	<u>16.2</u>	<u>7.20</u>	<u>2.46</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	(N) (Y) N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N (Y) N
Total CN	335	1x500ml poly		NaOH	Y	(N) (Y) N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N) (Y) N
					Y	N Y N

OTHER OBSERVATIONS

Very slow producer (bladder pump)
 NAME (Print) Adam Bouda
 SIGNATURE: _____

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: EW-3
 Sample Date: 6/22/99
 Sample Time: 4:45

SITE/SAMPLE LOCATION

Site Name: Allied signel south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: HR - HR
 Activity Start: 4:27 Activity End: 4:55
 Weather: P. cloudy 72°
 Well Type and Location: _____

WATER LEVEL/WELL DATA

Well Depth: _____ feet using _____ Solinst _____ Water Depth: _____ feet using _____ Solinst _____
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well _____
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.0 gallons to purge
 () .65 gal/ft (4 in)
 Purge Method (see Note 2): Disposable bailer open spigot Purge 5 gallons
 Purge Vol. (gal) 5.0
 Time (Min.) _____
 Temperature (C°) 18.5
 pH (Units) 7.41
 Conductivity at 25°C (mS/cm) 1.55
 Total Volume Purged 5 gallons
 Water Appearance (describe color, clarity odor): clear

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer Same.
 Sample Water Appearance (color, clarity, odor): clear.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	N	N	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N	N	N
Total CN	335	1x500ml poly		NaOH	Y	N	N	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N	Y	N

OTHER OBSERVATIONS

air + water alternated out of the faucet
 NAME (Print) Adam Fowler
 SIGNATURE: _____

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: S-25
 Sample Date: 6/22/99
 Sample Time: 1533

SITE/SAMPLE LOCATION

Site Name: Allied signit south bend complex 1/4ly monitoring
 Personnel Present: HO - AZ
 Activity Start: _____ Activity End: _____
 Weather: P. Sunny 75°
 Well Type and Location: .092 bladder pump.
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 20.8 feet using Solinst Water Depth: 15.62 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 3.0 gallons to purge
11.18 () .65 gal/ft (4 in)
 (✓) .092 gal/ft () in
 Purge Method (see Note 2): Disposable bailer Bladder pump

Purge Vol. (gal)	<u>1.02</u>	<u>2.0</u>	<u>3.0</u>
Time (Min.)	<u>1522</u>	<u>1527</u>	<u>1530</u>
Temperature (C°)	<u>15.0</u>	<u>15.9</u>	<u>16.2</u>
pH (Units)	<u>6.59</u>	<u>6.62</u>	<u>6.64</u>
Conductivity at 25°C (mS/cm)	<u>1.55</u>	<u>1.58</u>	<u>1.60</u>
Total Volume Purged	_____ gallons		
Water Appearance (describe color, clarity odor):	<u>clear</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): Disposable bailer Same
 Sample Water Appearance (color, clarity, odor): clear.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) _____

SIGNATURE: _____

- Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: EWB-22
 Sample Date: 6/22/99
 Sample Time: 2:30

SITE/SAMPLE LOCATION

Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AK - AZ
 Activity Start: 2:30 Activity End: 2:41
 Weather: P. Sunny 75°
 Well Type and Location: rock

WATER LEVEL/WELL DATA

Well Depth: _____ feet using Solinst Water Depth: _____ feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.0 gallons to purge
 () .65 gal/ft (4 in)
 (X) _____ gal/ft (_____ in)
 Purge Method (see Note 2): disposable bailer Open spigot + purge 5 gallons

Purge Vol. (gal)	<u>5.0</u>			
Time (Min.)	<u>1430</u>			
Temperature (C°)	<u>17.2</u>			
pH (Units)	<u>7.44</u>			
Conductivity at 25°C (mS/cm)	<u>1.28</u>			
Total Volume Purged	<u>5gal</u>	gallons		
Water Appearance (describe color, clarity odor):	<u>clear</u>			

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer Same
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 5-20
 Sample Date: 6/22/99
 Sample Time: 1417

SITE/SAMPLE LOCATION

Site Name: Allied signl south bend complex 1/4ly monitoring
 Personnel Present: AG AR
 Activity Start: _____ Activity End: _____
 Weather: P Sunny 75°
 Well Type and Location: 4" stickup yelunized.

Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 19.90 feet using Solinst (measuring device)
 Water Depth: 15.17 feet using Solinst (measuring device)
 Historical Well Depth: _____ feet (from ground surface)
 Protective Casing Stickup: _____ feet (for above-ground surface)
 Protect. Casing Well Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-OI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 7.07 gallons to purge
3.63 () .65 gal/ft (4 in)
 Purge Method (see Note 2): Dispositive test dedicated b. pump

Purge Vol. (gal)	<u>2.35</u>	<u>5.04.6</u>	<u>7.07</u>	
Time (Min.)	<u>1404</u>	<u>1410</u>	<u>1415</u>	
Temperature (C°)	<u>17.0</u>	<u>17.7</u>	<u>17.4</u>	
pH (Units)	<u>6.77</u>	<u>6.79</u>	<u>6.82</u>	
Conductivity at 25°C (mS/cm)	<u>1.42</u>	<u>1.49</u>	<u>1.52</u>	
Total Volume Purged				
Water Appearance (describe color, clarity odor):	<u>Clear</u>			

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): dispositive test dedicated b. pump
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y (N) (Y)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y) N (P)	N
Total CN	335	1x500ml poly		NaOH	Y (N) (Y)	N
Total Phenols	420	1x500ml poly		H2SO4	Y (N) (Y)	N

OTHER OBSERVATIONS

NAME (Print) AG
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 9-33
 Sample Date: 6/24/99
 Sample Time: 3:54

SITE/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AG-AR
 Activity Start: 3:43 Activity End: 4:18
 Weather: P. Sunny 75°
 Well Type and Location: 092 PUL

WATER LEVEL/WELL DATA

Well Depth: 27.5 feet using Solinst Water Depth: 18.11 feet using Solinst
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floting Product Thickness: ✓ feet using _____
(measuring device)

Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 25 gallons to purge
9.19 () .65 gal/ft (4 in)
 Purge Method (see Note 2): ~~Disposable bailer~~ dedicated bailer

Purge Vol. (gal)	1.8	1.6	2.5
Time (Min.)	1538	1543	1550
Temperature (C°)	16.9	16.3	16.7
pH (Units)	8.14	8.09	7.46
Conductivity at 25°C (mS/cm)	23.15	44.7	73.9
Total Volume Purged	gallons		
Water Appearance (describe color, clarity odor):	<u>Slightly brown</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): ~~Disposable bailer~~ Same
 Sample Water Appearance (color, clarity, odor): Same

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N

OTHER OBSERVATIONS

NAME (Print): AG
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: RWB-23
 Sample Date: 6/22/99
 Sample Time: 3:33

SITE/SAMPLE LOCATION

Site Name: Allied signat south bend complex 1/4ly monitoring
 Personnel Present: Ala - AZ
 Activity Start: 3:26 Activity End: 3:36
 Weather: P. sunny 70°
 Well Type and Location: croch
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: _____ feet using _____ Solinst _____ Water Depth: _____ feet using _____ Solinst _____
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well _____
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.0 gallons to purge
 () .65 gal/ft (4 in)
 () gal/ft (in)

Purge Method (see Note 2): disposable bailer open spigot + Purge 5 gallons

Purge Vol. (gal)	<u>5.06</u>		
Time (Min.)	<u>1530</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Temperature (C°)	<u>16.1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
pH (Units)	<u>6.96</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Conductivity at 25°C (mS/cm)	<u>1.40</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Total Volume Purged	<u>5</u> gallons		
Water Appearance (describe color, clarity odor):	<u>clear</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer same

Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	<input checked="" type="checkbox"/> Y N	<input checked="" type="checkbox"/> N
Total CN	335	1x500ml poly		NaOH	Y <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
Total Phenols	420	1x500ml poly		H2SO4	Y <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> N
					Y N	Y N

OTHER OBSERVATIONS

NAME (Print) Adam Gooden

SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: EWIS 16
 Sample Date: 6/27/99
 Sample Time: 3:16

SITE/SAMPLE LOCATION:

Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AG - AR
 Activity Start: 3:07 Activity End: 3:23
 Weather: Sunny 76°
 Well Type and Location: crnl

WATER LEVEL/WELL DATA:

Well Depth: _____ feet using _____ Solinst _____ Water Depth: _____ feet using _____ Solinst _____
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____ (measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.0 gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2): Disposable bailer open solinst + Purge Syllons

Purge Vol. (gal) 5.0

Time (Min.) _____

Temperature (C°) 15.9

pH (Units) 7.25

Conductivity at 25°C (mS/cm) 1.30

Total Volume Purged 5 gallons

Water Appearance (describe color, clarity odor): clear

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): Disposable bailer same

Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	N	N	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	N	N	N	N
Total CN	335	1x500ml poly		NaOH	Y	N	N	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) AG

SIGNATURE: [Signature]

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: MW-4
 Sample Date: 6/22/99
 Sample Time: 1304

SITE/SAMPLE LOCATION:

Site Name: Allied sigani south bend complex 1/4ly monitoring
 Personnel Present: Abi AIC
 Activity Start: 1258 Activity End: _____
 Weather: P. Sunny 75°
 Well Type and Location: 2" PVC fl. well
 Project No.: 982202

WATER LEVEL/WELL DATA:

Well Depth: 21.0 feet using Solinst Water Depth: 16.96 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)
 Column feet X 4.04 .16 gal/ft (2 in) X 3 casing volumes = 2.0 gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	Time (Min.)	Temperature (C°)	pH (Units)	Conductivity at 25°C (mS/cm)	Total Volume Purged	Water Appearance (describe color, clarity odor):
<u>.64</u>	<u>1250</u>	<u>18.9</u>	<u>7.35</u>	<u>1.26</u>	_____ gallons	<u>translucent</u>
<u>1.3</u>	<u>1257</u>	<u>18.1</u>	<u>7.34</u>	<u>1.26</u>	_____ gallons	<u>translucent</u>
<u>2.0</u>	<u>1304</u>	<u>17.6</u>	<u>7.35</u>	<u>1.24</u>	_____ gallons	<u>translucent</u>

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): Same

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL	_____	HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly	_____	hno3	Y	N
Total CN	335	1x500ml poly	_____	NaOH	Y	N
Total Phenols	420	1x500ml poly	_____	H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: E-3

Sample Date: 6/22/99

Sample Time: 3:00

SITE/SAMPLE LOCATION

Site Name: Allied signat south bend complex 1/4ly monitoring

Project No.: 982202

Personnel Present: AG-AR

Activity Start: 2:43

Activity End: 3:05

Weather: P. Sunny 75°

Well Type and Location: Cock

WATER LEVEL/WELL DATA

Well Depth: _____ feet using _____ Solinst _____ Water Depth: _____ feet using _____ Solinst _____
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well _____
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____ (measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)

Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.0 gallons to purge

() .65 gal/ft (4 in)

() _____ gal/ft (_____ in)

Purge Method (see Note 2): ~~Disposable bailer~~ OPEN Spigot + purge 5 gallons

Purge Vol. (gal)	<u>5.0</u>			
Time (Min.)	<u>1454</u>			
Temperature (C°)	<u>16.7</u>			
pH (Units)	<u>7.42</u>			
Conductivity at 25°C (mS/cm)	<u>1.32</u>			
Total Volume Purged	<u>5</u> gallons			
Water Appearance (describe color, clarity odor)	<u>Clear</u>			

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): ~~Disposable bailer~~ SAME

Sample Water Appearance (color, clarity, odor): Clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	<u>Y</u>	<u>Y</u>	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	<u>Y</u>	<u>Y</u>	<u>Y</u>	N
Total CN	335	1x500ml poly		NaOH	Y	<u>Y</u>	<u>Y</u>	N
Total Phenols	420	1x500ml poly		H2SO4	Y	<u>Y</u>	<u>Y</u>	N

OTHER OBSERVATIONS

NAME (Print) _____

SIGNATURE: _____

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
(2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: MW-12

Sample Date: 6/22/99

Sample Time: 12:42

SITE/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring

Project No.: 982202

Personnel Present: Al - AR

Activity Start: 12:35

Activity End: _____

Weather: P. Sunny 75°

Well Type and Location: 2" PVC PL. mark

WATER LEVEL/WELL DATA

Well Depth: 13.8 feet using Solinst (measuring device) Water Depth: 11.73 feet using Solinst (measuring device)

Historical Well Depth: _____ feet (from ground surface) Protective Casing Stickup: _____ feet (for above-ground surface) Protect. Casing Well Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____ (measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 1.0 gallons to purge
2.07 () .65 gal/ft (4 in)
 () gal/ft (in)

Purge Method (see Note 2): Disposable bailer

	<u>.3</u>	<u>.6</u>	<u>1.0</u>
Purge Vol. (gal)			
Time (Min.)	<u>12:35</u>	<u>12:38</u>	<u>12:39</u>
Temperature (C°)	<u>16.0</u>	<u>15.4</u>	<u>14.9</u>
pH (Units)	<u>7.83</u>	<u>7.02</u>	<u>7.28</u>
Conductivity at 25°C (mS/cm)	<u>0.692</u>	<u>0.779</u>	<u>0.812</u>
Total Volume Purged	gallons		
Water Appearance (describe color, clarity odor):	<u>clear w/ sediment</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer

Sample Water Appearance (color, clarity, odor): Same

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	<u>8260</u>	<u>2x40 ML VIAL</u>		<u>HCL</u>	Y <u>(N)</u>	<u>(N)</u> N
Diss. Pb, Ni, Cr	<u>6010/7471</u>	<u>1x500ml poly</u>		<u>hno3</u>	<u>(Y)</u>	<u>(N)</u> N
Total CN	<u>335</u>	<u>1x500ml poly</u>		<u>NaOH</u>	Y <u>(N)</u>	<u>(N)</u> N
Total Phenols	<u>420</u>	<u>1x500ml poly</u>		<u>H2SO4</u>	Y <u>(N)</u>	<u>(Y)</u> N
					Y	N

OTHER OBSERVATIONS

NAME (Print) _____

SIGNATURE: Al

- Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: mw-2

Sample Date: 6/22/99

Sample Time: 12:28

SITE/SAMPLE LOCATION:

Site Name: Allied signal south bend complex 1/4ly monitoring

Project No.: 982202

Personnel Present: AK AP

Activity Start: 12:20

Activity End: 12:33

Weather: Partly 75°

Well Type and Location: 2" PVC 16' mark.

WATER LEVEL/WELL DATA:

Well Depth: 15.4 feet using
(from top of well casing)

Solinst
(measuring device)

Water Depth: 14.97 feet using
(from top of well casing)

Solinst
(measuring device)

Historical Well Depth: _____ feet
(from ground surface)

Protective Casing Stickup: _____ feet
(for above-ground surface)

Protect. Casing Well
Casing Difference: _____ feet

Flloating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B

Ambient Air: _____ ppm

Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)

Column feet X () .16 gal/ft (2 in) X 3 casing volumes = .5 gallons to purge

() .65 gal/ft (4 in)

.93 () _____ gal/ft (____ in)

Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)

.14

.3

.5

Time (Min.)

Temperature (C°)

13.9

13.2

13.1

pH (Units)

7.27

7.28

7.18

Conductivity at 25°C (mS/cm)

1.07

1.07

1.08

Total Volume Purged

gallons

Water Appearance (describe color, clarity, odor):

Clear

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2):

disposable bailer

Sample Water Appearance (color, clarity, odor):

Clear

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(Y)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	(N)	(Y)	N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(Y)	N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y)	N

OTHER OBSERVATIONS

purge 1 bailer Do water level
purge 2 " " " "
purge 3 " " " "
flow sample.

NAME (Print)

SIGNATURE:

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
(2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 0-7
 Sample Date: 6/22/99
 Sample Time: 1230

SITE/SAMPLE LOCATION

Site Name: Allied signi south bend complex 1/4ly monitoring
 Personnel Present: AR - AR
 Activity Start: 9:00 Activity End: _____
 Weather: P. Sunny 75°
 Well Type and Location: 4" Gal Steel
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 95.1 feet using Solinst (measuring device) Water Depth: 16.30 feet using Solinst (measuring device)
 Historical Well Depth: _____ feet (from ground surface) Protective Casing Stickup: _____ feet (for above-ground surface) Protect. Casing Well Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVN 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 15.3 gallons to purge
70.8 () .65 gal/ft (4 in)
 () gal/ft (in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	Time (Min.)	Temperature (C°)	pH (Units)	Conductivity at 25°C (mS/cm)	Total Volume Purged	Water Appearance (describe color, clarity odor)
<u>51.22</u>	<u>000</u>	<u>17.8</u>	<u>6.59</u>	<u>611</u>	<u>102</u>	<u>clear</u>
<u>15.3</u>	<u>1220</u>	<u>16.8</u>	<u>7.29</u>	<u>580</u>	<u>15.3</u>	<u>clear</u>

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N

OTHER OBSERVATIONS

NAME (Print) Alan...
 SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES

GROUNDWATER SAMPLE RECORD

Sample No.: MW-011
 Sample Date: 6/22/99
 Sample Time: 12:12

WELL/SAMPLE LOCATION:
 Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AG, AR
 Activity Start: 12:00 Activity End: _____
 Weather: P. sunny 75°
 Well Type and Location: 2" PVC Strip.

WATER LEVEL/WELL DATA:
 Well Depth: 21.7 feet using Solinst Water Depth: 17.79 feet using Solinst
(from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
(from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____
(measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 1 Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:
 Height of Water () .041 gal/ft (1 in)
 Column feet X 3 casing volumes = 2.0 gallons to purge
3.97 () .16 gal/ft (2 in)
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	Time (Min.)	Temperature (C°)	pH (Units)	Conductivity at 25°C (mS/cm)	Total Volume Purged	Water Appearance (describe color, clarity odor)
<u>.63</u>		<u>13.7</u>	<u>7.15</u>	<u>133</u>		<u>White w/ sediment</u>
<u>1.26</u>		<u>13.2</u>	<u>7.25</u>	<u>134</u>		<u>White w/ sediment</u>
<u>2.0</u>		<u>13.2</u>	<u>7.14</u>	<u>130</u>		

SAMPLING PROCEDURES:
 Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): SGM

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N

OTHER OBSERVATIONS

NAME (Print): _____
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: mw-13
 Sample Date: 6/20/99
 Sample Time: 11:13

SITE/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring
 Personnel Present: Adamba - Down R
 Activity Start: 10:55 Activity End: _____
 Weather: P. Sunny 75°
 Well Type and Location: 2" PVC flowmtr

Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 18.8 feet using Solinst Water Depth: 18.8 15.4 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X 3.39 1.16 gal/ft (2 in) X 3 casing volumes = 1.6 gallons to purge
 () .65 gal/ft (4 in)
 () gal/ft (in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	Time (Min.)	Temperature (C°)	pH (Units)	Conductivity at 25°C (mS/cm)	Total Volume Purged	Water Appearance (describe color, clarity odor)
<u>0.54</u>	<u>11:04</u>	<u>15.5</u>	<u>7.72</u>	<u>0.883</u>	<u>0.883</u>	<u>clear</u>
<u>1.1</u>	<u>11:08</u>	<u>13.5</u>	<u>7.53</u>	<u>0.884</u>	<u>0.884</u>	<u>clear</u>
<u>1.62</u>	<u>11:13</u>	<u>14.9</u>	<u>7.49</u>	<u>0.887</u>	<u>0.887</u>	<u>clear</u>

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: Adamba

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 7-50
 Sample Date: 6/22/99
 Sample Time: 10:30

SITE/SAMPLE LOCATION

Site Name: Allied signel south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AK - AK
 Activity Start: 0920 Activity End: _____
 Weather: P. sunny 75°
 Well Type and Location: .092 study PVC

WATER LEVEL/WELL DATA

Well Depth: 50.00 feet using Solinst Water Depth: 19.99 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Slickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 8.3 gallons to purge
 () .65 gal/ft (4 in)
30.01 (X) .092 gal/ft (in)
 Purge Method (see Note 2): Disposable bailer deal. bailer

	<u>2.76</u>	<u>5.5</u>	<u>8.3</u>
Purge Vol. (gal)			
Time (Min.)			
Temperature (C°)	<u>12.4</u>	<u>13.2</u>	<u>13.0</u>
pH (Units)	<u>7.56</u>	<u>7.48</u>	<u>7.63</u>
Conductivity at 25°C (mS/cm)	<u>6.07</u>	<u>.824</u>	<u>.828</u>
Total Volume Purged			
Water Appearance (describe color, clarity odor):	<u>clear w/ orange particles</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): Disposable bailer deal. bailer

Sample Water Appearance (color, clarity, odor): clear w/ sl. orange particles no odor

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y (N)	(Y) N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y) N	(Y) N
Total CN	335	1x500ml poly		NaOH	Y (N)	(Y) N
Total Phenols	420	1x500ml poly		H2SO4	Y (N)	(Y) N
					Y N	Y N

OTHER OBSERVATIONS

NAME (Print) Alan Grader

SIGNATURE: [Signature]

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

*take
mw-101*

Sample No.: 5-D
Sample Date: 6/14/99
Sample Time: 1725

SITE/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring
Personnel Present: AA - AB. Project No.: 982202
Activity Start: _____ Activity End: _____
Weather: P. sunny 75°
Well Type and Location: 092 PUL Skelp.

WATER LEVEL/WELL DATA

Well Depth: 192.2 feet using Solinst (measuring device) Water Depth: 15.58 feet using Solinst (measuring device)
Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well Casing Difference: _____ feet
Floating Product Thickness: _____ feet using _____ (measuring device)
Well Condition (see Note 1): good
Measuring Device Decontamination Procedure: Liquinox-DI water
PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 48 gallons to purge
176.62 (X) .65 gal/ft (4 in)
(X) .092 gal/ft (in)
Purge Method (see Note 2): Diaphragm D. B. Pump.

	<u>16</u>	<u>32</u>	<u>48</u>
Purge Vol. (gal)	<u>16</u>	<u>32</u>	<u>48</u>
Time (Min.)	<u>1652</u>	<u>1704</u>	<u>1720</u>
Temperature (C°)	<u>17.6</u>	<u>15.4</u>	<u>15.4</u>
pH (Units)	<u>7.0</u>	<u>7.21</u>	<u>7.06</u>
Conductivity at 25°C (mS/cm)	<u>1.24</u>	<u>1.20</u>	<u>1.22</u>
Total Volume Purged			
Water Appearance (describe color, clarity, odor):			<u>clear</u>

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): Diaphragm D. B. Pump Same
Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenois	420	1x500ml poly		H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) Adam Bouda
SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
(2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 54A
 Sample Date: 6/23/99
 Sample Time: 1240

*take
MW-102
(Dup#3)*

SITE/SAMPLE LOCATION

Site Name: Allied signal south bend complex 1/4ly monitoring

Project No.: 982202

Personnel Present: AG AR

Activity Start: _____ Activity End: _____

Weather: P. sunny 75°

Well Type and Location: .092 PVC St-ump.

WATER LEVEL/WELL DATA

Well Depth: 31.6 feet using Solinst (from top of well casing) (measuring device)
 Water Depth: 14.14 feet using Solinst (from top of well casing) (measuring device)

Historical Well Depth: _____ feet (from ground surface)
 Protective Casing Stickup: _____ feet (for above-ground surface)
 Protect. Casing Well Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____ (measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

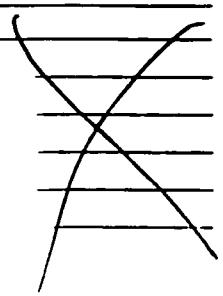
PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 4.8 gallons to purge
 () .65 gal/ft (4 in)

17.46

Purge Method (see Note 2): Disposible bailer D. b. pump

	<u>1.6</u>	<u>3.2</u>	<u>4.8</u>
Purge Vol. (gal)	<u>1.6</u>	<u>3.2</u>	<u>4.8</u>
Time (Min.)	<u>1227</u>	<u>1232</u>	<u>1236</u>
Temperature (C°)	<u>15.3</u>	<u>14.3</u>	<u>14.2</u>
pH (Units)	<u>7.05</u>	<u>6.90</u>	<u>6.93</u>
Conductivity at 25°C (mS/cm)	<u>.92</u>	<u>1.00</u>	<u>1.04</u>
Total Volume Purged	_____ gallons		
Water Appearance (describe color, clarity odor)	<u>Silly brown opaque</u>		



SAMPLING PROCEDURES

Sampling Procedure (see Note 2): Disposible bailer Same

Sample Water Appearance (color, clarity, odor): Same

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?	to 4°C?		
VOC	8260	2x40 ML VIAL	_____	HCL	Y	N	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly	_____	hno3	Y	N	Y	N
Total CN	335	1x500ml poly	_____	NaOH	Y	N	Y	N
Total Phenols	420	1x500ml poly	_____	H2SO4	Y	N	Y	N

OTHER OBSERVATIONS

take MW-102

NAME (Print) _____

SIGNATURE: _____

AG AR

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 86-10
 Sample Date: 6/29/99
 Sample Time: 1248

SITE/SAMPLE LOCATION

Site Name: Allied signat south bend complex 1/4ly monitoring
 Personnel Present: AG-AR
 Activity Start: 1225 Activity End: 1303
 Weather: P. Suny 75°
 Well Type and Location: 09Z PVC.
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 27.1 feet using Solinst Water Depth: 16.63 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 3.0 gallons to purge
10.47 () .65 gal/ft (4 in)
 (✓) .092 gal/ft (in)
 Purge Method (see Note 2): disposable bailer D. B. pump.

Purge Vol. (gal)	1.0	2.0	3.0	
Time (Min.)	<u>1231</u>	<u>1239</u>	<u>1246</u>	
Temperature (C°)	<u>17.4</u>	<u>16.4</u>	<u>16.1</u>	
pH (Units)	<u>8.25</u>	<u>8.30</u>	<u>8.25</u>	
Conductivity at 25°C (mS/cm)	<u>1.28</u>	<u>1.33</u>	<u>1.34</u>	
Total Volume Purged				
Water Appearance (describe color, clarity, odor):	<u>clear</u>			

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer Same
 Sample Water Appearance (color, clarity, odor): clear.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool to 4°C?
					Filtered?		
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(N) N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	(N)	(N) N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(N) N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y) N
					Y	N	Y N

OTHER OBSERVATIONS

NAME (Print) Adrian Gouda
 SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 86-15
 Sample Date: 6/23/99
 Sample Time: 1330

SITE/SAMPLE LOCATION:

Site Name: Allied signi south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AK-AR
 Activity Start: 1308 Activity End: 1344
 Weather: P. Sunny 75°
 Well Type and Location: _____

WATER LEVEL/WELL DATA:

Well Depth: 25.3 feet using Solinst Water Depth: 16.40 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: — feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 24 gallons to purge
 () .65 gal/ft (4 in)
8.9 () 0.92 gal/ft (in)
 Purge Method (see Note 2): Dedicated bailer pump.

Purge Vol. (gal)	<u>.8</u>	<u>1.6</u>	<u>2.4</u>
Time (Min.)			
Temperature (C°)	<u>17.0</u>	<u>16.4</u>	<u>16.5</u>
pH (Units)	<u>8.31</u>	<u>8.28</u>	<u>8.25</u>
Conductivity at 25°C (mS/cm)	<u>194</u>	<u>1.91</u>	<u>1.91</u>
Total Volume Purged			
Water Appearance (describe color, clarity, odor):	<u>clear</u>		

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): Disposable bailer Same
 Sample Water Appearance (color, clarity, odor): Cloudy

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	(N) (Y) N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N (Y) N
Total CN	335	1x500ml poly		NaOH	Y	(N) (Y) N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N) (Y) N
					Y	N Y N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: S-17
 Sample Date: 6/28/99
 Sample Time: 1415

SITE/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring
 Personnel Present: Ab - AZ
 Activity Start: 1335 Activity End: _____
 Weather: P. Sunny 75°
 Well Type and Location: 4" gal steel

Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 24.8 feet using Solinst Water Depth: 14.73 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 19.63 gallons to purge
10.07 (✓) .65 gal/ft (4 in)
 () gal/ft (in)
 Purge Method (see Note 2): Disposible bailer Dedicated B. pump

Purge Vol. (gal)	<u>6.5</u>	<u>13</u>	<u>19.63</u>
Time (Min.)	<u>1347</u>	<u>1354</u>	<u>1402</u>
Temperature (C°)	<u>17.0</u>	<u>15.9</u>	<u>16.0</u>
pH (Units)	<u>7.06</u>	<u>6.97</u>	<u>6.99</u>
Conductivity at 25°C (mS/cm)	<u>1.22</u>	<u>1.22</u>	<u>1.24</u>
Total Volume Purged	_____ gallons		
Water Appearance (describe color, clarity odor):	<u>Silty tan / opaque</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposible bailer SGM
 Sample Water Appearance (color, clarity, odor): Same

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(Y)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N	(Y)	N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(Y)	N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y)	N
					Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) Adam Banda
 SIGNATURE: _____

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: MW-5
 Sample Date: 6/23/99
 Sample Time: 1440

SITE/SAMPLE LOCATION

Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: Ab - AK
 Activity Start: 1430 Activity End: 1450
 Weather: P. Sunny 70'
 Well Type and Location: _____

WATER LEVEL/WELL DATA

Well Depth: 20.8 feet using Solinst Water Depth: 16.29 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X 4.51 .16 gal/ft (2 in) X 3 casing volumes = 2.16 gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)
 Purge Method (see Note 2): Disposable bailer

	<u>.72</u>	<u>1.4</u>	<u>2.16</u>	
Purge Vol. (gal)				
Time (Min.)			<u>1434</u>	
Temperature (C°)	<u>15.2</u>	<u>14.3</u>	<u>14.1</u>	
pH (Units)	<u>8.34</u>	<u>8.35</u>	<u>8.32</u>	
Conductivity at 25°C (mS/cm)	<u>1.32</u>	<u>1.26</u>	<u>1.24</u>	
Total Volume Purged				gallons
Water Appearance (describe color, clarity odor):		<u>clear</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?	to 4°C?		
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(Y)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N	(X)	N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(Y)	N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y)	N
					Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) Adam Gaida
 SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: S-9
 Sample Date: 6/21/99
 Sample Time: 1547

WELL/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring
 Personnel Present: AG - AR
 Activity Start: _____ Activity End: _____
 Weather: Weather: P sunny 75°
 Well Type and Location: 4" GAL

Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 21.1 feet using Solinst Water Depth: 17.50 feet using Solinst
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 7.0 gallons to purge
3.6 (✓) .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2): Disposable bailer D. B. Pump.

Purge Vol. (gal)	Time (Min.)	Temperature (C°)	pH (Units)	Conductivity at 25°C (mS/cm)	Total Volume Purged	Water Appearance (describe color, clarity odor)
<u>2.3</u>	<u>1520</u>	<u>17.4</u>	<u>6.82</u>	<u>1.18</u>		
<u>4.6</u>	<u>1525</u>	<u>16.6</u>	<u>6.77</u>	<u>1.30</u>		
<u>7.0</u>	<u>1530</u>	<u>17.0</u>	<u>6.69</u>	<u>1.33</u>		

gallons
Silly Sm / translucent.

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer same
 Sample Water Appearance (color, clarity, odor): same.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) Adam Gude
 SIGNATURE: _____

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 7-25
 Sample Date: 6/22/99
 Sample Time: 09:50

SITE/SAMPLE LOCATION:

Site Name: Allied sigant south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: Ab - AZ.
 Activity Start: 0925 Activity End: 10:00
 Weather: P sunny 75°
 Well Type and Location: 7.092 PVC Skelp

WATER LEVEL/WELL DATA:

Well Depth: 26.6 feet using Solinst Water Depth: 20.49 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 1.7 gallons to purge
6.11 () .65 gal/ft (4 in)
 (X) .092 gal/ft (in)
 Purge Method (see Note 2): ~~disposable bailer~~ dedicated bailer

Purge Vol. (gal)	<u>.56</u>	<u>1.1</u>	<u>1.7</u>
Time (Min.)	<u>932</u>	<u>942</u>	<u>948</u>
Temperature (C°)	<u>13.2</u>	<u>12.2</u>	<u>12.2</u>
pH (Units)	<u>7.63</u>	<u>7.50</u>	<u>7.43</u>
Conductivity at 25°C (mS/cm)	<u>0.80</u>	<u>0.81</u>	<u>0.81</u>
Total Volume Purged	_____ gallons		
Water Appearance (describe color, clarity odor):	<u>clear</u>		

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): ~~disposable bailer~~ dedicated bailer
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool to 4°C?
					Filtered?		
VOC	8260	2x40 ML VIAL		HCL	Y	<input checked="" type="checkbox"/>	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	<input checked="" type="checkbox"/>	N	N
Total CN	335	1x500ml poly		NaOH	Y	<input checked="" type="checkbox"/>	N
Total Phenols	420	1x500ml poly		H2SO4	Y	<input checked="" type="checkbox"/>	N
					Y	N	Y N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: Alan Gaudin

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: ~~1078~~ MW-9
 Sample Date: 6/24/99
 Sample Time: 0900

SITE/SAMPLE LOCATION

Site Name: Allied signi south bend complex 1/4ly monitoring
 Personnel Present: AL AL
 Activity Start: 0845 Activity End: _____
 Weather: P. Sunny
 Well Type and Location: 2" PVC fl. met.
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 19.8 feet using Solinst Water Depth: 15.20 feet using Solinst
(from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well Casing Difference: _____ feet
(from ground surface) (for above-ground surface)
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X 4.6 ~~1.6~~ .16 gal/ft (2 in) X 3 casing volumes = 2.20 gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (____ in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	Time (Min.)	Temperature (C°)	pH (Units)	Conductivity at 25°C (mS/cm)	Total Volume Purged	Water Appearance (describe color, clarity odor):
<u>0.73</u>	<u>850</u>	<u>15.1</u>	<u>6.52</u>	<u>1.74</u>	gallons	<u>Silly brown / translucent.</u>
<u>1.4</u>	<u>855</u>	<u>14.7</u>	<u>6.54</u>	<u>1.73</u>		
<u>2.20</u>	<u>900</u>	<u>14.7</u>	<u>6.53</u>	<u>1.73</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): Same

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 20
 Sample Date: 6/27/99
 Sample Time: 1420

SITE/SAMPLE LOCATION

Site Name: Allied signat south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AK - AR
 Activity Start: _____ Activity End: _____

Weather: Sunny 75°
 Well Type and Location: 2" Stickup geotimed PVC well

WATER LEVEL/WELL DATA

Well Depth: 108.3 feet using Solinst Water Depth: 17.75 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X 170.5 .16 gal/ft (2 in) X 3 casing volumes = 81.8 gallons to purge
 () .65 gal/ft (4 in)
 () gal/ft (in)
 Purge Method (see Note 2): Disposable bailer Dedicated to pump.

Purge Vol. (gal)	<u>27</u>	<u>54</u>	<u>81.8</u>
Time (Min.)			
Temperature (C°)	<u>15.9</u>	<u>14.0</u>	<u>16.0</u>
pH (Units)	<u>7.05</u>	<u>7.10</u>	<u>7.14</u>
Conductivity at 25°C (mS/cm)	<u>1.35</u>	<u>1.39</u>	<u>1.42</u>
Total Volume Purged	gallons		
Water Appearance (describe color, clarity, odor):	<u>Cloudy</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): SGM

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y N	Y N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y N	Y N
Total CN	335	1x500ml poly		NaOH	Y N	Y N
Total Phenols	420	1x500ml poly		H2SO4	Y N	Y N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 40
 Sample Date: 6/2/99
 Sample Time: _____

WELL/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring
 Personnel Present: AB - AR
 Activity Start: _____ Activity End: _____
 Weather: Sunny 75°
 Well Type and Location: 2" stub in manhole
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 172.7 feet using Solinst Water Depth: 20.54 feet using Solinst
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X 172.16 .16 gal/ft (2 in) X 3 casing volumes = 45 gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	15	30	45
Time (Min.)			
Temperature (C°)			
pH (Units)	<u>NO</u>	<u>SAMPLE</u>	
Conductivity at 25°C (mS/cm)			
Total Volume Purged			
Water Appearance (describe color, clarity odor):			

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer

Sample Water Appearance (color, clarity, odor): _____

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	N	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N	Y	N
					Y	N	Y	N

OTHER OBSERVATIONS

Pump not working, well not sampled
all pump take back to office

NAME (Print) _____
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 17B-01
 Sample Date: 6/27/99
 Sample Time: 2200

SITE/SAMPLE LOCATION

Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: _____
 Activity Start: _____ Activity End: _____
 Weather: _____
 Well Type and Location: _____

WATER LEVEL/WELL DATA

Well Depth: _____ feet using Solinst Water Depth: _____ feet using Solinst
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = _____ gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal) _____
 Time (Min.) _____
 Temperature (C°) _____
 pH (Units) _____
 Conductivity at 25°C (mS/cm) _____
 Total Volume Purged _____ gallons
 Water Appearance (describe color, clarity odor): _____

Trip Blank #1

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer

Sample Water Appearance (color, clarity, odor): _____

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y N	Y N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y N	Y N
Total CN	335	1x500ml poly		NaOH	Y N	Y N
Total Phenols	420	1x500ml poly		H2SO4	Y N	Y N
					Y N	Y N

OTHER OBSERVATIONS

Trip #1

NAME (Print) Adrian
 SIGNATURE: _____

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

*Stainless
Steel
Bailer Egg
Blank*

Sample No.: MW-350
 Sample Date: 6/24/99
 Sample Time: 933

SITE/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: _____
 Activity Start: _____ Activity End: _____
 Weather: _____
 Well Type and Location: _____

WATER LEVEL/WELL DATA

Well Depth: _____ feet using Solinst Water Depth: _____ feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = _____ gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (___ in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal) _____
 Time (Min.) _____
 Temperature (C°) _____
 pH (Units) _____
 Conductivity at 25°C (mS/cm) _____
 Total Volume Purged _____ gallons
 Water Appearance (describe color, clarity odor): _____

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): _____

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	N	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N	Y	N

OTHER OBSERVATIONS

Stainless steel bailer equipment blank. NAME (Print) Adam Bond
 SIGNATURE: _____

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

MLL-101

Sample No.: MLL-101
 Sample Date: _____
 Sample Time: _____

SITE/SAMPLE LOCATION

Site Name: _____ Project No.: _____
 Personnel Present: _____
 Activity Start: _____ Activity End: _____
 Weather: _____
 Well Type and Location: _____

WATER LEVEL/WELL DATA

Well Depth: _____ feet using _____ Solinst _____ Water Depth: _____ feet using _____ Solinst _____
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well _____
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): _____
 Measuring Device Decontamination Procedure: _____ Liquinox-DI water
 PI Meter ID: _____ OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X _____ casing volumes = _____ gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2): _____

Purge Vol. (gal) _____
 Time (Min.) _____
 Temperature (C°) _____
 pH (Units) _____
 Conductivity at 25°C (mS/cm) _____
 Total Volume Purged _____ gallons
 Water Appearance (describe color, clarity odor): _____

see S-D

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): _____
 Sample Water Appearance (color, clarity, odor): _____

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?	N	to 4°C?	N
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: _____

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD *MW-102*

Sample No.: _____
 Sample Date: _____
 Sample Time: _____

SITE/SAMPLE LOCATION

Site Name: _____
 Personnel Present: _____ Project No.: _____
 Activity Start: _____ Activity End: _____
 Weather: _____
 Well Type and Location: _____

WATER LEVEL/WELL DATA

Well Depth: _____ feet using _____ Solinst _____ Water Depth: _____ feet using _____ Solinst _____
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well _____
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): _____
 Measuring Device Decontamination Procedure: _____ Liquinox-DI water

PI Meter ID: _____ OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X _____ casing volumes = _____ gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2):

Purge Vol. (gal) _____
 Time (Min.) _____
 Temperature (C°) _____
 pH (Units) _____
 Conductivity at 25°C (mS/cm) _____
 Total Volume Purged _____ gallons
 Water Appearance (describe color, clarity odor): _____

See monitoring well S-4A

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): _____
 Sample Water Appearance (color, clarity, odor): _____

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N
_____	_____	_____	_____	_____	Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) _____
 SIGNATURE: *[Signature]*

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Duplicate of RWB-16

Sample No.: MW-100
 Sample Date: 6/27/99
 Sample Time: 1533 3:18

SITE/SAMPLE LOCATION:

Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AG-HR
 Activity Start: _____ Activity End: _____
 Weather: Sunny 75°
 Well Type and Location: _____

WATER LEVEL/WELL DATA:

Well Depth: _____ feet using _____ Solinst _____ Water Depth: _____ feet using _____ Solinst _____
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well _____
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____ (measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

SEE RWB-16 for details

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)

Column feet X () .16 gal/ft (2 in) X 3 casing volumes = _____ gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal) 5.0

Time (Min.) _____

Temperature (C°) 15.2

pH (Units) 6.95

Conductivity at 25°C (mS/cm) 1.30

Total Volume Purged 5 gallons

Water Appearance (describe color, clarity odor): _____

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): disposable bailer

Sample Water Appearance (color, clarity, odor): _____

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool to 4°C?
					Filtered?		
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(Y) N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	(N)	(N) N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(N) N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y) N

OTHER OBSERVATIONS

See RWB-16 for details

NAME (Print) Allyson B

SIGNATURE: _____

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: S-16
 Sample Date: 6/27/99
 Sample Time: 09:30

SITE/SAMPLE LOCATION:

Site Name: Allied signel south bend complex 1/4ly monitoring
 Personnel Present: 46-A.R. Project No.: 982202
 Activity Start: 0905 Activity End: 0944
 Weather: Sunny 75°
 Well Type and Location: Strip Gevented

WATER LEVEL/WELL DATA:

Well Depth: 21.5 feet using Solinst Water Depth: 18.75 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 6.0 gallons to purge
3.25 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)
 Purge Method (see Note 2): Dedicated PVC bailer

Purge Vol. (gal)	2.0	4.0	6.0
Time (Min.)			
Temperature (C°)	<u>14.8</u>	<u>14.3</u>	<u>14.4</u>
pH (Units)	<u>7.63</u>	<u>7.42</u>	<u>7.46</u>
Conductivity at 25°C (mS/cm)	<u>1.66</u>	<u>1.61</u>	<u>1.54</u>
Total Volume Purged	<u>6.0</u>		
Water Appearance (describe color, clarity odor):	<u>Silty brn</u>		

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): Dedicated PVC bailer
 Sample Water Appearance (color, clarity, odor): Same

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Total CN	335	1x500ml poly		NaOH	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Total Phenols	420	1x500ml poly		H2SO4	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

OTHER OBSERVATIONS

NAME (Print) Anne Rozite
 SIGNATURE: Anne Rozite

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 5-22
 Sample Date: 6/23/99
 Sample Time: 740

WELL/SAMPLE LOCATION

Site Name: Allied signil south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: Abi + Ann R (EIS)
 Activity Start: 730 Activity End: _____
 Weather: P sunny 80°
 Well Type and Location: 4" gal. steel

WATER LEVEL/WELL DATA

Well Depth: 26.0 feet using Solinst Water Depth: 15.45 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 20.5 gallons to purge
10.55 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)
 Purge Method (see Note 2): Disposable Deter deducted steel

	<u>6.9</u>	<u>14.0</u>	<u>20.5</u>
Purge Vol. (gal)			
Time (Min.)	<u>7:10</u>	<u>7:20</u>	<u>7:30</u>
Temperature (C°)	<u>14.6</u>	<u>13.5</u>	<u>13.9</u>
pH (Units)	<u>7.72</u>	<u>7.25</u>	<u>7.29</u>
Conductivity at 25°C (mS/cm)	<u>1.04</u>	<u>1.13</u>	<u>1.15</u>
Total Volume Purged			
Water Appearance (describe color, clarity odor):	<u>clear</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): Disposable Deter same
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?	to 4°C?		
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(N)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N	(N)	N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(N)	N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y)	N
					Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) _____

SIGNATURE: _____

- Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 5-24
 Sample Date: 6/2/99
 Sample Time: 900

SITE/SAMPLE LOCATION

Site Name: Allied sigani south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AG - H.R.
 Activity Start: 850 Activity End: _____
 Weather: 12 sunny 75°
 Well Type and Location: .092 PVC float.

WATER LEVEL/WELL DATA

Well Depth: 21.4 feet using Solinst Water Depth: 18.09 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 6.0 gallons to purge
83.31 () .65 gal/ft (4 in)
 (X) .042 gal/ft () in
 Purge Method (see Note 2): Disposable bailer dedicated b. Pump

	<u>.30</u>	<u>.6</u>	<u>1.0</u>
Purge Vol. (gal)	<u>.30</u>	<u>.6</u>	<u>1.0</u>
Time (Min.)	<u>845</u>	<u>849</u>	<u>857</u>
Temperature (C°)	<u>13.9</u>	<u>14.0</u>	<u>14.2</u>
pH (Units)	<u>6.94</u>	<u>6.96</u>	<u>7.00</u>
Conductivity at 25°C (mS/cm)	<u>203</u>	<u>2.03</u>	<u>2.06</u>
Total Volume Purged	_____ gallons		
Water Appearance (describe color, clarity odor):	<u>silly brown w/ white particles</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer same
 Sample Water Appearance (color, clarity, odor): same

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?	to 4°C?		
VOC	8260	2x40 ML VIAL		HCL	Y	(N)	(Y)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	(Y)	N	(Y)	N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(Y)	N
Total Phenols	420	1x500ml poly		H2SO4	Y	(N)	(Y)	N
					Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) Adam Gade
 SIGNATURE: _____

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: EW-2
 Sample Date: 6/21/99
 Sample Time: 0900

SITE/SAMPLE LOCATION

Site Name: Wicks-Danforth Metals Allied Signal South Bend 1/4ly
 Personnel Present: Adam Gouda, Steve Murray Project No.: 2365
 Activity Start: 0840 Activity End: 1907
 Weather: P. Sunny 75°
 Well Type and Location: SPibent

WATER LEVEL/WELL DATA

Well Depth: _____ feet using Solinst Water Depth: _____ feet using _____ Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.0 gallons to purge
 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)

Purge Method (see Note 2): low flow technique with peristaltic pump and disposable tubing 1/4 inch id
open spigot purge 5 gallons then some
 Purge Vol. (gal) 5.0
 Time (Min.) 843 ~~848~~
 Temperature (C°) 17.0 ~~17.5~~
 pH (Units) 1.29 ~~1.2~~
 Conductivity at 25°C (mS/cm) 6.90 ~~7.02~~
 Total Volume Purged _____ gallons
 Water Appearance (describe color, clarity odor): clear

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): same as above
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
nickel	8260	amber liter			Y	N	Y	N
hexavalent ch	6610/7471	1x500ml poly		hno3	Y	N	Y	N
Total CN	335	1x500ml poly		NaOH	Y	(N)	(Y)	N
<u>Diss. Ni</u>	<u>6070/7471</u>	<u>1x500ml poly</u>			(Y)	N	(Y)	N
<u>total phenols</u>	<u>470</u>	<u>1x500ml</u>			Y	(N)	(Y)	N

OTHER OBSERVATIONS

Water contained entrained air bubbles - difficult to get good vol sample

NAME (Print) Adam Gouda
 SIGNATURE: [Signature]

Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: Ew-1
 Sample Date: 6/23/99
 Sample Time: 0927

SITE/SAMPLE LOCATION:

Site Name: Allied signal south bend complex 1/4ly monitoring

Project No.: 982202

Personnel Present: Ma / AR

Activity Start: 0920

Activity End: 0936

Weather: Sunny 75°

Well Type and Location: Recovery well

WATER LEVEL/WELL DATA:

Well Depth: _____ feet using Solinst _____ Water Depth: _____ feet using Solinst _____
(from top of well casing) (measuring device) (from top of well casing) (measuring device)

Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well _____
(from ground surface) (for above-ground surface) Casing Difference: _____ feet

Floating Product Thickness: _____ feet using _____
(measuring device)

Well Condition (see Note 1): good

Measuring Device Decontamination Procedure: Liquinox-DI water

PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)

Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 5.0 gallons to purge

() .65 gal/ft (4 in)

(~~7~~) _____ gal/ft (_____ in)

Purge Method (see Note 2): ~~Disposable trailer~~ OPEN SPIGOT + Pump 5 gallons then

water quality then SAMPLE

Purge Vol. (gal)	<u>5.0</u>	_____	_____	_____
Time (Min.)	<u>925</u>	_____	_____	_____
Temperature (C°)	<u>17.2</u>	_____	_____	_____
pH (Units)	<u>7.49</u>	_____	_____	_____
Conductivity at 25°C (mS/cm)	<u>2.22</u>	_____	_____	_____
Total Volume Purged	<u>5.0</u> gallons	_____	_____	_____
Water Appearance (describe color, clarity odor):	<u>clear</u>	_____	_____	_____

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): ~~disposable bottle~~ SAME

Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL	_____	HCL	Y (N) (R)	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly	_____	hno3	(Y) (N) (Y)	N
Total CN	335	1x500ml poly	_____	NaOH	Y (N) (Y)	N
Total Phenols	420	1x500ml poly	_____	H2SO4	Y (N) (Y)	N
					Y N Y N	

OTHER OBSERVATIONS

NAME (Print) Adam Gouda

SIGNATURE: [Signature]

- Notes: (1) Described whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 5-27
 Sample Date: 6/23/99
 Sample Time: 9:27

WELL/SAMPLE LOCATION

Site Name: Allied sigant south bend complex 1/4ly monitoring
 Personnel Present: AB-AR
 Activity Start: 9:16 Activity End: _____
 Weather: P. Sunny 72°
 Well Type and Location: ~~4-1-101~~ .092
 Project No.: 982202

WATER LEVEL/WELL DATA

Well Depth: 27.9 feet using Solinst Water Depth: 19.53 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 2.6 gallons to purge
0.37 () .65 gal/ft (4 in)
(✓) .092 gal/ft (in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	<u>.86</u>	<u>1.9</u>	<u>2.6</u>
Time (Min.)	<u>915</u>	<u>919</u>	<u>923</u>
Temperature (C°)	<u>14.1</u>	<u>13.1</u>	<u>13.4</u>
pH (Units)	<u>7.09</u>	<u>7.10</u>	<u>7.13</u>
Conductivity at 25°C (mS/cm)	<u>1.02</u>	<u>.98</u>	<u>.97</u>
Total Volume Purged	<u>2.6</u> gallons		
Water Appearance (describe color, clarity odor):	<u>Silty brown / translucent</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer
 Sample Water Appearance (color, clarity, odor): Same.

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) Adam Borda
 SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: 5-23
 Sample Date: 6/27/99
 Sample Time: 1030

SITE/SAMPLE LOCATION:

Site Name: Allied signal south bend complex 1/4ly monitoring Project No.: 982202
 Personnel Present: AG - AR
 Activity Start: 1020 Activity End: _____
 Weather: P. Sunny 74°
 Well Type and Location: 4" gal Steel

WATER LEVEL/WELL DATA:

Well Depth: 28.2 feet using Solinst Water Depth: 17.80 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)

Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES:

Height of Water () .041 gal/ft (1 in)
 Column feet X () .16 gal/ft (2 in) X 3 casing volumes = 20.0 gallons to purge
10.40 () .65 gal/ft (4 in)
 Purge Method (see Note 2): Disposable barrier Dedicated P. pump.

	<u>6.76</u>	<u>13.0</u>	<u>20.2</u>
Purge Vol. (gal)			
Time (Min.)	<u>1000</u>	<u>1010</u>	<u>1020</u>
Temperature (C°)	<u>15.0</u>	<u>13.9</u>	<u>14.2</u>
pH (Units)	<u>7.04</u>	<u>7.06</u>	<u>7.08</u>
Conductivity at 25°C (mS/cm)	<u>.942</u>	<u>.943</u>	<u>.946</u>
Total Volume Purged	<u>20.0</u> gallons		
Water Appearance (describe color, clarity odor):	<u>clear</u>		

SAMPLING PROCEDURES:

Sampling Procedure (see Note 2): disposable barrier Same
 Sample Water Appearance (color, clarity, odor): clear

ANALYTICAL PARAMETERS:

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field		Cool	
					Filtered?		to 4°C?	
VOC	8260	2x40 ML VIAL		HCL	Y	<input checked="" type="radio"/>	<input checked="" type="radio"/>	N
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	<input checked="" type="radio"/>	N	<input checked="" type="radio"/>	N
Total CN	335	1x500ml poly		NaOH	Y	<input checked="" type="radio"/>	<input checked="" type="radio"/>	N
Total Phenols	420	1x500ml poly		H2SO4	Y	<input checked="" type="radio"/>	<input checked="" type="radio"/>	N
					Y	N	Y	N

OTHER OBSERVATIONS

NAME (Print) Adam Boudie
 SIGNATURE: [Signature]

Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASSOCIATES GROUNDWATER SAMPLE RECORD

Sample No.: MW-7
 Sample Date: 6/23/99
 Sample Time: 1050

SITE/SAMPLE LOCATION

Site Name: Allied signi south bend complex 1/4ly monitoring
 Personnel Present: AB - AR. Project No.: 982202
 Activity Start: 1030 Activity End: 1105
 Weather: P. sunny 75°
 Well Type and Location: 2" PVC FL. mon

WATER LEVEL/WELL DATA

Well Depth: 18.7 feet using Solinst Water Depth: 15.12 feet using Solinst
 (from top of well casing) (measuring device) (from top of well casing) (measuring device)
 Historical Well Depth: _____ feet Protective Casing Stickup: _____ feet Protect. Casing Well
 (from ground surface) (for above-ground surface) Casing Difference: _____ feet
 Floating Product Thickness: _____ feet using _____ (measuring device)
 Well Condition (see Note 1): good
 Measuring Device Decontamination Procedure: Liquinox-DI water
 PI Meter ID: OVM 580B Ambient Air: _____ ppm Well Mouth: _____ ppm

PURGING PROCEDURES

Height of Water () .041 gal/ft (1 in)
 Column feet X 2 .16 gal/ft (2 in) X 3 casing volumes = 1.5 gallons to purge
3.08 () .65 gal/ft (4 in)
 () _____ gal/ft (_____ in)
 Purge Method (see Note 2): Disposable bailer

Purge Vol. (gal)	1.50	1.0	1.5
Time (Min.)			
Temperature (C°)	<u>14.3</u>	<u>13.6</u>	<u>13.0</u>
pH (Units)	<u>8.3</u>	<u>7.3</u>	<u>8.2</u>
Conductivity at 25°C (mS/cm)	<u>1.24</u>	<u>1.23</u>	<u>1.22</u>
Total Volume Purged	<u>1.5</u> gallons		
Water Appearance (describe color, clarity, odor):	<u>Silty brn / opaque</u>		

SAMPLING PROCEDURES

Sampling Procedure (see Note 2): disposable bailer

Sample Water Appearance (color, clarity, odor): Silty brn / opaque

ANALYTICAL PARAMETERS

Analysis	Method	No. of Bottles Volume, Type	Bottle Lot	Preservative/ Volume	Field Filtered?	Cool to 4°C?
VOC	8260	2x40 ML VIAL		HCL	Y	Y
Diss. Pb, Ni, Cr	6010/7471	1x500ml poly		hno3	Y	N
Total CN	335	1x500ml poly		NaOH	Y	N
Total Phenols	420	1x500ml poly		H2SO4	Y	N
					Y	N

OTHER OBSERVATIONS

NAME (Print) _____

SIGNATURE: [Signature]

- Notes: (1) Describe whether well was locked and the condition of the protective casing and concrete collar.
 (2) Describe sequence of purging/sampling including equipment type and decontamination method.

ANALYTICAL RESULTS – JUNE 1999

- **SHALLOW MONITORING WELLS**
- **INTERMEDIATE MONITORING WELLS**
- **DEEP MONITORING WELLS**
- **NAPHTHA RECOVERY WELLS**
- **VOC RECOVERY WELLS**

SHALLOW MONITORING WELLS

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	7-25	86-10	86-15	9-33	MW-11
				DATE	DATE	DATE	DATE	DATE
		RESULT TYPE		06/22/99	06/23/99	06/23/99	06/22/99	06/22/99
				Primary	Primary	Primary	Primary	Primary
Acrolein				<100	<100	<100	<100	<100
Acrylonitrile				<100	<100	<100	<100	<100
Benzene	5		5	<5.0	<5.0	<5.0	<5.0	<5.0
Bromoform	100		100	<5.0	<5.0	<5.0	<5.0	<5.0
Bromomethane				<10	<10	<10	<10	<10
Carbon tetrachloride	5		5	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorobenzene	100		100	<5.0	<5.0	<5.0	<5.0	<5.0
Chlorodibromomethane	100		100	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroethane				<10	<10	<10	<10	<10
2-Chloroethyl Vinyl Ether				<10	<10	<10	<10	<10
Chloroform	100		100	<5.0	<5.0	<5.0	<5.0	<5.0
Chloromethane				<10	<10	<10	<10	<10
Dichlorobromomethane	100		100	<5.0	<5.0	<5.0	<5.0	<5.0
Dichlorodifluoromethane				<10	<10	<10	<10	<10
1,1-Dichloroethane				<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5		5	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	7		7	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100		100	<5.0	<5.0	68	<5.0	<5.0
cis-1,2-Dichloroethene	70		70	<5.0	[82]	43	<5.0	[100]
1,2-Dichloropropane	5		5	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,3-Dichloropropene				<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,3-Dichloropropene				<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	700		700	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride	5		5	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2,2-Tetrachloroethane				<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5		5	<5.0	<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 2A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	7-25	86-10	86-15	9-33	MW-11
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary	Primary
Toluene	1000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethane	5	<5.0	[64]	[300]	<5.0	<5.0	<5.0
Trichlorofluoromethane		<10	<10	<10	<10	<10	<10
Vinyl chloride	2	<10	<10	<10	<10	<10	[15]
Acetone		<100	<100	<100	<100	<100	<100
2-Butanone (MEK)		<100	<100	<100	<100	<100	<100
Styrene	100	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Xylene (total)	10000	<10	<10	<10	<10	<10	<10
Vinyl Acetate		<50	<50	<50	<50	<50	<50
2-Hexanone		<50	<50	<50	<50	<50	<50
4-Methyl-2-pentanone		<50	<50	<50	<50	<50	<50
Carbon disulfide		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	600	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene	600	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene	75	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	MW-12	MW-13	MW-2	MW-4	MW-5
				06/22/99	06/22/99	06/22/99	06/22/99	06/23/99
RESULT TYPE				Primary	Primary	Primary	Primary	Primary
Acrolein				<100	<100	<500	<100	<100
Acrylonitrile				<100	<100	<500	<100	<100
Benzene	5		5	<5.0	<5.0	<25	<5.0	18.41
Bromoform	100		100	<5.0	<5.0	<25	<5.0	<5.0
Bromomethane				<10	<10	<50	<10	<10
Carbon tetrachloride	5		5	<5.0	<5.0	<25	<5.0	<5.0
Chlorobenzene	100		100	<5.0	<5.0	<25	<5.0	<5.0
Chlorodibromomethane	100		100	<5.0	<5.0	<25	<5.0	<5.0
Chloroethane				<10	<10	<50	<10	<10
2-Chloroethyl Vinyl Ether				<10	<10	<50	<10	<10
Chloroform	100		100	<5.0	<5.0	<25	<5.0	<5.0
Chloromethane				<10	<10	<50	<10	<10
Dichlorobromomethane	100		100	<5.0	<5.0	<25	<5.0	<5.0
Dichlorodifluoromethane				<10	<10	<50	<10	<10
1,1-Dichloroethane				5.2	<5.0	250	<5.0	5.5
1,2-Dichloroethane	5		5	<5.0	<5.0	<25	<5.0	<5.0
1,1-Dichloroethene	7		7	<5.0	<5.0	<25	<5.0	<5.0
trans-1,2-Dichloroethene	100		100	14	<5.0	<25	<5.0	<5.0
cis-1,2-Dichloroethene	70		70	1410	<5.0	2900	<5.0	8.4
1,2-Dichloropropane	5		5	<5.0	<5.0	<25	<5.0	<5.0
cis-1,3-Dichloropropene				<5.0	<5.0	<25	<5.0	<5.0
trans-1,3-Dichloropropene				<5.0	<5.0	<25	<5.0	<5.0
Ethylbenzene	700		700	<5.0	<5.0	<25	<5.0	<5.0
Methylene chloride	5		5	<5.0	<5.0	<25	<5.0	<5.0
1,1,2,2-Tetrachloroethane				<5.0	<5.0	<25	<5.0	<5.0
Tetrachloroethane	5		5	<5.0	<5.0	<25	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

|| = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	MW-12	MW-13	MW-2	MW-4	MW-5
		DATE	06/22/99	06/22/99	06/22/99	06/22/99	06/23/99
	US-PMCL	RESULT TYPE	Primary	Primary	Primary	Primary	Primary
Toluene	1000		< 5.0	< 5.0	< 25	< 5.0	< 5.0
1,1,1-Trichloroethane	200		8.8	< 5.0	[920]	< 5.0	< 5.0
1,1,2-Trichloroethane	5		< 5.0	< 5.0	< 25	< 5.0	< 5.0
Trichloroethane	5		[100]	< 5.0	[46]	< 5.0	[20]
Trichlorofluoromethane			< 10	< 10	< 50	< 10	< 10
Vinyl chloride	2		< 10	< 10	[76]	< 10	< 10
Acetone			< 100	< 100	< 500	< 100	< 100
2-Butanone (MEK)			< 100	< 100	< 500	< 100	< 100
Styrene	100		< 5.0	< 5.0	< 25	< 5.0	< 5.0
Xylene (total)	10000		< 10	< 10	< 50	< 10	< 10
Vinyl Acetate			< 50	< 50	< 300	< 50	< 50
2-Hexanone			< 50	< 50	< 300	< 50	< 50
4-Methyl-2-pentanone			< 50	< 50	< 300	< 50	< 50
Carbon disulfide			< 5.0	< 5.0	< 25	< 5.0	< 5.0
1,2-Dichlorobenzene	600		< 5.0	< 5.0	< 25	< 5.0	< 5.0
1,3-Dichlorobenzene	600		< 5.0	< 5.0	< 25	< 5.0	< 5.0
1,4-Dichlorobenzene	75		< 5.0	< 5.0	< 25	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1C

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	MW-7	MW-9	S15	S16	S17
						06/22/99	06/22/99	06/23/99	06/23/99	06/23/99
						Primary	Primary	Primary	Primary	Primary
Acrolein						< 100	< 100	< 100	< 100	< 100
Acrylonitrile						< 100	< 100	< 100	< 100	< 100
Benzene					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane						< 10	< 10	< 10	< 10	< 10
Carbon tetrachloride					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorodibromomethane					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane						< 10	< 10	< 10	< 10	< 10
2-Chloroethyl Vinyl Ether						< 10	< 10	< 10	< 10	< 10
Chloroform					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloromethane						< 10	< 10	< 10	< 10	< 10
Dichlorobromomethane					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dichlorodifluoromethane						< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethane						15	< 5.0	8.2	< 5.0	< 5.0
1,2-Dichloroethane					5	< 5.0	< 5.0	{9.7}	< 5.0	< 5.0
1,1-Dichloroethene					7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene					100	< 5.0	< 5.0	< 5.0	8.2	< 5.0
cis-1,2-Dichloroethene					70	{360}	< 5.0	14	54	< 5.0
1,2-Dichloropropane					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene						< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,3-Dichloropropene						< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene					700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene chloride					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane						< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
 {} = Greater than Action Level
 For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	MW-7	MW-9	S15	S16	S17
			06/22/99	06/22/99	06/23/99	06/23/99	06/23/99
			US-PMCL	Primary	Primary	Primary	Primary
Toluene	1000		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	200		< 5.0	< 5.0	< 5.0	19	18
1,1,2-Trichloroethane	5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5		< 5.0	< 5.0	< 5.0	[390]	[15]
Trichlorofluoromethane			< 10	< 10	< 10	< 10	< 10
Vinyl chloride	2		[120]	< 10	< 10	< 10	< 10
Acetone			< 100	< 100	< 100	< 100	< 100
2-Butanone (MEK)			< 100	< 100	< 100	< 100	< 100
Styrene	100		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylene (total)	10000		< 10	< 10	< 10	< 10	< 10
Vinyl Acetate			< 50	< 50	< 50	< 50	< 50
2-Hexanone			< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone			< 50	< 50	< 50	< 50	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene	600		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene	600		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene	75		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1D

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	S20		S21		S22		S23		S24	
		DATE	US-PMCL	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
		RESULT TYPE		Primary	Primary	Primary	Primary	Primary	Primary	Primary	Primary
Acrolein				< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Acrylonitrile				< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100
Benzene		5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform		100		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Carbon tetrachloride		5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene		100		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorodibromomethane		100		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
2-Chloroethyl Vinyl Ether				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Chloroform		100		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloromethane				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Dichlorobromomethane		100		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dichlorodifluoromethane				< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethane				< 5.0	< 5.0	70	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane		5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene		7		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene		100		< 5.0	52	< 5.0	< 5.0	< 5.0	< 5.0	[220]	< 5.0
cis-1,2-Dichloroethene		70		< 5.0	57	53	< 5.0	< 5.0	< 5.0	[140]	< 5.0
1,2-Dichloropropane		5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,3-Dichloropropene				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene		700		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene chloride		5		< 5.0	< 5.0	[5.7]	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene		5		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed
 [] = Greater than Action Level
 For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE		S20	S21	S22	S23	S24
		DATE		06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
		RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary
Toluene		1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene		5	< 5.0	[20]	< 5.0	[11]	[22]	< 5.0
Trichlorofluoromethane			< 10	< 10	< 10	< 10	< 10	< 10
Vinyl chloride		2	< 10	< 10	< 10	< 10	< 10	< 10
Acetone			< 100	< 100	< 100	< 100	< 100	< 100
2-Butanone (MEK)			< 100	< 100	< 100	< 100	< 100	< 100
Styrene		100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylene (total)		10000	< 10	< 10	< 10	< 10	< 10	< 10
Vinyl Acetate			< 50	< 50	< 50	< 50	< 50	< 50
2-Hexanone			< 50	< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone			< 50	< 50	< 50	< 50	< 50	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene		75	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1E
 Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	S25	S27	S3	S4A	S4A
						06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
						Primary	Primary	Primary	Primary	Duplicate 1
Acrolein						< 100	< 100	< 100	< 100	< 100
Acrylonitrile						< 100	< 100	< 100	< 100	< 100
Benzene					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromoform					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Bromomethane						< 10	< 10	< 10	< 10	< 10
Carbon tetrachloride					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorobenzene					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chlorodibromomethane					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethane						< 10	< 10	< 10	< 10	< 10
2-Chloroethyl Vinyl Ether						< 10	< 10	< 10	< 10	< 10
Chloroform					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloromethane						< 10	< 10	< 10	< 10	< 10
Dichlorobromomethane					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Dichlorodifluoromethane						< 10	< 10	< 10	< 10	< 10
1,1-Dichloroethane						< 5.0	83	< 5.0	40 J	17
1,2-Dichloroethane					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene					7	< 5.0	[14]	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene					100	< 5.0	5.3	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene					70	< 5.0	22	< 5.0	[260]	[260]
1,2-Dichloropropane					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene						< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,3-Dichloropropene						< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ethylbenzene					700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene chloride					5	< 5.0	< 5.0	< 5.0	< 15.0	< 5.0
1,1,2,2-Tetrachloroethane						< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethane					5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 2E

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	625	627	63	64A	S4A
						06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
						Primary	Primary	Primary	Primary	Duplicate 1
Toluene					1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane					200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane					6	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethane					5	< 5.0	[31]	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane						< 10	< 10	< 10	< 10	< 10
Vinyl chloride					2	< 10	< 10	< 10	< 10	< 10
Acetone						< 100	< 100	< 100	< 100	< 100
2-Butanone (MEK)						< 100	< 100	< 100	< 100	< 100
Styrene					100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylene (total)					10000	< 10	< 10	< 10	< 10	< 10
Vinyl Acetate						< 50	< 50	< 50	< 50	< 50
2-Hexanone						< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone						< 50	< 50	< 50	< 50	< 50
Carbon disulfide						< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene					600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene					600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene					75	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1F

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S9 06/23/99 Primary
Acrolein				< 100
Acrylonitrile				< 100
Benzene			5	< 5.0
Bromoform			100	< 5.0
Bromomethane				< 10
Carbon tetrachloride			5	< 5.0
Chlorobenzene			100	< 5.0
Chlorodibromomethane			100	< 5.0
Chloroethane				< 10
2-Chloroethyl Vinyl Ether				< 10
Chloroform			100	< 5.0
Chloromethane				< 10
Dichlorobromomethane			100	< 5.0
Dichlorodifluoromethane				< 10
1,1-Dichloroethane				< 5.0
1,2-Dichloroethane			5	< 5.0 [300]
1,1-Dichloroethene			7	< 5.0
trans-1,2-Dichloroethene			100	12
cis-1,2-Dichloroethene			70	[91]
1,2-Dichloropropane			5	1000 < 5.0
cis-1,3-Dichloropropene				< 5.0
trans-1,3-Dichloropropene				< 5.0
Ethylbenzene			700	< 5.0
Methylene chloride			5	< 5.0
1,1,2,2-Tetrachloroethane				< 5.0
Tetrachloroethene			5	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
 [] = Greater than Action Level
 For RCL VOC

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	DATE	US-PMCL	Primary
	59	06/23/99		
Toluene			1000	< 5.0
1,1,1-Trichloroethane			200	< 5.0
1,1,2-Trichloroethane			5	< 5.0
Trichloroethene			5	< 5.0
Trichlorofluoromethane				< 10
Vinyl chloride			2	< 10
Acetone				< 100
2-Butanone (MEK)				< 100
Styrene			100	< 5.0
Xylene (total)			10000	< 10
Vinyl Acetate				< 50
2-Hexanone				< 50
4-Methyl-2-pentanone				< 50
Carbon disulfide				< 5.0
1,2-Dichlorobenzene			600	< 5.0
1,3-Dichlorobenzene			600	< 5.0
1,4-Dichlorobenzene			75	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

The following qualifier(s) exist: J

For RCL VOC

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	7-25	86-10	86-15	9-33	MW-11
	DATE	06/22/99	06/23/99	06/23/99	06/22/99	06/22/99
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary
Total Phenols		< 10	< 10	< 10	< 10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE		MW-12	MW-13	MW-2	MW-4	MW-5
		DATE	US-PMCL	06/22/99	06/22/99	06/22/99	06/22/99	06/23/99
		RESULT TYPE		Primary	Primary	Primary	Primary	Primary
Total Phenols				< 10	< 10	< 10	< 10	20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1C
 Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	MW-7	MW-9	S15	S16	S17
			DATE	DATE	DATE	DATE	DATE
			RESULT TYPE	RESULT TYPE	RESULT TYPE	RESULT TYPE	RESULT TYPE
Total Phenols			< 10	< 10	20	20	20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	S20	S21	S22	S23	S24
		DATE	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
		RESULT TYPE	US-PMCL Primary	Primary	Primary	Primary	Primary
Total Phenols			< 10	20	< 10	< 10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOL

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1E
 Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	S25	S27	S3	S4A	S4A
				06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
				US-PMCL	Primary	Primary	Primary	Primary
Total Phenols				< 10	< 10	< 10	< 10	20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Phenols in Groundwater
Shallow Monitoring Wells
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

Page: 1F

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	69
		DATE	06/23/99
		RESULT TYPE	US-PMCL
			Primary
Total Phenols			20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	7-25	88-10	88-15	9-33	MW-11
			06/22/99	06/23/99	06/23/99	06/22/99	06/22/99
			Primary	Primary	Primary	Primary	Primary
Cyanide		200	< 5	5	< 5	< 5	< 5
Chromium (T), Dissolved			< 5	< 5	6.9	48	< 5
Lead, Dissolved			< 2.0	< 2.0	< 2.0	76	< 2.0
Nickel, Dissolved			< 20	< 20	< 20	< 20	< 20
Chromium, Total		100	---	---	---	---	---
Lead, Total		15	---	---	---	---	---
Nickel, Total		100	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	MW-12	MW-13	MW-2	MW-4	MW-5
				06/22/99	06/22/99	06/22/99	06/22/99	06/23/99
				Primary	Primary	Primary	Primary	Primary
Cyanide			200	< 5	20	10	< 5	10
Chromium (T), Dissolved				< 5	< 5	< 5	< 5	< 5
Lead, Dissolved				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				< 20	< 20	< 20	< 20	< 20
Chromium, Total			100	---	---	---	---	---
Lead, Total			15	---	---	---	---	---
Nickel, Total			100	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1C

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	MW-7	MW-9	S15	S16	S17
				DATE	DATE	DATE	DATE	DATE
				RESULT TYPE	Primary	Primary	Primary	Primary
Cyanide	200			< 5	< 5	< 5	< 5	< 5
Chromium (T), Dissolved				< 5	< 5	< 5	< 5	< 5
Lead, Dissolved				< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				< 20	< 20	< 20	< 20	< 20
Chromium, Total	100			---	---	---	---	---
Lead, Total	15			---	---	---	---	---
Nickel, Total	100			---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	S20	S21	S22	S23	S24
		DATE	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
	RESULT TYPE	UG-PMCL	Primary	Primary	Primary	Primary	Primary
Cyanide	200		< 5	< 5	< 5	6	< 5
Chromium (T), Dissolved			6.6	9.7	< 5	< 5	6.4
Lead, Dissolved			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			< 20	< 20	< 20	< 20	< 20
Chromium, Total	100		---	---	---	---	---
Lead, Total	15		---	---	---	---	---
Nickel, Total	100		---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1E

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	S25	S27	S3	S4A	S4A
				06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
		RESULT TYPE		Primary	Primary	Primary	Primary	Duplicate 1
Cyanide			200	<5	<5	<5	20	<5
Chromium (T), Dissolved				6.7	<5	<5	<5	<5
Lead, Dissolved				<2.0	<2.0	<2.0	<2.0	<2.0
Nickel, Dissolved				<20	<20	<20	<20	<20
Chromium, Total			100	---	---	---	---	---
Lead, Total			15	---	---	---	---	---
Nickel, Total			100	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1F

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	US-PMCL	RESULT TYPE
	89	06/23/99		Primary
Cyanide			200	< 5
Chromium (T), Dissolved				< 5
Lead, Dissolved				< 2.0
Nickel, Dissolved				< 20
Chromium, Total			100	---
Lead, Total			15	---
Nickel, Total			100	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

INTERMEDIATE MONITORING WELLS

Analytical Summary - VOCs in Groundwater
Intermediate Monitoring Wells
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	7D	8D
				06/23/99	06/23/99
RESULT TYPE	US-PMCL	Primary	Primary		
Acrolein				< 100	< 100
Acrylonitrile				< 100	< 100
Benzene	5			< 5.0	< 5.0
Bromoform	100			< 5.0	< 5.0
Bromomethane				< 10	< 10
Carbon tetrachloride	5			< 5.0	< 5.0
Chlorobenzene	100			< 5.0	< 5.0
Chlorodibromomethane	100			< 5.0	< 5.0
Chloroethane				< 10	< 10
2-Chloroethyl Vinyl Ether				< 10	< 10
Chloroform	100			< 5.0	< 5.0
Chloromethane				< 10	< 10
Dichlorobromomethane	100			< 5.0	< 5.0
Dichlorodifluoromethane				< 10	< 10
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane	5			< 5.0	< 5.0
1,1-Dichloroethene	7			< 5.0	< 5.0
trans-1,2-Dichloroethene	100			< 5.0	28
cis-1,2-Dichloroethene	70			25	[240]
1,2-Dichloropropane	5			< 5.0	< 5.0
cis-1,3-Dichloropropene				< 5.0	< 5.0
trans-1,3-Dichloropropene				< 5.0	< 5.0
Ethylbenzene	700			< 5.0	< 5.0
Methylene chloride	5			< 5.0	< 5.0
1,1,2,2-Tetrachloroethane				< 5.0	< 5.0
Tetrachloroethane	5			< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
[] = Greater than Action Level
For RCL VOC

Analytical Summary - VOCs in Groundwater
Intermediate Monitoring Wells
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

Page: 2A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	7D		8D	
			DATE	06/23/99	DATE	06/23/99
		RESULT TYPE	US-PMCL	Primary	Primary	Primary
Toluene			1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane			5	< 5.0	< 5.0	< 5.0
Trichloroethene			5	16.71	< 5.0	< 5.0
Trichlorofluoromethane				< 10	< 10	< 10
Vinyl chloride			2	< 10	< 10	< 10
Acetone				< 100	< 100	< 100
2-Butanone (MEK)				< 100	< 100	< 100
Styrene			100	< 5.0	< 5.0	< 5.0
Xylene (total)			10000	< 10	< 10	< 10
Vinyl Acetate				< 50	< 50	< 50
2-Hexanone				< 50	< 50	< 50
4-Methyl-2-pentanone				< 50	< 50	< 50
Carbon disulfide				< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene			600	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene			600	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene			75	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - Phenols in Groundwater
 Intermediate Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	7D	8D
		DATE	06/23/99	06/23/99
		RESULT TYPE	Primary	Primary
		US-PMCL		
Total Phenols			10	10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
Intermediate Monitoring Wells
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	70	80
	DATE	06/23/99	06/23/99
	RESULT TYPE	Primary	Primary
	US-PMCL		
Cyanide		< 5	80
Chromium (T), Dissolved		< 5	< 5
Lead, Dissolved		< 2.0	< 2.0
Nickel, Dissolved		< 20	< 20
Chromium, Total	100	---	---
Lead, Total	15	---	---
Nickel, Total	100	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

DEEP MONITORING WELLS

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	2D		5D		D5		D7	
			DATE	06/23/99	06/22/99	06/22/99	06/23/99	06/22/99		
			RESULT TYPE	US-PMCL	Primary	Primary	Duplicate 1	Primary	Primary	
Acrolein			<100	<100	<100	<100	<100	<100	<100	
Acrylonitrile			<100	<100	<100	<100	<100	<100	<100	
Benzene	5		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Bromoform	100		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Bromomethane			<10	<10	<10	<10	<10	<10	<10	
Carbon tetrachloride	5		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Chlorobenzene	100		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Chlorodibromomethane	100		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Chloroethane			<10	<10	<10	<10	<10	<10	<10	
2-Chloroethyl Vinyl Ether			<10	<10	<10	<10	<10	<10	<10	
Chloroform	100		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Chloromethane			<10	<10	<10	<10	<10	<10	<10	
Dichlorobromomethane	100		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Dichlorodifluoromethane			<10	<10	<10	<10	<10	<10	<10	
1,1-Dichloroethane			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
1,2-Dichloroethane	5		[12]	<5.0	<5.0	<5.0	<5.0	[51]		
1,1-Dichloroethene	7		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
trans-1,2-Dichloroethene	100		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
cis-1,2-Dichloroethene	70		17	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
1,2-Dichloropropane	5		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
cis-1,3-Dichloropropane			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
trans-1,3-Dichloropropane			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Ethylbenzene	700		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Methylene chloride	5		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
1,1,2,2-Tetrachloroethane			<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	
Tetrachloroethane	5		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	2D	5D	5D	D6	D7
RESULT TYPE	US-PMCL		Primary	Primary	Duplicate 1	Primary	Primary
Toluene	1000		<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200		<5.0	<5.0	<5.0	<5.0	<5.0
1,1,2-Trichloroethane	5		<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethane	5		<5.0	<5.0	<5.0	<5.0	<5.0
Trichlorofluoromethane			<10	<10	<10	<10	<10
Vinyl chloride	2		<10	<10	<10	<10	<10
Acetone			<100	<100	<100	<100	<100
2-Butanone (MEK)			<100	<100	<100	<100	<100
Styrene	100		<5.0	<5.0	<5.0	<5.0	<5.0
Xylene (total)	10000		<10	<10	<10	<10	<10
Vinyl Acetate			<50	<50	<50	<50	<50
2-Hexanone			<50	<50	<50	<50	<50
4-Methyl-2-pentanone			<50	<50	<50	<50	<50
Carbon disulfide			<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichlorobenzene	600		<5.0	<5.0	<5.0	<5.0	<5.0
1,3-Dichlorobenzene	600		<5.0	<5.0	<5.0	<5.0	<5.0
1,4-Dichlorobenzene	75		<5.0	<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Phenols in Groundwater
 Deep Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	2D	6D	6D	D5	D7
		DATE	06/23/99	06/22/99	06/22/99	06/23/99	06/22/99
		RESULT TYPE	US-PMCL	Primary	Primary	Duplicate 1	Primary
Total Phenols			20	< 10	< 10	20	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Deep Monitoring Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	2D	5D	5D	D5	D7
			06/23/99	06/22/99	06/22/99	06/23/99	06/22/99
			Primary	Primary	Duplicate 1	Primary	Primary
Cyanide	200		< 5	10	< 5	< 5	< 5
Chromium (T), Dissolved			< 5	< 5	< 5	< 5	< 5
Lead, Dissolved			< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			< 20	< 20	< 20	< 20	< 20
Chromium, Total	100		---	---	---	---	---
Lead, Total	15		---	---	---	---	---
Nickel, Total	100		---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

NAPHTHA RECOVERY WELLS

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	E3	RWB16	RWB16	RWB22	RWB23
RESULT TYPE	US-PMCL	Primary	Primary	Duplicate 1	Primary	Primary	
Acrolein		< 100	< 100	< 100	< 100	< 100	
Acrylonitrile		< 100	< 100	< 100	< 100	< 100	
Benzene	5	[5.2]	[47]	[45]	< 5.0	< 5.0	
Bromoform	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Bromomethane		< 10	< 10	< 10	< 10	< 10	
Carbon tetrachloride	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Chlorobenzene	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Chlorodibromomethane	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Chloroethane		< 10	< 10	< 10	< 10	< 10	
2-Chloroethyl Vinyl Ether		< 10	< 10	< 10	< 10	< 10	
Chloroform	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Chloromethane		< 10	< 10	< 10	< 10	< 10	
Dichlorobromomethane	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Dichlorodifluoromethane		< 10	< 10	< 10	< 10	< 10	
1,1-Dichloroethane		7.3	< 5.0	< 5.0	6.7	16	
1,2-Dichloroethane	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
1,1-Dichloroethene	7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
trans-1,2-Dichloroethene	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
cis-1,2-Dichloroethene	70	9.9	< 5.0	< 5.0	20	[1400]	
1,2-Dichloropropane	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
cis-1,3-Dichloropropene		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
trans-1,3-Dichloropropene		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Ethylbenzene	700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Methylene chloride	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
1,1,2,2-Tetrachloroethane		< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Tetrachloroethane	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 2A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE		E3	RWB16	RWB16	RWB22	RWB23
		DATE	RESULT TYPE	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
			US-PMCL	Primary	Primary	Duplicate 1	Primary	Primary
Toluene			1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,2-Trichloroethane			5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene			5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichlorofluoromethane				< 10	< 10	< 10	< 10	< 10
Vinyl chloride			2	[14]	< 10	< 10	< 10	[370]
Acetone				< 100	< 100	< 100	< 100	< 100
2-Butanone (MEK)				< 100	< 100	< 100	< 100	< 100
Styrene			100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Xylene (total)			10000	< 10	< 10	< 10	< 10	< 10
Vinyl Acetate				< 50	< 50	< 50	< 50	< 50
2-Hexanone				< 50	< 50	< 50	< 50	< 50
4-Methyl-2-pentanone				< 50	< 50	< 50	< 50	< 50
Carbon disulfide				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene			600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene			600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene			75	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - Phenols in Groundwater
 Naphtha Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	E3	RWB16	RWB16	RWB22	RWB23
		DATE	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
RESULT TYPE	US-PMCL		Primary	Primary	Duplicate 1	Primary	Primary
Total Phenols			< 10	< 10	< 10	< 10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Naphtha Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE		E3	RWB16	RWB16	RWB22	RWB23
		DATE	US-PMCL	06/22/99	06/22/99	06/22/99	06/22/99	06/22/99
		RESULT TYPE		Primary	Primary	Duplicate 1	Primary	Primary
Cyanide			200	< 5	20	< 5	< 5	20
Chromium (T), Dissolved				---	---	---	---	---
Lead, Dissolved				---	---	---	---	---
Nickel, Dissolved				---	---	---	---	---
Chromium, Total			100	< 5	< 5.0	< 5.0	7.4	< 5.0
Lead, Total			15	< 2.0	< 2.0	< 2.0	3.9	< 2.0
Nickel, Total			100	< 20	< 20	< 20	< 20	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

VOC RECOVERY WELLS

Analytical Summary - VOCs in Groundwater
 VOC Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-1	EW-2	EW-3
				06/22/99	06/22/99	06/22/99
				Primary	Primary	Primary
Acrolein				< 100	< 100	< 100
Acrylonitrile				< 100	< 100	< 100
Benzene			5	< 5.0	< 5.0	< 5.0
Bromoform			100	< 5.0	< 5.0	< 5.0
Bromomethane				< 10	< 10	< 10
Carbon tetrachloride			5	< 5.0	< 5.0	< 5.0
Chlorobenzene			100	< 5.0	< 5.0	< 5.0
Chlorodibromomethane			100	< 5.0	< 5.0	< 5.0
Chloroethane				< 10	< 10	< 10
2-Chloroethyl Vinyl Ether				< 10	< 10	< 10
Chloroform			100	< 5.0	< 5.0	< 5.0
Chloromethane				< 10	< 10	< 10
Dichlorobromomethane			100	< 5.0	< 5.0	< 5.0
Dichlorodifluoromethane				< 10	< 10	< 10
1,1-Dichloroethane				33	44	< 5.0
1,2-Dichloroethane			5	[12]	< 5.0	< 5.0
1,1-Dichloroethene			7	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	55	26	98
cis-1,2-Dichloroethene			70	[210]	[150]	48
1,2-Dichloropropane			5	< 5.0	< 5.0	< 5.0
cis-1,3-Dichloropropene				< 5.0	< 5.0	< 5.0
trans-1,3-Dichloropropene				< 5.0	< 5.0	< 5.0
Ethylbenzene			700	< 5.0	< 5.0	< 5.0
Methylene chloride			5	< 5.0	< 5.0	< 5.0
1,1,2,2-Tetrachloroethane				< 5.0	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
 [] = Greater than Action Level
 For RCL VOC

Analytical Summary - VOCs in Groundwater
 VOC Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	EW-1	EW-2	EW-3
			06/22/99	06/22/99	06/22/99
	RESULT TYPE		Primary	Primary	Primary
Toluene		1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5.0	34	< 5.0
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 5.0
Trichloroethene		5	[120]	[56]	[27]
Trichlorofluoromethane			< 10	< 10	< 10
Vinyl chloride		2	[15]	< 10	< 10
Acetone			< 100	< 100	< 100
2-Butanone (MEK)			< 100	< 100	< 100
Styrene		100	< 5.0	< 5.0	< 5.0
Xylene (total)		10000	< 10	< 10	< 10
Vinyl Acetate			< 50	< 50	< 50
2-Hexanone			< 50	< 50	< 50
4-Methyl-2-pentanone			< 50	< 50	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0
1,2-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0
1,3-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0
1,4-Dichlorobenzene		75	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL VOC

Analytical Summary - Phenols in Groundwater
 VOC Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	EW-1 06/22/99 Primary	EW-2 06/22/99 Primary	EW-3 06/22/99 Primary
Total Phenols			< 10	< 10	< 10
Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed For RCL PHENOLS					

Analytical Summary - Inorganics in Groundwater
 VOC Recovery Wells
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE		EW-1	EW-2	EW-3
		DATE		06/22/99	06/22/99	06/22/99
		RESULT TYPE	US-PMCL	Primary	Primary	Primary
Cyanide			200	40	60	< 5
Chromium (T), Dissolved				---	---	---
Lead, Dissolved				---	---	---
Nickel, Dissolved				---	---	---
Chromium, Total			100	< 5	< 5	7.1
Lead, Total			15	< 2.0	4.1	3.6
Nickel, Total			100	< 20	< 20	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

CURRENT AND HISTORICAL DATA TABLES

- SHALLOW MONITORING WELLS
- INTERMEDIATE MONITORING WELLS
- DEEP MONITORING WELLS
- NAPHTHA RECOVERY WELLS
- VOC RECOVERY WELLS

SHALLOW MONITORING WELLS

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	7-25	7-25	7-25	7-25	7-25
			03/18/97	06/03/97	07/18/97	09/25/97	12/08/97
	RESULT TYPE		Primary	Primary	Primary	Primary	Primary
Benzene		5	< 5	< 5	< 5	< 5.0	< 5.0
Chloroethene		2	< 10	< 2	(1.2)	< 10	< 10
Chloroform		100	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethane			< 5	< 5	< 5	< 5.0	< 5.0
1,2-Dichloroethane		5	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethane		7	< 5	< 5	< 5	< 5.0	< 5.0
trans-1,2-Dichloroethene		100	< 5	< 5	< 5	< 5.0	< 5.0
cis-1,2-Dichloroethene		70	< 5	< 5	< 5	< 5.0	< 5.0
Methylene chloride		5	< 5	< 5	< 5	< 5.0	< 5.0
Tetrachloroethene		5	< 5	< 5	< 5	< 5.0	< 5.0
Toluene		1000	< 5	< 5	< 5	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5	< 5	< 5	< 5.0	< 5.0
Trichloroethene		5	< 5	< 5	< 5	< 5.0	< 5.0
Vinyl Chloride		2	< 10	< 2	(1.2)	< 10	< 10
Acetone			< 100	< 100	< 100	< 100	< 100
Xylene (total)		10000	< 10	< 5	< 5	< 10	< 10
Carbon disulfide			< 5	< 5	< 5	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

() = Less than Reporting Limit

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	7-25	7-25	7-25
		DATE	06/09/98	12/12/98	06/22/99
	RESULT TYPE	US-PMCL	Primary	Primary	Primary
Benzene	5		<5.0	<5.0	<5.0
Chloroethane	2		<10	<10	<10
Chloroform	100		<5.0	<5.0	<5.0
1,1-Dichloroethane			<5.0	<5.0	<5.0
1,2-Dichloroethane	5		<5.0	<5.0	<5.0
1,1-Dichloroethane	7		<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100		<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70		<5.0	<5.0	<5.0
Methylene chloride	5		<5.0	<5.0	<5.0
Tetrachloroethene	5		<5.0	<5.0	<5.0
Toluene	1000		<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200		<5.0	<5.0	<5.0
Trichloroethene	5		<5.0	<5.0	<5.0
Vinyl Chloride	2		<10	<10	<10
Acetone			<100	<100	<100
Xylene (total)	10000		<10	<10	<10
Carbon disulfide			<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	7-25 03/18/97	7-25 09/25/97	7-25 06/22/99
RESULT TYPE	US-PMCL	Primary	Primary	Primary
Cyanide	200	< 5	< 5	< 5
Chromium (T), Dissolved	---	---	< 5	< 5
Lead, Dissolved	---	---	< 2.0	< 2.0
Nickel, Dissolved	---	---	< 20	< 20
Chromium, Total	100	7	---	---
Lead, Total	15	(27)	---	---
Nickel, Total	100	< 20	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
 (|) = Greater than Action Level
 For RCL INORG

7-25

NOTES

DATE SAMPLED	SAMPLE NO.	LAB	MCL	
			METHOD	
11/07/86	31	AQUA		
06/05/87	2	AQUA		
09/08/87	2	AQUA		
01/13/88	2	AQUA		
02/08/88	2	AQUA		
05/18/88	2	AQUA		
09/22/88	2	AQUA		
12/09/88	13	AQUA		
03/31/92	22	AQUA	0240	
09/02/92	43	AQUA	0240	

No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected
 No VOC Detected

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Data Sampled

SHALLOW MONITOR WELLS
 GROUNDWATER QUALITY ANALYSIS
 ORGANIC COMPOUNDS

ALLIED SIGNAL INC.
 GROUNDWATER INVESTIGATIONS
 SOUTH BEND, INDIANA

W. H. Gleason
 associates
 Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	86-10	86-10	86-10	86-10	86-10
		DATE	03/18/87	06/05/97	09/25/97	12/09/97	06/11/98
	US-PMCL	RESULT TYPE	Primary	Primary	Primary	Primary	Primary
Benzene	5		<5	<5	<5.0 E	<5.0	<5.0
Chloroethene	2		<10	<2	<10 E	<10	<10
Chloroform	100		<5	<5	<5.0 E	<5.0	<5.0
1,1-Dichloroethane			<5	<5	<5.0 E	<5.0	<5.0
1,2-Dichloroethane	5		<5	<5	<5.0 E	<5.0	<5.0
1,1-Dichloroethane	7		<5	<5	<5.0 E	<5.0	<5.0
trans-1,2-Dichloroethane	100		9.6	12	12 J	12	9.1
cis-1,2-Dichloroethane	70		[78]	[95]	[92] J	[98]	[71]
Methylene chloride	5		<5	<5	<5.0 E	<5.0	<5.0
Tetrachloroethene	5		<5	<5	<5.0 E	<5.0	<5.0
Toluene	1000		<5	<5	<5.0 E	<5.0	<5.0
1,1,1-Trichloroethane	200		<5	<5	<5.0 E	<5.0	<5.0
Trichloroethene	5		[88]	[100]	[120] J	[120]	[63]
Vinyl Chloride	2		<10	<2	<10 E	<10	<10
Acetone			<100	<100	<100 E	<100	<100
Xylene (total)	10000		<10	<5	<10 E	<10	<10
Carbon disulfide			<5	<5	<5.0 E	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	86-10	86-10
					12/12/98	06/23/99
					Primary	Primary
Benzene				5	< 5.0	< 5.0
Chloroethane				2	< 10	< 10
Chloroform				100	< 5.0	< 5.0
1,1-Dichloroethane					< 5.0	< 5.0
1,2-Dichloroethane				5	< 5.0	< 5.0
1,1-Dichloroethane				7	< 5.0	< 5.0
trans-1,2-Dichloroethane				100	10	< 5.0
cis-1,2-Dichloroethane				70	[81]	[82]
Methylene chloride				5	< 5.0	< 5.0
Tetrachloroethene				5	< 5.0	< 5.0
Toluene				1000	< 5.0	< 5.0
1,1,1-Trichloroethane				200	< 5.0	< 5.0
Trichloroethene				5	[79]	[64]
Vinyl Chloride				2	< 10	< 10
Acetone					< 100	< 100
Xylene (total)				10000	< 10	< 10
Carbon disulfide					< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level The following qualifier(s) exist: E, J

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	86-10	86-10	86-10	86-10
	DATE	03/18/97	09/25/97	06/11/98	06/23/99
	RESULT TYPE	US-PMCL	Primary	Primary	Primary
Cyanide		200	< 5	6	< 5
Chromium (T), Dissolved		---	< 5	13	< 5
Lead, Dissolved		---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved		---	< 20	< 20	< 20
Chromium, Total		100	< 5	---	---
Lead, Total		15	2.4	---	---
Nickel, Total		100	< 20	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

SAMPLE ID
86-10
DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	12 MAR 96		04 JUN 96		04 SEP 96		10 DEC 96	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	- BENZENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	- CHLOROETHANE	UG/L	10	U	10	U	10	U	10	U
	- CHLOROFORM	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	- 1,1-DICHLOROETHANE	UG/L	5.0	U	2.5	J	4.9	J	5.0	U
	- 1,2-DICHLOROETHANE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	- 1,1-DICHLOROETHENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	- TRANS-1,2-DICHLOROETHENE	UG/L	16		9.2		7.5		12	
	- CIS-1,2-DICHLOROETHENE	UG/L	77		75		78		88	
	- METHYLENE CHLORIDE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	- TETRACHLOROETHENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	- TOLUENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	- 1,1,1-TRICHLOROETHANE	UG/L	10		6.4		22		7.2	
	- TRICHLOROETHENE	UG/L	120		94		120		100	
	- VINYL CHLORIDE	UG/L	10	U	10	U	10	U	10	U
	- ACETONE	UG/L	100	U	100	U	100	U	100	U
	- XYLENE (TOTAL)	UG/L	10	U	10	U	10	U	10	U
- CARBON DISULFIDE	UG/L	5.0	U	5.0	U	5.0	U	65		
TOTAL VOCS:	UG/L	223		187.1		232.4		272.2		
E.METALS	CHROMIUM	UG/L	5	U	-		13		-	
	LEAD	UG/L	2.8		-		2.7		-	
	NICKEL	UG/L	11	J	-		5.4	J	-	
H.MISC	CYANIDE, TOTAL	UG/L	5	U	-		5	U	-	
	PHENOLS	UG/L	10	U	-		10	U	-	

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 86-10 DATE COLLECTED					
			08 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	08 JUN 95 AMOUNT Q	19 SEP 95 AMOUNT Q	05 DEC 95 AMOUNT Q	
A.VOA	BENZENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
	1,1-DICHLOROETHANE	UG/L	5 U	5.0 U	3.3 J	2.1 J	10 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	18	16	2.1 J	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	90	78	15	11	5.0 U	16
	METHYLENE CHLORIDE	UG/L	5 U	5.0 U	95	75	81	5.0 U
	TETRACHLOROETHENE	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	141	35	3.6 J	4.0 J	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	95	100	53	10 U
	ACETONE	UG/L	100 U	100 U	2.2 J	10 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U	10 U	10 U
	TOTAL VOCS:	UG/L	249	129	216.2	192.1	150	
E.METALS	LEAD	UG/L	-	-	-	1.4 J	-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 U	-	-	-	
	NICKEL (DISSOLVED)	UG/L	-	20 U	-	-	-	
H.MISC	CYANIDE, TOTAL	UG/L	-	5 U	-	5 U	-	
	PHENOLS	UG/L	-	10 U	-	10 U	-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: 06-10				1,1-DI- CHLORO- ETHANE	CIS-1,2- DICHLORO- ETHENE	TRANS-1,2 DICHLORO- ETHENE	1,1,1-TRI- CHLORO- ETHANE	TRI- CHLORO- ETHENE	VINYL CHLORIDE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	MPL UG/L	P-70 UG/L	P-100 UG/L	200 UG/L	5 UG/L	2 UG/L	UG/L	
08/02/88	7	AQUA		ND	ND	85.4	ND	300	ND	393	
10/10/88	10	AQUA		8.7	ND	130	89.7	440	ND	679	
02/24/89	22	AQUA		ND	100	41	ND	340	19.8	501	
06/08/89	10	AQUA	0240	ND	87.3	35.3	ND	300	ND	403	
09/07/89	3	AQUA	0240	ND	75.7	35.1	15.5	230	16.3	373	
12/12/89	15	AQUA	0240	ND	92.4	48.8	ND	440	15.5	597	
02/28/90	7	AQUA	0240	ND	150	61.8	ND	270	22.1	504	
06/01/90	3	AQUA	0240	ND	81.7	48.5	ND	360	ND	490	
08/23/90	12	AQUA	0240	ND	55.2	30.8	ND	350	ND	436	
10/29/90	24	AQUA	0240	ND	87.4	39.7	10.4	327	ND	465	
03/01/91	14	AQUA	0240	21.2	80.8	48.2	6.0	330	ND	472	
05/31/91	6	AQUA	0240	ND	85.2	78.6	16.9	342.5	ND	523	
08/10/91	16	AQUA	0240	ND	42.4	21.5	32.6	282	ND	379	
11/13/91	10	AQUA	0240	ND	57.3	20.1	15.4	270	ND	371	
01/23/92	-7	AQUA	0240	5.8	53.7	24.0	14.5	243	ND	341	
01/23/92	8	AQUA	0240	6.1	53.9	24.7	13.5	240	ND	346	
04/01/92	26	AQUA	0240	ND	47.7	10.0	19.1	246	ND	327	
06/21/92	5	AQUA	0240	ND	84.1	20.1	45.7	272	ND	402	
11/02/92	36	AQUA	0240	8.3	61.8	18.5	61.0	191	ND	342	
02/03/93	23	AQUA	0240	ND	90.2	21.8	17.9	224	ND	354	
03/12/93	21	AQUA	0240	ND	81.8	24.0	12.0	225	ND	353	
09/01/93	21	AQUA	0240	ND	76.4	15.8	ND	143	ND	235	
12/02/93	15	AQUA	0240	5.7	115	32.8	29.1	255	ND	437	
02/18/94	16	AQUA	0240	ND	39.7	23.7	ND	102	ND	165	
05/06/94	23	AQUA	0240	ND	78.8	12.5	27.1	158	ND	277	
08/15/94	18	AQUA	0240	8.7	80.1	10.8	82.7	171	ND	333	

NOTES:

OWN INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

MPL - MD U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

alliedsignal
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	86-15	86-15	86-15	86-15	86-15
			03/18/97	06/05/97	06/05/97	09/25/97	12/09/97
RESULT TYPE			Primary	Primary	Duplicate 1	Primary	Primary
Benzene		5	< 5	< 5	< 5	< 5.0	< 5.0
Chloroethene		2	< 10	< 2	< 2	< 10	< 10
Chloroform		100	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethane			< 5	< 5	< 5	< 5.0	< 5.0
1,2-Dichloroethane ..		5	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethene		7	< 5	< 5	< 5	< 5.0	< 5.0
trans-1,2-Dichloroethene		100	60	58	53	48	50
cis-1,2-Dichloroethene		70	35	38	33	32	33
Methylene chloride		5	< 5	< 5	< 5	< 5.0	< 5.0
Tetrachloroethene		5	< 5	< 5	< 5	< 5.0	< 5.0
Toluene		1000	< 5	< 5	< 5	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5	< 5	< 5	< 5.0	< 5.0
Trichloroethene		5	[330]	[330]	[290]	[260]	[290]
Vinyl Chloride		2	< 10	< 2	< 2	< 10	< 10
Acetone			< 100	< 100	< 100	< 100	< 100
Xylene (total)		10000	< 10	< 5	< 5	< 10	< 10
Carbon disulfide			< 5	< 5	< 5	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	86-15	86-15	86-15
			06/11/98	12/12/98	06/23/99
	DATE		Primary	Primary	Primary
	RESULT TYPE				
Benzene		5	< 5.0	< 5.0	< 5.0
Chloroethene		2	< 10	< 10	< 10
Chloroform		100	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			< 5.0	< 5.0	< 5.0
1,2-Dichloroethane		5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane		7	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene		100	86	68	68
cis-1,2-Dichloroethene		70	57	40	43
Methylene chloride		5	< 5.0	< 5.0	< 5.0
Tetrachloroethene		5	< 5.0	< 5.0	< 5.0
Toluene		1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5.0	< 5.0	< 5.0
Trichloroethene		5	[350]	[390]	[300]
Vinyl Chloride		2	< 10	< 10	< 10
Acetone			< 100	< 100	< 100
Xylene (total)		10000	< 10	< 10	< 10
Carbon disulfide			< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	86-15	86-15	86-15	86-15
	DATE	03/18/97	09/25/97	06/11/98	06/23/99
	RESULT TYPE	Primary	Primary	Primary	Primary
	US-PMCL				
Total Phenols		<10	<10	<10	<10
<p>Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed</p> <p>For RCL PHENOLS</p>					

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	86-15				
			DATE	03/18/97	09/25/97	06/11/98	06/23/99
				Primary	Primary	Primary	Primary
RESULT TYPE	US-PMCL						
Cyanide	200		< 5	< 5	< 5	< 5	
Chromium (T), Dissolved			---	< 5	18	6.9	
Lead, Dissolved			---	< 2.0	< 2.0	< 2.0	
Nickel, Dissolved			---	< 20	< 20	< 20	
Chromium, Total	100		< 5	---	---	---	
Lead, Total	15		6.4	---	---	---	
Nickel, Total	100		< 20	---	---	---	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 86-15 DATE COLLECTED						
			08 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	08 JUN 95 AMOUNT Q	19 SEP 95 AMOUNT Q	05 DEC 95 AMOUNT Q		
A.VOA	BENZENE	UG/L	25 U		13 U	25 U		25 U	25 U
	CHLOROETHANE	UG/L	50 U		25 U			25 U	50 U
	1,1-DICHLOROETHANE	UG/L	25 U		13 U	3.2 J		50 U	50 U
	1,2-DICHLOROETHANE	UG/L	25 U		13 U		25 U	25 U	25 U
	1,1-DICHLOROETHENE	UG/L	25 U		13 U		25 U	25 U	25 U
	TRANS-1,2-DICHLOROETHENE	UG/L	47		13 U	3.4 J		25 U	25 U
	CIS-1,2-DICHLOROETHENE	UG/L	61	35		18 J		45	38
	METHYLENE CHLORIDE	UG/L		230		99		59	37
	TETRACHLOROETHENE	UG/L			13 U	4.0 J			
	TOLUENE	UG/L	25 U		13 U		25 U		25 U
	1,1,1-TRICHLOROETHANE	UG/L	43		13 U		25 U		25 U
	TRICHLOROETHENE	UG/L	625	470	13 U	7.2 J		6.5 J	25 U
	VINYL CHLORIDE	UG/L	138	60		290		440	310
	ACETONE	UG/L				44 J			50 U
	XYLENE (TOTAL)	UG/L	500 U		250 U		500 U		500 U
	UG/L	50 U		25 U		50 U		50 U	
TOTAL VOCS:	UG/L	914	795		468.8		550.5	385	
E.METALS	LEAD	UG/L	-				3.8		
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.3					
	NICKEL (DISSOLVED)	UG/L	-	22					
H.MISC	CYANIDE, TOTAL	UG/L	-		5 U				
	PHENOLS	UG/L	-		10 U		5 U		
							10 U		

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: 86-15				1, 1-DI- CHLORO- ETHANE	CIS-1, 2- DICHLORO- ETHANE	TRANS-1, 2 DICHLORO- ETHANE	1, 1, 1-TRI CHLORO- ETHANE	TRI- CHLORO- ETHENE	VINYL CHLORIDE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	1PL UG/L	P-70 UG/L	P-100 UG/L	200 UG/L	5 UG/L	2 UG/L	UG/L	
08/02/86	4	AQUA		ND	ND	48.1	64.9	1620	ND	1733	
10/10/86	13	AQUA		ND	ND	33.7	38.0	1200	ND	1352	
02/24/89	24	AQUA		ND	ND	9.2	9.1	400	ND	410	
06/08/89	9	AQUA	024	ND	18.2	33.5	7.6	600	ND	659	
09/07/89	2	AQUA	0240	ND	20.8	36.0	ND	470	ND	527	
12/12/89	14	AQUA	0240	ND	12.2	20.5	10.6	440	ND	463	
02/28/90	8	AQUA	0240	ND	18.5	32.7	11.8	520	ND	581	
06/01/90	2	AQUA	0240	ND	6.7	11.8	10.8	390	ND	419	
08/23/90	11	AQUA	0240	ND	ND	6.1	7.6	370	ND	384	
10/29/90	23	AQUA	0240	ND	8.8	10.8	11.2	404	ND	435	
03/01/91	13	AQUA	0240	6.1	7.9	13.9	18.1	322	ND	380	
05/31/91	5	AQUA	0240	ND	ND	39.1	4.3	449.6	ND	490	
08/30/91	15	AQUA	0240	ND	8.4	13.0	8.8	323	ND	354	
11/13/91	8	AQUA	0240	ND	12.5	14.2	7.4	301	ND	315	
11/13/91	9	AQUA	0240	ND	10.4	15.2	7.1	345	ND	370	
01/23/92	5	AQUA	0240	5.6	12.1	21.3	11.5	350	ND	401	
04/01/92	25	AQUA	0240	ND	11.9	21.1	7.5	404	ND	445	
08/21/92	4	AQUA	0240	ND	20.9	18.2	8.8	546	11.1	605	
11/02/92	34	AQUA	0240	ND	28.8	34.1	7.6	408	ND	470	
11/02/92	35	AQUA	0240	ND	28.7	33.4	8.3	376	ND	446	
02/03/93	22	AQUA	0240	ND	33.1	38.2	7.0	440	ND	516	
05/12/93	18	AQUA	0240	ND	28.7	34.1	6.8	364	ND	434	
05/12/93	20	AQUA	0240	ND	33.8	40.9	7.8	383	ND	466	
09/01/93	20	AQUA	0240	7.3	47.4	41.6	8.1	373	ND	477	
12/02/93	14	AQUA	0240	ND	78.1	53.9	ND	891	ND	1021	
02/10/94	13	AQUA	0240	ND	37.7	31.1	ND	774	ND	445	
03/08/94	21	AQUA	0240	ND	31.8	37.8	ND	370	ND	440	
05/06/94	22	AQUA	0240	ND	37.2	36.3	ND	344	ND	410	
09/15/94	17	AQUA	0240	ND	64.5	62.0	ND	575	109	601	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Date
Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSONAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

alliedsonal
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	9-33 03/19/97	9-33 06/04/97	9-33 09/26/97	9-33 09/26/97	9-33 06/10/98
	RESULT TYPE	US-PMCL Primary	Primary	Primary	Duplicate 1	Primary
Benzene	5	< 5	< 5	< 5.0	< 5.0	< 5.0
Chloroethene	2	< 10	< 2	< 10	< 10	< 10
Chloroform	100	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane		< 5	< 5	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane --	5	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	7	< 5	< 5	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	100	< 5	< 5	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene	70	< 5	< 5	< 5.0	< 5.0	< 5.0
Methylene chloride	5	< 5	< 5	< 5.0	< 5.0	< 5.0
Tetrachloroethene	5	< 5	< 5	< 5.0	< 5.0	< 5.0
Toluene	1000	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	200	< 5	< 5	< 5.0	< 5.0	< 5.0
Trichloroethene	5	< 5	< 5	< 5.0	< 5.0	< 5.0
Vinyl Chloride	2	< 10	< 2	< 10	< 10	< 10
Acetone		< 100	< 100	< 100	< 100	< 100
Xylene (total)	10000	< 10	< 5	< 10	< 10	< 10
Carbon disulfide		< 5	< 5	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	9-33	9-33
				12/12/98	06/22/99
				Primary	Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	< 5.0	< 5.0
cis-1,2-Dichloroethene			70	< 5.0	< 5.0
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0
Trichloroethene			5	< 5.0	< 5.0
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	9-33	9-33	9-33	9-33	9-33
	DATE	03/19/97	09/26/97	09/26/97	06/10/98	06/22/99
	RESULT TYPE	US-PMCL	Primary	Primary	Duplicate 1	Primary
Total Phenols		10	<10	<10	<10	<10
Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed For RCL PHENOLS						

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	9-33	9-33	9-33	9-33	9-33
RESULT TYPE	US-PMCL	Primary	Primary	Duplicate 1	Primary	Primary
Cyanide	200	< 5	< 5	< 5	< 5	< 5
Chromium (T), Dissolved		---	< 5	< 5	< 5	48
Lead, Dissolved		---	< 2.0	< 2.0	< 2.0	76
Nickel, Dissolved		---	< 20	< 20	< 20	< 20
Chromium, Total	100	< 5	---	---	---	---
Lead, Total	15	< 2	---	---	---	---
Nickel, Total	100	< 20	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 9-33 DATE COLLECTED			
			13 MAR 96 AMOUNT q	04 JUN 96 AMOUNT q	05 SEP 96 AMOUNT q	10 DEC 96 AMOUNT q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	METHYLENE CHLORIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
TOTAL VOCS:		UG/L	0	0	0	0
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	1.0 J	-	1.3 J	-
	NICKEL	UG/L	20 U	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

SAMPLE ID
9-33
DATE COLLECTED
07 DEC 94

GROUP	PARAMETER NAME	UNITS	07 DEC 94		13 MAR 95		06 JUN 95		20 SEP 95		06 DEC 95	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	BENZENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	CHLOROETHANE	UG/L	10 U		10 U		10 U		10 U		10 U	
	1,1-DICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,2-DICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,1-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TRANS-1,2-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	CIS-1,2-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	METHYLENE CHLORIDE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TETRACHLOROETHENE	UG/L	-		5.0 U		5.0 U		5.0 U		5.0 U	
	TOLUENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,1,1-TRICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TRICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	VINYL CHLORIDE	UG/L	10 U		10 U		10 U		10 U		10 U	
	ACETONE	UG/L	100 U		100 U		12 J		100 U		100 U	
	XYLENE (TOTAL)	UG/L	10 U		10 U		10 U		10 U		10 U	
TOTAL VOCs:		UG/L	0		0		12		0		0	
E.METALS	LEAD	UG/L	-		-		-		4.2		-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-		2.0 U		-		-		-	
	NICKEL (DISSOLVED)	UG/L	-		20 U		-		-		-	
H.MISC	CYANIDE, TOTAL	UG/L	-		5 U		-		5 U		-	
	PHENOLS	UG/L	-		10 U		-		10 U		-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-1	MW-1	MW-1	MW-1
				03/18/97	06/05/97	09/26/97	12/10/97
				Primary	Primary	Primary	Primary
Benzene			5	< 5	< 5	< 5.0	< 5.0
Chloroethene			2	< 10	< 2	< 10	< 10
Chloroform			100	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethene				< 5	< 5	< 5.0	< 5.0
1,2-Dichloroethene			5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethene			7	< 5	< 5	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	< 5	< 5	< 5.0	< 5.0
cis-1,2-Dichloroethene			70	< 5	< 5	< 5.0	< 5.0
Methylene chloride			5	< 5	< 5	< 5.0	< 5.0
Tetrachloroethene			5	< 5	< 5	< 5.0	< 5.0
Toluene			1000	< 5	< 5	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5	< 5	< 5.0	< 5.0
Trichloroethene			5	< 5	< 5	< 5.0	< 5.0
Vinyl Chloride			2	< 10	< 2	< 10	< 10
Acetone				< 100	< 100	< 100	< 100
Xylene (total)			10000	< 10	< 5	< 10	< 10
Carbon disulfide				< 5	< 5	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	MW-1	MW-1
			03/18/97	09/26/97
	RESULT TYPE		Primary	Primary
Cyanide		200	< 5	< 5
Chromium (T), Dissolved			---	< 5
Lead, Dissolved			---	< 2.0
Nickel, Dissolved			---	< 20
Chromium, Total		100	30 J	---
Lead, Total		15	[19] J	---
Nickel, Total		100	[140]	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level The following qualifier(s) exist: J

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-2	MW-2	MW-2	MW-2	MW-2
				03/18/97	06/05/97	09/26/97	12/09/97	06/12/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	< 130	< 5	< 25	< 10	< 20
Chloroethene			2	< 250	< 2	[70]	[83]	[93]
Chloroform			100	< 130	< 5	< 25	< 10	< 20
1,1-Dichloroethane				< 130	280	190	110	220
1,2-Dichloroethane			5	< 130	< 5	[49]	< 10	< 20
1,1-Dichloroethane			7	< 130	< 5	< 25	< 10	< 20
trans-1,2-Dichloroethene			100	< 130	< 5	< 25	14	27
cis-1,2-Dichloroethene			70	[2400]	[3500]	[2600]	[950]	[2100]
Methylene chloride			5	< 130	< 5	< 25	< 10	< 20
Tetrachloroethene			5	< 130	< 5	< 25	< 10	< 20
Toluene			1000	< 130	< 5	< 25	< 10	< 20
1,1,1-Trichloroethane			200	[880]	[960]	[500]	[240]	[490]
Trichloroethene			5	[170]	< 5	[36]	[19]	[51]
Vinyl Chloride			2	< 250	< 2	[70]	[83]	[93]
Acetone				< 2500	< 100	< 500	< 200	< 400
Xylene (total)			10000	< 250	< 5	< 50	< 20	< 40
Carbon disulfide				< 130	< 5	< 25	< 10	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-2	MW-2	MW-2
				12/13/98	12/13/98	06/22/99
				Primary	Duplicate 1	Primary
Benzene			5	< 25	< 25	< 25
Chloroethane			2	[100]	[110]	[76]
Chloroform			100	< 25	< 25	< 25
1,1-Dichloroethane				240	250	250
1,2-Dichloroethane			5	[32]	[33]	< 25
1,1-Dichloroethane			7	[28] J	[38]	< 25
trans-1,2-Dichloroethane			100	38	39	< 25
cis-1,2-Dichloroethane			70	[3000]	[3200]	[2900]
Methylene chloride			5	[38] JB	[49]	< 25
Tetrachloroethane			5	< 25	< 25	< 25
Toluene			1000	< 25	< 25	< 25
1,1,1-Trichloroethane			200	[700] J	< 25	[920]
Trichloroethene			5	[40]	[44]	[46]
Vinyl Chloride			2	[100]	[110]	[76]
Acetone				< 500	< 500	< 500
Xylene (total)			10000	< 50	< 50	< 50
Carbon disulfide				< 25	< 25	< 25

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level The following qualifier(s) exist: J, B

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	MW-2	MW-2	MW-2	MW-2
			DATE	DATE	DATE	DATE
RESULT TYPE			Primary	Primary	Primary	Primary
Total Phenols			< 10	10	< 10	< 10
<p>Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed</p> <p>For RCL PHENOLS</p>						

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units In ug/l)	SITE DATE	US-PMCL	MW-2	MW-2	MW-2	MW-2
				03/18/97	09/26/97	06/12/98	06/22/99
		RESULT TYPE		Primary	Primary	Primary	Primary
Cyanide	200			< 5	< 5	< 5	10
Chromium (T), Dissolved				---	< 5	7.8	< 5
Lead, Dissolved				---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20	< 20
Chromium, Total	100			< 5	---	---	---
Lead, Total	15			12	---	---	---
Nickel, Total	100			< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	MW-3	MW-3	MW-3	MW-3	MW-3
			03/18/97	03/18/97	06/05/97	09/26/97	12/10/97
	RESULT TYPE		Primary	Duplicate 1	Primary	Primary	Primary
Benzene		5	< 5	< 5	< 5	< 5.0	< 5.0
Chloroethene		2	< 10	< 10	< 2	< 10	< 10
Chloroform		100	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethane			< 5	< 5	< 5	5.0	5.1
1,2-Dichloroethane		5	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethane		7	< 5	< 5	< 5	< 5.0	< 5.0
trans-1,2-Dichloroethene		100	< 5	< 5	< 5	< 5.0	< 5.0
cis-1,2-Dichloroethene		70	38	39	50	57	60
Methylene chloride		5	< 5	< 5	< 5	< 5.0	< 5.0
Tetrachloroethene		5	< 5	< 5	< 5	< 5.0	< 5.0
Toluene		1000	< 5	< 5	< 5	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5	< 5	7.6	8.6	6.9
Trichloroethene		5	[6.2]	[6]	[6.0]	[8.4]	[5.7]
Vinyl Chloride		2	< 10	< 10	< 2	< 10	< 10
Acetone			< 100	< 100	< 100	< 100	< 100
Xylene (total)		10000	< 10	< 10	< 5	< 10	< 10
Carbon disulfide			< 5	< 5	< 5	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	MW-3
DATE	12/10/97	
RESULT TYPE	US-PMCL	Duplicate 1
Benzene	5	< 5.0
Chloroethene	2	< 10
Chloroform	100	< 5.0
1,1-Dichloroethane		5.2
1,2-Dichloroethane	5	< 5.0
1,1-Dichloroethene	7	< 5.0
trans-1,2-Dichloroethene	100	< 5.0
cis-1,2-Dichloroethene	70	62
Methylene chloride	5	< 5.0
Tetrachloroethene	5	< 5.0
Toluene	1000	< 5.0
1,1,1-Trichloroethane	200	7.1
Trichloroethene	5	[5.8]
Vinyl Chloride	2	< 10
Acetone		< 100
Xylene (total)	10000	< 10
Carbon disulfide		< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	MW-3	MW-3	MW-3
			03/18/97	03/18/97	09/26/97
RESULT TYPE	US-PMCL	Primary	Duplicate 1	Primary	
Cyanide	200		< 5	< 5	< 5
Chromium (T), Dissolved			---	---	< 5
Lead, Dissolved			---	---	< 2.0
Nickel, Dissolved			---	---	< 20
Chromium, Total	100		9.8	20	---
Lead, Total	15		3.6	(19)	---
Nickel, Total	100		< 20	< 20	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

(I) = Greater than Action Level

For RCL INORG

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-4	MW-4	MW-4	MW-4	MW-4
				03/18/97	06/04/97	09/26/97	12/10/97	06/12/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	<5	<5	<5.0	<5.0	<5.0
Chloroethene			2	<10	<2	<10	<10	<10
Chloroform			100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	5.6	6.5	7.8
1,2-Dichloroethane			5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane			7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane			100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethane			70	11	5.4	10	5.2	6.9
Methylene chloride			5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5	<5	<5.0	<5.0	<5.0
Toluene			1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene			5	[13]	[17]	[20]	[21]	[7.0]
Vinyl Chloride			2	<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	MW-4	MW-4
			12/14/98	06/22/99
	RESULT TYPE		Primary	Primary
Benzene		5	<5.0	<5.0
Chloroethane		2	<10	<10
Chloroform		100	<5.0	<5.0
1,1-Dichloroethane			<5.0	<5.0
1,2-Dichloroethane		5	<5.0	<5.0
1,1-Dichloroethane		7	<5.0	<5.0
trans-1,2-Dichloroethane		100	<5.0	<5.0
cis-1,2-Dichloroethane		70	<5.0	<5.0
Methylene chloride		5	<5.0	<5.0
Tetrachloroethane		5	<5.0	<5.0
Toluene		1000	<5.0	<5.0
1,1,1-Trichloroethane		200	<5.0	<5.0
Trichloroethene		5	[15]	<5.0
Vinyl Chloride		2	<10	<10
Acetone			<100	<100
Xylene (total)		10000	<10	<10
Carbon disulfide			<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		MW-4	MW-4	MW-4	MW-4
	DATE		03/18/97	09/26/97	06/12/98	06/22/99
RESULT TYPE	US-PMCL		Primary	Primary	Primary	Primary
Cyanide	200		< 5	< 5	< 5	< 5
Chromium (T), Dissolved			---	< 5	7.5	< 5
Lead, Dissolved			---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			---	< 20	< 20	< 20
Chromium, Total	100		[2770]	---	---	---
Lead, Total	15		[707]	---	---	---
Nickel, Total	100		[620]	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL INORG

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-5	MW-5	MW-5	MW-5	MW-5
				03/18/97	06/05/97	09/26/97	12/10/97	06/12/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	< 5	< 5	< 5.0	< 5.0	< 5.0
Chloroethene			2	[13]	[12]	[13]	< 10	< 10
Chloroform			100	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane				< 5	< 5	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane			5	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5	< 5	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	< 5	< 5	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene			70	9.8	11	11	11	7.4
Methylene chloride			5	< 5	< 5	< 5.0	< 5.0	< 5.0
Tetrachloroethene			5	[5.8]	[8.4]	[13]	[8.8]	[6.8]
Toluene			1000	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane			200	9	11	16	33	8.9
Trichloroethene			5	[24]	[28]	[42]	[18]	[24]
Vinyl Chloride			2	[13]	[12]	[13]	< 10	< 10
Acetone				< 100	< 100	< 100	< 100	< 100
Xylene (total)			10000	< 10	< 5	< 10	< 10	< 10
Carbon disulfide				< 5	< 5	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	MW-5	
		12/14/98	06/23/99
RESULT TYPE	US-PMCL	Primary	Primary
Benzene	5	< 5.0	[8.4]
Chloroethene	2	[11]	< 10
Chloroform	100	< 5.0	< 5.0
1,1-Dichloroethane		< 5.0	5.5
1,2-Dichloroethane	5	< 5.0	< 5.0
1,1-Dichloroethane	7	< 5.0	< 5.0
trans-1,2-Dichloroethane	100	< 5.0	< 5.0
cis-1,2-Dichloroethane	70	12	8.4
Methylene chloride	5	< 5.0	< 5.0
Tetrachloroethene	5	[6.7]	< 5.0
Toluene	1000	< 5.0	< 5.0
1,1,1-Trichloroethane	200	10	< 5.0
Trichloroethene	5	[28]	[20]
Vinyl Chloride	2	[11]	< 10
Acetone		< 100	< 100
Xylene (total)	10000	< 10	< 10
Carbon disulfide		< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-5	MW-5	MW-5	MW-5
				03/18/97	09/26/97	06/12/98	06/23/99
				Primary	Primary	Primary	Primary
Total Phenols				< 10	< 10	< 10	20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-5	MW-6	MW-5	MW-5
				03/18/97	09/26/97	06/12/98	06/23/99
				Primary	Primary	Primary	Primary
Cyanide			200	< 5	< 5	< 5	10
Chromium (T), Dissolved				---	< 5	< 5	< 5
Lead, Dissolved				---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20	< 20
Chromium, Total			100	[290]	---	---	---
Lead, Total			15	[152]	---	---	---
Nickel, Total			100	92	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL INORG

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	MW-7	MW-7	MW-7	MW-7	MW-7
					03/18/97	06/05/97	09/25/97	12/09/97	06/12/98
					Primary	Primary	Primary	Primary	Primary
Benzene				5	<5	<5	<5.0	<5.0	<5.0
Chloroethene				2	[63]	[120]	[81]	[95]	[110]
Chloroform				100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane					15	28	19	16	21
1,2-Dichloroethane				5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethene				7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene				100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene				70	[230]	[350]	[290]	[270]	[300]
Methylene chloride				5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene				5	<5	<5	<5.0	<5.0	<5.0
Toluene				1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane				200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene				5	<5	<5	<5.0	<5.0	<5.0
Vinyl Chloride				2	[63]	[120]	[81]	[95]	[110]
Acetone					<100	<100	<100	<100	<100
Xylene (total)				10000	<10	<5	<10	<10	<10
Carbon disulfide					<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	MW-7	MW-7
			12/14/98	06/22/99
	RESULT TYPE		Primary	Primary
Benzene		5	<5.0	<5.0
Chloroethane		2	[130]	[120]
Chloroform		100	<5.0	<5.0
1,1-Dichloroethane			14	15
1,2-Dichloroethane		5	<5.0	<5.0
1,1-Dichloroethane		7	<5.0	<5.0
trans-1,2-Dichloroethane		100	<5.0	<5.0
cis-1,2-Dichloroethane		70	[340]	[360]
Methylene chloride		5	<5.0	<5.0
Tetrachloroethene		5	<5.0	<5.0
Toluene		1000	<5.0	<5.0
1,1,1-Trichloroethane		200	<5.0	<5.0
Trichloroethene		5	<5.0	<5.0
Vinyl Chloride		2	[130]	[120]
Acetone			<100	<100
Xylene (total)		10000	<10	<10
Carbon disulfide			<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	MW-7 03/18/97	MW-7 09/25/97	MW-7 06/12/98	MW-7 06/22/99
RESULT TYPE			Primary	Primary	Primary	Primary
Total Phenols			< 10	< 10	< 10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed
 For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-7	MW-7	MW-7	MW-7
				03/18/97	09/25/97	06/12/98	06/22/99
				Primary	Primary	Primary	Primary
Cyanide			200	< 5	< 5	< 5	< 5
Chromium (T), Dissolved				---	< 5	5.9	< 5
Lead, Dissolved				---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20	< 20
Chromium, Total			100	75	---	---	---
Lead, Total			15	[85]	---	---	---
Nickel, Total			100	[110]	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL INORG

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-8 03/18/97 Primary	MW-8 06/05/97 Primary
Benzene			5	<5	<5
Chloroethene			2	[14]	<2
Chloroform			100	<5	<5
1,1-Dichloroethene				330	440
1,2-Dichloroethene			5	<5	<5
1,1-Dichloroethene			7	5.3	<5
trans-1,2-Dichloroethene			100	9	<5
cis-1,2-Dichloroethene			70	[1000]	[1400]
Methylene chloride			5	<5	<5
Tetrachloroethene			5	[19]	<5
Toluene			1000	<5	<5
1,1,1-Trichloroethane			200	7.6	<5
Trichloroethene			5	[78]	[140]
Vinyl Chloride			2	[14]	<2
Acetone				<100	<100
Xylene (total)			10000	<10	<5
Carbon disulfide				<5	<5

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-8 03/18/97 Primary
Cyanide			200	6
Chromium (T), Dissolved				---
Lead, Dissolved				---
Nickel, Dissolved				---
Chromium, Total			100	< 5
Lead, Total			15	12
Nickel, Total			100	[150]

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL INORG

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-9	MW-9	MW-9	MW-9	MW-9
					03/18/97	06/03/97	09/25/97	12/08/97	06/11/98
					Primary	Primary	Primary	Primary	Primary
Benzene	5				<5	<5	<5.0	<5.0	<5.0
Chloroethene	2				<10	<2	<10	<10	<10
Chloroform	100				<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane					<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane	5				<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane	7				<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100				<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70				<5	<5	<5.0	<5.0	<5.0
Methylene chloride	5				<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene	5				<5	<5	<5.0	<5.0	<5.0
Toluene	1000				<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200				<5	<5	<5.0	<5.0	<5.0
Trichloroethene	5				<5	<5	<5.0	<5.0	[6.2]
Vinyl Chloride	2				<10	<2	<10	<10	<10
Acetone					<100	<100	<100	<100	<100
Xylene (total)	10000				<10	<5	<10	<10	<10
Carbon disulfide					<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-9	MW-9	MW-9
				09/18/98	12/14/98	06/22/99
				Primary	Primary	Primary
Benzene			5	<5.0	<5.0	<5.0
Chloroethene			2	<10	<10	<10
Chloroform			100	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5.0	<5.0	<5.0
1,2-Dichloroethane			5	<5.0	<5.0	<5.0
1,1-Dichloroethene			7	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene			100	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene			70	<5.0	<5.0	<5.0
Methylene chloride			5	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5.0	<5.0	<5.0
Toluene			1000	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5.0	<5.0	<5.0
Trichloroethene			5	<5.0	<5.0	<5.0
Vinyl Chloride			2	<10	<10	<10
Acetone				<100	<100	<100
Xylene (total)			10000	<10	<10	<10
Carbon disulfide				<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	MW-9	MW-9	MW-9	MW-9
RESULT TYPE	US-PMCL	03/18/97	09/25/97	06/11/98	06/22/99
		Primary	Primary	Primary	Primary
Cyanide	200	9	30	<5	<5
Chromium (T), Dissolved		---	<5	7.2	<5
Lead, Dissolved		---	<2.0	<2.0	<2.0
Nickel, Dissolved		---	<20	20	<20
Chromium, Total	100	82	---	---	---
Lead, Total	15	[48]	---	---	---
Nickel, Total	100	[100]	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL INORG

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-10	MW-10
				06/11/98	12/13/98
				Primary	Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				12	64
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5.0	< 5.0
trans-1,2-Dichloroethane			100	< 5.0	31
cis-1,2-Dichloroethane			70	[81]	[700]
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	43	[210]
Trichloroethene			5	[130]	[500]
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	MW-10
DATE	06/11/98	
RESULT TYPE	US-PMCL	Primary
Cyanide	200	< 5
Chromium (T), Dissolved		< 5
Lead, Dissolved		< 2.0
Nickel, Dissolved		< 20
Chromium, Total	100	---
Lead, Total	15	---
Nickel, Total	100	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-11	MW-11
				06/11/98	06/22/99
				Primary	Primary
Benzene			5	<5.0	<5.0
Chloroethane			2	<10	[15]
Chloroform			100	<5.0	<5.0
1,1-Dichloroethane				36	<5.0
1,2-Dichloroethane			5	<5.0	<5.0
1,1-Dichloroethene			7	<5.0	<5.0
trans-1,2-Dichloroethene			100	<5.0	<5.0
cis-1,2-Dichloroethene			70	[90]	[100]
Methylene chloride			5	<5.0	<5.0
Tetrachloroethene			5	<5.0	<5.0
Toluene			1000	<5.0	<5.0
1,1,1-Trichloroethane			200	18	<5.0
Trichloroethene			5	[8.7]	<5.0
Vinyl Chloride			2	<10	[15]
Acetone				<100	<100
Xylene (total)			10000	<10	<10
Carbon disulfide				<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit — = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-11 06/11/98	MW-11 06/22/99
Total Phenols				10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-11	MW-11
				06/11/98	06/22/99
				Primary	Primary
Cyanide			200	< 5	< 5
Chromium (T), Dissolved				< 5	< 5
Lead, Dissolved				< 2.0	< 2.0
Nickel, Dissolved				< 20	< 20
Chromium, Total			100	---	---
Lead, Total			15	---	---
Nickel, Total			100	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-12	MW-12	MW-12
				06/12/98	12/13/98	06/22/99
				Primary	Primary	Primary
Benzene			5	< 5.0	< 5.0	< 5.0
Chloroethene			2	< 10	< 10	< 10
Chloroform			100	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane				14	< 5.0	5.2
1,2-Dichloroethane			5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethane			100	16	7.7	14
cis-1,2-Dichloroethane			70	[690]	[88]	[410]
Methylene chloride			5	< 5.0	< 5.0	< 5.0
Tetrachloroethane			5	< 5.0	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane			200	16	< 5.0	8.8
Trichloroethane			5	[180]	[35]	[100]
Vinyl Chloride			2	< 10	< 10	< 10
Acetone				< 100	< 100	< 100
Xylene (total)			10000	< 10	< 10	< 10
Carbon disulfide				< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	MW-12 06/12/98	MW-12 06/22/99
	RESULT TYPE		Primary	Primary
Total Phenols			< 10	< 10
<p>Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed</p> <p>For RCL PHENOLS</p>				

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	MW-12	
		06/12/98	06/22/99
RESULT TYPE	US-PMCL	Primary	Primary
Cyanide	200	< 5	< 5
Chromium (T), Dissolved		< 5	< 5
Lead, Dissolved		< 2.0	< 2.0
Nickel, Dissolved		< 20	< 20
Chromium, Total	100	---	---
Lead, Total	15	---	---
Nickel, Total	100	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-13	MW-13	MW-13
				06/10/98	12/13/98	06/22/99
				Primary	Primary	Primary
Benzene			5	< 5.0	< 5.0	< 5.0
Chloroethene			2	< 10	< 10	< 10
Chloroform			100	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene			70	< 5.0	< 5.0	< 5.0
Methylene chloride			5	< 5.0	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0	< 5.0
Trichloroethene			5	< 5.0	< 5.0	< 5.0
Vinyl Chloride			2	< 10	< 10	< 10
Acetone				< 100	< 100	< 100
Xylene (total)			10000	< 10	< 10	< 10
Carbon disulfide				< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	MW-13	MW-13
				06/10/98	06/22/99
				Primary	Primary
Cyanide			200	< 5	20
Chromium (T), Dissolved				< 5	< 5
Lead, Dissolved				< 2.0	< 2.0
Nickel, Dissolved				< 20	< 20
Chromium, Total			100	---	---
Lead, Total			15	---	---
Nickel, Total			100	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	S4A	S4A	S4A	S4A	S4A
						03/21/97	06/03/97	09/23/97	12/09/97	06/10/98
						Primary	Primary	Primary	Primary	Primary
Benzene	5					<5	<5	<5.0	<5.0	<5.0
Chloroethene	2					<10	<2	<10	<10	<10
Chloroform	100					<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane						14	31	24	23	33
1,2-Dichloroethane	5					<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane	7					<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane	100					<5	<5	<5.0	<5.0	5.2
cis-1,2-Dichloroethane	70					[210]	[300]	[220]	[210]	[280]
Methylene chloride	5					<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene	5					<5	<5	<5.0	<5.0	<5.0
Toluene	1000					<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200					<5	<5	<5.0	<5.0	<5.0
Trichloroethene	5					[6.6]	<5	<5.0	<5.0	<5.0
Vinyl Chloride	2					<10	<2	<10	<10	<10
Acetone						<100	<100	<100	<100	<100
Xylene (total)	10000					<10	<5	<10	<10	<10
Carbon disulfide						<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than A Level

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S4A	S4A	S4A
					12/14/98	06/22/99	06/22/99
					Primary	Primary	Duplicate 1
Benzene				5	< 5.0	< 5.0	< 5.0
Chloroethane				2	< 10	< 10	< 10
Chloroform				100	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane					33	40 J	17
1,2-Dichloroethane				5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene				7	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene				100	6.8	< 5.0	< 5.0
cis-1,2-Dichloroethene				70	[260]	[260]	[260]
Methylene chloride				5	[11]	< 15.0	< 5.0
Tetrachloroethene				5	< 5.0	< 5.0	< 5.0
Toluene				1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane				200	< 5.0	< 5.0	< 5.0
Trichloroethene				5	< 5.0	< 5.0	< 5.0
Vinyl Chloride				2	< 10	< 10	< 10
Acetone					< 100	< 100	< 100
Xylene (total)				10000	< 10	< 10	< 10
Carbon disulfide					< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[J] = Greater than Action Level The following qualifier(s) exist: J

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
Shallow Monitoring Well
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S4A	S4A	S4A	S4A
				03/21/97	09/23/97	06/22/99	06/22/99
				Primary	Primary	Primary	Duplicate 1
Total Phenols				10	10	<10	20
2,4-Dichlorophenol							
2,4,6-Trichlorophenol							
2,6-Dichlorophenol							
3,4-Dichlorophenol							
3,5-Dichlorophenol							
4-Chlorophenol							
Phenol							
2,4-Dinitrophenol							
2,6-Dinitrophenol							
3,4-Dinitrophenol							
3,5-Dinitrophenol							
4-Nitrophenol							
2-Naphthol							
1-Naphthol							
4-Methylphenol							
2-Methylphenol							
3-Methylphenol							
4-Methylcyclohexanol							
2-Methylcyclohexanol							
3-Methylcyclohexanol							
4-Methylcyclohexanol							
2-Methylcyclohexanol							
3-Methylcyclohexanol							
4-Methylcyclohexanol							

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	S4A	S4A	S4A	S4A
			03/21/97	09/23/97	06/22/99	06/22/99
	DATE		Primary	Primary	Primary	Duplicate 1
	RESULT TYPE					
Cyanide		200	< 5	< 5	20	< 5
Chromium (T), Dissolved			---	< 5	< 5	< 5
Lead, Dissolved			---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			---	< 20	< 20	< 20
Chromium, Total		100	16	---	---	---
Lead, Total		15	[26]	---	---	---
Nickel, Total		100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL INORG

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-4A DATE COLLECTED			
			12 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	10 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	25 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	50 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	25 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	23 J	25	16	5.0 U
	1,2-DICHLOROETHANE	UG/L	25 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	25 U	5.2	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	14 J	5.2	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	310	250	150	6.2
	METHYLENE CHLORIDE	UG/L	25 U	5.0 U	5.0 U	230
	TETRACHLOROETHENE	UG/L	25 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	25 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	25 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	10 J	7.9	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	50 U	10 U	10 U	5.6
	ACETONE	UG/L	500 U	100 U	100 U	10 U
	XYLENE (TOTAL)	UG/L	50 U	10 U	10 U	100 U
	CARBON DISULFIDE	UG/L	25 U	5.0 U	5.0 U	10 U
TOTAL VOCS:	UG/L	357	293.3	166	249.3	
E.METALS	CHROMIUM	UG/L	5 U	-	43	-
	LEAD	UG/L	2.0 U	-	53	-
	NICKEL	UG/L	20 U	-	81	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
 SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
 ALLIEDSIGNAL, INC.
 SOUTH BEND, INDIANA
 REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID		DATE COLLECTED		07 JUN 95		19 SEP 95		05 DEC 95		
			S-4A		07 DEC 94		AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT
A.VOA	BENZENE	UG/L		5 U			5.0 U	2.2	J		10 U		25 U
	CHLOROETHANE	UG/L		10 U			10 U				20 U		50 U
	1,1-DICHLOROETHANE	UG/L	62		43			11		34		15	
	1,2-DICHLOROETHANE	UG/L		5 U		5.0 U			5.0 U		10 U		25 U
	1,1-DICHLOROETHENE	UG/L	9.1		12				5.0 U		10 U		25 U
	TRANS-1,2-DICHLOROETHENE	UG/L	40		21			2.5	J	10			25 U
	CIS-1,2-DICHLOROETHENE	UG/L	200		200			75		320		160	25 U
	METHYLENE CHLORIDE	UG/L		5 U		5.0 U			5.0 U		10 U		25 U
	TETRACHLOROETHENE	UG/L		-		5.0 U			5.0 U		10 U		25 U
	TOLUENE	UG/L		5 U		5.0 U			5.0 U		10 U		25 U
	1,1,1-TRICHLOROETHANE	UG/L		5 U		5.0 U		3.0	J		10 U		25 U
	TRICHLOROETHENE	UG/L	6.5		7				5.0 U		10 U		25 U
	VINYL CHLORIDE	UG/L		10 U		10 U			5.0 U	11			25 U
	ACETONE	UG/L		100 U		100 U			10 U		20 U		50 U
	XYLENE (TOTAL)	UG/L		10 U		10 U		2.9	J		200 U		500 U
											20 U		50 U
	TOTAL VOCs:	UG/L		317.6		283		96.6			382.5		175
E.METALS	LEAD	UG/L		-		-				13			-
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L		-		2.0 U							-
	NICKEL (DISSOLVED)	UG/L		-		20 U							-
H.MISC	CYANIDE, TOTAL	UG/L		-		25 U					5 U		-
	PHENOLS	UG/L		-		10 U				40			-

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
 NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-4A

DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	1, 1-DI-CHLORO-ETHANE	1, 2-DI-CHLORO-ETHANE	1, 1-DI-CHLORO-ETHENE	CIS-1, 2-DI-CHLORO-ETHENE	TRANS-1, 2-DI-CHLORO-ETHENE	1, 1, 1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	VINYL CHLORIDE	SUM	NOTES
				5	7	P-70	P-100	200	5	2	UG/L		
06/05/87	22	ADJA		1100	ND	200	820	110	200	120	ND	2550	A
08/04/87	27	ADJA		1100	ND	80.0	2000	170	ND	17.0	700	4157	
01/14/88	25	ADJA		1600	ND	100	1000	112	ND	ND	700	4182	
02/08/88	2	ADJA		1500	ND	165	1770	160	ND	ND	900	4495	
05/10/88	7	ADJA		1700	ND	165	2000	ND	ND	ND	437	5182	
05/10/88	8	ADJA		1640	ND	200	2750	ND	ND	ND	373	4953	
09/22/88	7	ADJA		1810	7.0	292	940	154	11.0	40.0	1570	4824	
09/22/88	8	ADJA		1820	7.3	281	920	155	10.0	39.0	1620	4852	
12/10/88	26	ADJA		870	ND	114	1500	129	ND	23.7	671	3478	
02/27/89	43	ADJA		700	ND	110	1400	150	8.7	17.2	270	2658	
06/10/89	37	ADJA	824	660	ND	120	1000	190	ND	ND	ND	2050	
06/10/89	38	ADJA	824	670	ND	110	1040	190	ND	ND	ND	1960	
09/09/89	25	ADJA	8240	900	ND	120	840	190	74	19.7	19.5	1053	
12/13/89	27	ADJA	8240	680	ND	151	760	180	34.1	32.5	41	2079	
01/02/90	37	ADJA	8240	670	ND	82.1	1000	210	27	19	27.4	2046	
06/03/90	23	ADJA	8240	470	ND	84.0	640	100	20.0	19.1	20.9	1745	
08/24/90	22	ADJA	8240	231	ND	9.0	500	60.2	0.5	16.6	ND	826	
10/28/90	14	ADJA	8240	408	ND	86.2	677	178	16.8	25.0	ND	1392	
03/02/91	25	ADJA	8240	176	5.7	39.7	311	50.0	6.2	16.0	12.7	625	
06/02/91	20	ADJA	8240	220	ND	47.2	141	ND	9.5	26.6	ND	311	
08/31/91	20	ADJA	8240	140	ND	53.8	182	46.6	11.3	34.1	10.3	478	
11/13/91	21	ADJA	8240	156	ND	45.2	179	47.2	0.6	36.8	ND	473	
11/13/91	22	ADJA	8240	131	ND	41.5	173	40.6	0.6	37.0	ND	432	
01/23/92	27	ADJA	8240	342	ND	51.8	197	46.3	ND	39.8	ND	677	
01/23/92	28	ADJA	8240	322	ND	48.8	180	45.7	ND	34.6	ND	631	
04/01/92	30	ADJA	8240	197	ND	40.5	169	41.0	6.7	25.1	ND	489	
06/22/92	24	ADJA	8240	171	ND	46.4	230	72.4	ND	26.0	ND	554	
10/31/92	18	ADJA	8240	103	ND	37.2	171	46.6	ND	16.7	ND	375	
10/31/92	19	ADJA	8240	84.1	ND	32.2	149	37.1	ND	15.3	ND	320	
02/04/93	18	ADJA	8240	100	ND	37.0	216	46.7	ND	21.0	ND	430	
05/11/93	18	ADJA	8240	90.5	ND	27.0	161	32.0	ND	13.7	ND	325	
08/31/93	16	ADJA	8240	68.4	ND	17.7	125	20.6	ND	20.6	ND	252	
12/03/93	20	ADJA	8240	69.7	ND	55.2	234	26.4	ND	29.4	ND	439	
12/03/93	29	ADJA	8240	83.2	ND	55.6	223	27.7	ND	29.7	ND	419	
02/10/94	18	ADJA	8240	66.8	ND	17.9	201	22.7	ND	16.8	ND	325	
05/05/94	18	ADJA	8240	77.7	ND	17.9	174	31.0	ND	0.9	ND	311	
09/15/94	31	ADJA	8240	88.7	ND	19.9	230	37.7	ND	10.8	ND	415	

NOTES:
 OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
 ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.
 MCL - NO U.S. EPA PUBLISHED LEVEL
 P - PROPOSED
 VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.
 A - AS OF 06/25/87 WELL S-4 WAS REPLACED BY WELL S-4A.

PARAMETER
 a - Date Sampled

SHALLOW MONITOR WELLS
 GROUNDWATER QUALITY ANALYSIS
 ORGANIC COMPOUNDS

ALLIEDSIGNAL, INC.
 GROUNDWATER INVESTIGATIONS
 SOUTH BEND, INDIANA

adgleason
 associates
 Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	S9		S9		S9		S9	
		DATE		DATE		DATE		DATE	
		03/19/97	06/04/97	09/25/97	12/11/97	06/11/98	06/11/98	06/11/98	
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary	Primary		
Benzene	5	<5	<5	<5.0	<5.0	<5.0	<5.0		
Chloroethene	2	<10	<2	<10	<10	<10	<10		
Chloroform	100	<5	<5	<5.0	<5.0	<5.0	<5.0		
1,1-Dichloroethane		<5	<5	<5.0	<5.0	<5.0	<5.0		
1,2-Dichloroethane	5	[220]	[250]	[190]	[240]	[170]	[170]		
1,1-Dichloroethene	7	<5	<5	<5.0	<5.0	<5.0	<5.0		
trans-1,2-Dichloroethene	100	5.8	<5	5.8	<5.0	7.3	7.3		
cis-1,2-Dichloroethene	70	45	54	54	62	61	61		
Methylene chloride	5	<5	<5	<5.0	<5.0	<5.0	<5.0		
Tetrachloroethene	5	<5	<5	<5.0	<5.0	<5.0	<5.0		
Toluene	1000	<5	<5	<5.0	<5.0	<5.0	<5.0		
1,1,1-Trichloroethane	200	<5	<5	<5.0	<5.0	<5.0	<5.0		
Trichloroethene	5	<5	<5	<5.0	<5.0	<5.0	<5.0		
Vinyl Chloride	2	<10	<2	<10	<10	<10	<10		
Acetone		<100	<100	<100	<100	<100	<100		
Xylene (total)	10000	<10	<5	<10	<10	<10	<10		
Carbon disulfide		<5	<5	<5.0	<5.0	<5.0	<5.0		
1,2-Dichloropropane	5	<5	<5	<5.0	<5.0	<5.0	<5.0		

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	69	
		12/14/98	06/23/99
RESULT TYPE	US-PMCL	Primary	Primary
Benzene	5	<5.0	<5.0
Chloroethane	2	<10	<10
Chloroform	100	<5.0	<5.0
1,1-Dichloroethane		<5.0	<5.0
1,2-Dichloroethane	5	[240]	5.0 [300]
1,1-Dichloroethene	7	<5.0	<5.0
trans-1,2-Dichloroethene	100	<5.0	12
cis-1,2-Dichloroethene	70	[92]	[91]
Methylene chloride	5	[6.8] BJ	<5.0
Tetrachloroethene	5	<5.0	<5.0
Toluene	1000	<5.0	<5.0
1,1,1-Trichloroethane	200	<5.0	<5.0
Trichloroethene	5	<5.0	<5.0
Vinyl Chloride	2	<10	<10
Acetone		<100	<100
Xylene (total)	10000	<10	<10
Carbon disulfide		<5.0	<5.0
1,2-Dichloropropane	5	<5.0	100 <5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level The following qualifier(s) exist: B, J

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	69	69	69	69
				03/19/97	09/25/97	06/11/98	06/23/99
				Primary	Primary	Primary	Primary
Cyanide			200	9	10	< 5	< 5
Chromium (T), Dissolved				---	< 5	8.9	< 5
Lead, Dissolved				---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20	< 20
Chromium, Total			100	< 5	---	---	---
Lead, Total			15	3	---	---	---
Nickel, Total			100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-9 DATE COLLECTED			
			12 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	10 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	20 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	10 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	250	230	240	270
	1,1-DICHLOROETHENE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	4.8 J	3.4 J	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	26	26	24	42
	METHYLENE CHLORIDE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	20 U	10 U	10 U	10 U
	ACETONE	UG/L	200 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	20 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	10 U	5.0 U	5.0 U	5.0 U
	TOTAL VOCS:	UG/L	280.8	259.4	264	319.9
E.METALS	CHROMIUM	UG/L	5 U	-	7.2	-
	LEAD	UG/L	2.0 U	-	2.0 U	-
	NICKEL	UG/L	20 U	-	6.9 J	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-9 DATE COLLECTED				
			07 DEC 94 AMOUNT Q	14 MAR 95 AMOUNT Q	06 JUN 95 AMOUNT Q	19 SEP 95 AMOUNT Q	05 DEC 95 AMOUNT Q
A.VOA	BENZENE	UG/L	10 U	10 U	5.0 U	10 U	10 U
	CHLOROETHANE	UG/L	20 U	20 U	10 U	20 U	20 U
	1,1-DICHLOROETHANE	UG/L	10 U	10 U	5.0 U	10 U	10 U
	1,2-DICHLOROETHANE	UG/L	363	330	170	210	250
	1,1-DICHLOROETHENE	UG/L	10 U	10 U	5.0 U	10 U	10 U
	TRANS-1,2-DICHLOROETHENE	UG/L	10 U	10 U	2.2 J	10 U	10 U
	CIS-1,2-DICHLOROETHENE	UG/L	21	26	14	22	23
	METHYLENE CHLORIDE	UG/L	10 U	10 U	5.0 U	10 U	10 U
	TETRACHLOROETHENE	UG/L	-	10 U	5.0 U	10 U	10 U
	TOLUENE	UG/L	10 U	10 U	5.0 U	10 U	10 U
	1,1,1-TRICHLOROETHANE	UG/L	10 U	10 U	5.0 U	10 U	10 U
	TRICHLOROETHENE	UG/L	10 U	10 U	5.0 U	10 U	10 U
	VINYL CHLORIDE	UG/L	20 U	20 U	10 U	9.1 J	20 U
	ACETONE	UG/L	200 U	200 U	100 U	200 U	200 U
	XYLENE (TOTAL)	UG/L	20 U	20 U	10 U	20 U	20 U
TOTAL VOCS:	UG/L	384	356	186.2	241.1	273	
E.METALS	LEAD	UG/L	-	-	-	2.0 U	-
E.METALS (D S.)	LEAD (DISSOLVED)	UG/L	-	2.0 U	-	-	-
	NICKEL (DISSOLVED)	UG/L	-	20 U	-	-	-
H.MISC	CYANIDE, TOTAL	UG/L	-	5 U	-	5 U	-
	PRENOLS	UG/L	-	10 U	-	10 U	-

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

S-9				1,2-DI- CHLORO- ETHANE	CIS-1,2- DICHLORO- ETHENE	TRANS-1,2 DICHLORO- ETHENE	SUM	NOTES	
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	S UG/L	P-70 UG/L	P-100 UG/L	UG/L		
10/01/86	12	AQJA		81.3	ND	2.2	84		
11/05/86	4	AQJA		29	ND	2.3	31		
12/18/86	28	AQJA		210	15	ND	225		
12/18/86	39	AQJA		43.3	ND	ND	43		
02/12/87	12	AQJA		313	ND	23	336		
06/03/87	7	AQJA		468	17	ND	477		
09/03/87	8	AQJA		170	13	ND	183		
01/13/88	8	AQJA		618	43	ND	653		
02/08/88	9	AQJA		448	ND	ND	448		
05/18/88	9	AQJA		448	47.6	ND	488		
09/23/88	9	AQJA		248	ND	ND	248		
12/08/88	4	AQJA		12.3	ND	ND	12		
02/23/89	13	AQJA		9.2	ND	ND	9		
06/10/89	33	AQJA	024	6.7	ND	ND	7		
09/08/89	15	AQJA	0240	No VOC Detected					
12/13/89	28	AQJA	0240	40.3	ND	ND	40		
02/27/90	4	AQJA	0240	40.8	ND	ND	40		
06/01/90	6	AQJA	0240	34.2	ND	ND	34		
08/22/90	4	AQJA	0240	No VOC Detected					
10/23/90	9	AQJA	0240	No VOC Detected					
02/28/91	3	AQJA	0240	7.8	ND	ND	8		
05/31/91	9	AQJA	0240	16.3	ND	ND	16		
08/29/91	14	AQJA	0240	11.7	ND	ND	12		
11/14/91	33	AQJA	0240	15.8	ND	ND	15		
01/22/92	5	AQJA	0240	42.8	ND	ND	43		
03/30/92	12	AQJA	0240	68.8	ND	ND	66		
08/22/92	28	AQJA	0240	127	5.4	ND	132		
10/31/92	27	AQJA	0240	159	7.8	ND	163		
02/03/93	5	AQJA	0240	221	13.8	ND	235		
05/12/93	28	AQJA	0240	223	11.8	ND	235		
09/02/93	34	AQJA	0240	220	16.8	ND	237		
12/02/93	17	AQJA	0240	324	25.7	5.1	355		
02/11/94	9	AQJA	0240	259	18.9	ND	278		
05/05/94	17	AQJA	0240	215	15.8	ND	231		
09/15/94	24	AQJA	0240	249	18.8	ND	259		

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

MPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIENSTIGAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

ta gleason
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	S15	S15	S15	S15	S15
				03/21/97	06/05/97	09/24/97	09/24/97	12/09/97
DATE	RESULT TYPE	Primary	Primary	Primary	Duplicate 1	Primary		
Benzene	5	<5	<5	<5.0	<5.0	<5.0		
Chloroethene	2	[18]	[30]	[31]	[32]	[25]		
Chloroform	100	<5	<5	<5.0	<5.0	<5.0		
1,1-Dichloroethane		<5	14	14	14	14		
1,2-Dichloroethane	5	[24]	[41]	<5.0	<5.0	<5.0		
1,1-Dichloroethane	7	<5	<5	<5.0	<5.0	<5.0		
trans-1,2-Dichloroethane	100	<5	6.3	6.4	5.8	<5.0		
cis-1,2-Dichloroethane	70	18	35	22	23	<5.0		
Methylene chloride	5	<5	<5	<5.0	<5.0	<5.0		
Tetrachloroethene	5	<5	<5	<5.0	<5.0	<5.0		
Toluene	1000	<5	<5	<5.0	<5.0	<5.0		
1,1,1-Trichloroethane	200	<5	<5	<5.0	<5.0	<5.0		
Trichloroethene	5	<5	<5	<5.0	<5.0	<5.0		
Vinyl Chloride	2	[18]	[30]	[31]	[32]	[25]		
Acetone		<100	<100	<100	<100	<100		
Xylene (total)	10000	<10	<5	<10	<10	<10		
Carbon disulfide		<5	<5	<5.0	<5.0	<5.0		

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	\$15	\$15	\$15
					06/11/98	12/14/98	06/23/99
					Primary	Primary	Primary
Benzene				5	< 5.0	< 5.0	< 5.0
Chloroethene				2	{15}	{29}	< 10
Chloroform				100	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane					8.6	13	8.2
1,2-Dichloroethane				5	{12}	< 5.0	{9.7}
1,1-Dichloroethene				7	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene				100	< 5.0	5.3	< 5.0
cis-1,2-Dichloroethene				70	16	16	14
Methylene chloride				5	< 5.0	< 5.0	< 5.0
Tetrachloroethene				5	< 5.0	< 5.0	< 5.0
Toluene				1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane				200	< 5.0	< 5.0	< 5.0
Trichloroethene				5	< 5.0	< 5.0	< 5.0
Vinyl Chloride				2	{15}	{29}	< 10
Acetone					< 100	< 100	< 100
Xylene (total)				10000	< 10	< 10	< 10
Carbon disulfide					< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

{ } = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S15	S15	S15	S15	S15
				03/21/97	09/24/97	09/24/97	06/11/98	06/23/99
				Primary	Primary	Duplicate 1	Primary	Primary
Cyanide			200	< 5	< 5	< 5	< 5	< 5
Chromium (T), Dissolved				---	< 5	< 5	7.2	< 5
Lead, Dissolved				---	< 2.0	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20	< 20	< 20
Chromium, Total			100	44	---	---	---	---
Lead, Total			15	2.7	---	---	---	---
Nickel, Total			100	< 20	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-15 DATE COLLECTED			
			13 MAR 96 AMOUNT Q	05 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	10 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	19	13	13	15
	1,2-DICHLOROETHANE	UG/L	5.0 U	6.6	32	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	3.6 J	2.9 J	4.9 J	4.2 J
	CIS-1,2-DICHLOROETHENE	UG/L	8.2	8.2	30	8.1
	METHYLENE CHLORIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	23	17	20	25
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U
CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U	
TOTAL VOCS:	UG/L	53.8	47.7	99.9	52.3	
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	2.0 U	-	2.0 U	-
	NICKEL	UG/L	20 U	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.
U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.
NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-15 DATE COLLECTED				
			08 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	06 JUN 95 AMOUNT Q	20 SEP 95 AMOUNT Q	06 DEC 95 AMOUNT Q
A.VOA	BENZENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U
	1,1-DICHLOROETHANE	UG/L	11	10	10	8.9	13
	1,2-DICHLOROETHANE	UG/L	5 U	5.0 U	11	15	3.4
	1,1-DICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	19	5.0 U	21	4.2	3.7
	METHYLENE CHLORIDE	UG/L	5 U	5.0 U	5.0 U	27	8.4
	TETRACHLOROETHENE	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	23	16	21	19	26
	ACETONE	UG/L	100 U	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U	10 U
TOTAL VOCS:	UG/L	53	26	63	74.1	54.5	
E.METALS	LEAD	UG/L	-	-	-	2.0 U	-
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 U	-	-	-
	NICKEL (DISSOLVED)	UG/L	-	20 U	-	-	-
H.MISC	CYANIDE, TOTAL	UG/L	-	5 U	-	5 U	-
	PHENOLS	UG/L	-	10 U	-	10 U	-

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	CHLORO-ETHANE	CHLORO-ETHANE	DICHLORO-ETHANE	DICHLORO-ETHANE	VINYL CHLORIDE	OTHER VOC	SUM	NOTES	
				U/L	U/L	U/L	U/L	U/L	U/L	U/L		
11/06/86	27	AQUA		ND	1.2	ND	1.5	ND	ND	3		
12/10/86	22	AQUA		No VOC Detected								
06/05/87	6	AQUA		No VOC Detected								
09/03/87	6	AQUA		ND	ND	ND	ND	76	ND	76		
09/03/87	8	AQUA		No VOC Detected								
01/14/88	24	AQUA		22.0	ND	ND	ND	ND	ND	22		
02/05/88	4	AQUA		19.0	ND	ND	ND	ND	ND	19		
05/10/88	6	AQUA		No VOC Detected								
09/23/88	6	AQUA		6.7	ND	ND	ND	ND	ND	6		
12/10/88	24	AQUA		ND	ND	ND	ND	10.0	121	132		
02/23/89	19	AQUA		No VOC Detected								
06/10/89	31	AQUA	024	No VOC Detected								
09/09/89	22	AQUA	0240	ND	ND	ND	ND	10.5	140	151		
12/12/89	22	AQUA	0240	ND	100	240	26.6	10.5	200	665		
03/01/90	40	AQUA	0240	69.3	ND	ND	ND	31.3	42.6	143		
03/01/90	41	AQUA	0240	71.0	ND	ND	ND	32.0	45.1	150		
06/03/90	25	AQUA	0240	37.0	ND	ND	ND	22.4	ND	60		
08/24/90	20	AQUA	0240	12.0	ND	ND	ND	ND	ND	13		
10/20/90	13	AQUA	0240	27.2	ND	ND	170	ND	ND	205		
03/01/91	12	AQUA	0240	26.0	20.0	27.4	101	40.9	ND	124		
06/01/91	25	AQUA	0240	22.5	24.5	20.0	10.7	25.2	ND	112		
08/31/91	28	AQUA	0240	23.0	17.3	ND	ND	44.4	ND	85		
11/12/91	6	AQUA	0240	ND	5.7	6.1	ND	36.0	ND	49		
01/29/92	34	AQUA	0240	ND	ND	7.5	ND	ND	ND	8		
04/01/92	33	AQUA	0240	21.5	ND	6.0	ND	22.0	ND	50		
06/22/92	21	AQUA	0240	40.0	12.4	5.0	ND	35.0	ND	95		
10/31/92	18	AQUA	0240	17.0	ND	6.0	ND	17.0	ND	43		
03/04/93	19	AQUA	0240	26.2	03.0	50.7	6.7	40.0	ND	200		
05/11/93	10	AQUA	0240	19.1	03.4	45.1	0.0	30.0	ND	119		
08/31/93	15	AQUA	0240	15.4	40.4	36.0	7.0	25.2	ND	133		
12/03/93	25	AQUA	0240	15.0	17.0	30.9	7.9	29.0	ND	110		
02/17/94	14	AQUA	0240	12.3	ND	17.3	ND	30.0	ND	60		
05/05/94	20	AQUA	0240	11.2	ND	0.0	ND	22.5	ND	42		
09/15/94	20	AQUA	0240	10.0	7.0	21.0	ND	23.0	ND	63		

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
INDICATED BY INITIAL ANALYSIS
INITIAL COMMENTS

ALLIED SIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH DEPT. (INITIAL)

trigledson
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	§16	§16	§16	§16	§16
				03/20/97	06/03/97	09/24/97	12/08/97	06/11/98
			US-PMCL	Primary	Primary	Primary	Primary	Primary
Benzene	5			<5	<5	<5.0	<5.0	<5.0
Chloroethene	2			<10	<2	<10	<10	<10
Chloroform	100			<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane	5			<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane	7			[28]	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100			11	<5	18	19	5.5
cis-1,2-Dichloroethene	70			[150]	[120]	[91]	[73]	[79]
Methylene chloride	5			<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene	5			<5	<5	<5.0	<5.0	<5.0
Toluene	1000			<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200			25	37	27	20	20
Trichloroethene	5			[380]	[650]	[560]	[470]	[460]
Vinyl Chloride	2			<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)	10000			<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	616	616
					12/14/98	06/23/99
					Primary	Primary
Benzene				5	< 5.0	< 5.0
Chloroethene				2	< 10	< 10
Chloroform				100	< 5.0	< 5.0
1,1-Dichloroethane					< 5.0	< 5.0
1,2-Dichloroethane				5	< 5.0	< 5.0
1,1-Dichloroethene				7	< 5.0	< 5.0
trans-1,2-Dichloroethene				100	26	8.2
cis-1,2-Dichloroethene				70	54	54
Methylene chloride				5	[15]	< 5.0
Tetrachloroethene				5	< 5.0	< 5.0
Toluene				1000	< 5.0	< 5.0
1,1,1-Trichloroethane				200	20	19
Trichloroethene				5	[420]	[390]
Vinyl Chloride				2	< 10	< 10
Acetone					< 100	< 100
Xylene (total)				10000	< 10	< 10
Carbon disulfide					< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	S16	S16	S16	S16
			03/20/97	09/24/97	06/11/98	06/23/99
			Primary	Primary	Primary	Primary
Cyanide		200	< 5	< 5	< 5	< 5
Chromium (T), Dissolved			---	< 5	20	< 5
Lead, Dissolved			---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			---	< 20	< 20	< 20
Chromium, Total		100	< 5	---	---	---
Lead, Total		15	< 2	---	---	---
Nickel, Total		100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

		SAMPLE ID		S-16		DATE COLLECTED		07 DEC 94		14 MAR 95		07 JUN 95		19 SEP 95		06 DEC 95		
GROUP	PARAMETER NAME	UNITS	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q		
A.VOA	BENZENE	UG/L	10	U	25	U			25	U			25	U			25	U
	CHLOROETHANE	UG/L	20	U	50	U			50	U			50	U			50	U
	1,1-DICHLOROETHANE	UG/L	10	U	25	U			3.1	J			5.4	J			25	U
	1,2-DICHLOROETHANE	UG/L	10	U	25	U							25	U			25	U
	1,1-DICHLOROETHENE	UG/L	10	U	25	U			5.2	J			7.4	J			25	U
	TRANS-1,2-DICHLOROETHENE	UG/L	12		25	U			29				15	J			13	
	CIS-1,2-DICHLOROETHENE	UG/L	59		49				67				230				16	
	METHYLENE CHLORIDE	UG/L	10	U	25	U					25	U	25	U			25	U
	TETRACHLOROETHENE	UG/L	-		25	U					25	U	25	U			25	U
	TOLUENE	UG/L	10	U	25	U			25	U			25	U			25	U
	1,1,1-TRICHLOROETHANE	UG/L	25		25	U			18	J			19	J			23	
	TRICHLOROETHENE	UG/L	261		240				250				250				250	
	VINYL CHLORIDE	UG/L	56		620				360				430				160	
	ACETONE	UG/L	200	U	500	U			500	U			500	U			500	U
	XYLENE (TOTAL)	UG/L	20	U	50	U			50	U			50	U			50	U
	TOTAL VOCS:	UG/L	413		909				732.3				956.8				782	
E.METALS	LEAD	UG/L	-		-				-				0.7	J			-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-		2.0	U			-				-				-	
	NICKEL (DISSOLVED)	UG/L	-		20	U			-				-				-	
H.MISC	CYANIDE, TOTAL	UG/L	-		5	U			-				5	U			-	
	PHENOLS	UG/L	-		10	U			-				10	U			-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-16				CIS-1,2-DICHLORO-ETHENE	TRANS-1,2-DICHLORO-ETHENE	1,1,1-TRI-CHLORO-ETHANE	TRI-CHLORO-ETHENE	SLM	NOTES	
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	P-70 UG/L	P-100 UG/L	200 UG/L	5 UG/L	UG/L		
11/16/86	11	AQJA		No VOC Detected						
12/18/86	19	AQJA		ND	ND	22.5	70.1	93		
12/18/86	20	AQJA		ND	ND	21.5	63.8	85		
02/12/87	11	AQJA		ND	4.4	83.3	85.0	123		
06/03/87	12	AQJA		5.8	5.8	18.0	87.0	86		
09/04/87	20	AQJA		ND	ND	ND	65.0	63		
01/15/88	27	AQJA		ND	ND	15.0	58.0	73		
02/09/88	12	AQJA		ND	ND	13.5	83.0	87		
05/19/88	23	AQJA		6.8	ND	10.8	92.0	70		
09/23/88	14	AQJA		ND	ND	20.0	78.0	98		
12/10/88	29	AQJA		6.2	ND	10.7	62.1	87		
02/24/89	20	AQJA		8.1	ND	13.7	60.4	82		
06/06/89	12	AQJA	024	8.2	9.4	18.4	66.7	104		
09/10/89	34	AQJA	0240	8.1	8.7	20.2	68.2	86		
12/13/89	31	AQJA	0240	10.8	8.0	22.5	94.6	137		
03/03/90	44	AQJA	0240	19.8	ND	17.9	73.4	111		
06/03/90	18	AQJA	0240	19.4	8.6	19.4	81.6	131		
08/23/90	16	AQJA	0240	No VOC Detected						
10/20/90	30	AQJA	0240	11.3	ND	20.0	82.0	114		
03/04/91	36	AQJA	0240	ND	ND	ND	35.8	36		
06/02/91	29	AQJA	0240	ND	ND	10.3	46.7	57		
08/31/91	33	AQJA	0240	6.1	ND	ND	64.8	70		
11/13/91	32	AQJA	0240	8.1	ND	15.5	67.1	91		
01/26/92	37	AQJA	0240	16.4	ND	19.4	95.5	131		
04/02/92	45	AQJA	0240	28.1	ND	19.8	98.7	147		
06/22/92	18	AQJA	0240	37.3	8.8	22.1	141	206		
10/31/92	20	AQJA	0240	42.8	ND	19.1	91.4	153		
02/05/93	24	AQJA	0240	48.3	ND	20.1	155	223		
05/12/93	23	AQJA	0240	42.1	ND	16.9	109	168		
09/01/93	27	AQJA	0240	28.8	ND	19.8	136	183		
12/03/93	32	AQJA	0240	ND	38.1	21.4	188	248		
02/18/94	25	AQJA	0240	17.8	ND	8.9	81.0	108		
03/08/94	27	AQJA	0240	32.3	8.7	21.8	143	206		
09/15/94	23	AQJA	0240	49.8	8.2	18.1	148	222		

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

○ - Data Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIED SIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH DEPT., INDIANA

allied signal
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S17	S17	S17	S17	S17
				03/20/97	06/03/97	09/24/97	12/11/97	06/10/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	<5	<5	<5.0	<5.0	<5.0
Chloroethene			2	<10	<2	<10	<10	<10
Chloroform			100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane ...			5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane			7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane			100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethane			70	<5	<5	<5.0	<5.0	<5.0
Methylene chloride			5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5	<5	<5.0	<5.0	<5.0
Toluene			1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	34	40	51	37	26
Trichloroethene			5	[16]	[25]	[28]	[25]	[19]
Vinyl Chloride			2	<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed
 [] = Greater than Action Level
 For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S17	S17
				12/14/98	06/23/99
				Primary	Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5.0	< 5.0
trans-1,2-Dichloroethane			100	< 5.0	< 5.0
cis-1,2-Dichloroethane			70	< 5.0	< 5.0
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	22	18
Trichloroethene			5	[18]	[15]
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	S17	S17
DATE	03/20/97	06/23/89	
RESULT TYPE	US-PMCL	Primary	Primary
Total Phenols		< 10	20
Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed			
For RCL PHENOLS			

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	617	617
		DATE	03/20/97	06/23/99
		RESULT TYPE	Primary	Primary
	US-PMCL			
Cyanide	200		< 5	< 5
Chromium (T), Dissolved			---	< 5
Lead, Dissolved			---	< 2.0
Nickel, Dissolved			---	< 20
Chromium, Total	100		< 5	---
Lead, Total	15		< 2	---
Nickel, Total	100		< 20	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-17 DATE COLLECTED			
			12 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	11 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	4.1 J	4.8 J	3.2 J	5.0 U
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	8.4	4.6 J	4.2 J	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	METHYLENE CHLORIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	97	72	74	5.0 U
	TRICHLOROETHENE	UG/L	21	21	22	46
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	21
	ACETONE	UG/L	100 U	100 U	100 U	10 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	100 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	10 U
TOTAL VOCS:	UG/L	130.5	102.4	103.4	67	
E.METALS	CHROMIUM	UG/L	5 U	-	4.1 J	-
	LEAD	UG/L	2.0 U	-	0.6 J	-
	NICKEL	UG/L	20 U	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-17		DATE COLLECTED		08 DEC 94		15 MAR 95		07 JUN 95		19 SEP 95		06 DEC 95			
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q		
A.VOA	BENZENE	UG/L		25 U		25 U		25 U		25 U		25 U		25 U		5.0 U		
	CHLOROETHANE	UG/L		50 U		50 U		50 U		50 U		50 U		50 U		10 U		
	1,1-DICHLOROETHANE	UG/L	88		110		39		21	J	12		21	J	12			
	1,2-DICHLOROETHANE	UG/L		25 U		25 U		25 U		25 U		25 U		25 U		5.0 U		
	1,1-DICHLOROETHENE	UG/L	65		56		24	J	14	J	22		14	J	22			
	TRANS-1,2-DICHLOROETHENE	UG/L		25 U		25 U		25 U		25 U		25 U		25 U		5.0 U		
	CIS-1,2-DICHLOROETHENE	UG/L		25 U		25 U		25 U		25 U		25 U		25 U		5.0 U		
	METHYLENE CHLORIDE	UG/L		25 U		25 U		3.2	J		25 U		25 U		25 U		5.0 U	
	TETRACHLOROETHENE	UG/L		-		25 U				25 U		25 U		25 U		25 U		5.0 U
	TOLUENE	UG/L		25 U		25 U				25 U		25 U		25 U		25 U		5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	1000		700		300		220		140		220		220		140	
	TRICHLOROETHENE	UG/L	51		27		20	J	27		30		27		27		30	
	VINYL CHLORIDE	UG/L		50 U		50 U		50 U		50 U		50 U		50 U		50 U		10 U
	ACETONE	UG/L		500 U		500 U		500 U		500 U		500 U		500 U		500 U		100 U
XYLENE (TOTAL)	UG/L		50 U		50 U		50 U		50 U		50 U		50 U		50 U		10 U	
TOTAL VOCS:	UG/L		1204		893		386.2		282		204		282		204			
E.METALS	LEAD	UG/L		-		-		-		2.0 U		-		2.0 U		-		
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L		-		2.0 U		-		-		-		-		-		
	NICKEL (DISSOLVED)	UG/L		-		20 U		-		-		-		-		-		
H.MISC	CYANIDE, TOTAL	UG/L		-		5 U		-		5 U		-		5 U		-		
	PHENOLS	UG/L		-		10 U		-		10 U		-		10 U		-		

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-17				1,1-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHENE	CIS-1,2- DICHLORO- ETHENE	TRANS-1,2- DICHLORO- ETHENE	1,1,1-TRI- CHLORO- ETHANE	1,1,1,1- TETRA- CHLORO- ETHANE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	MPL UG/L	6 UG/L	7 UG/L	P-70 UG/L	P-100 UG/L	200 UG/L	5 UG/L	UG/L	
11/16/88	16	AQJA		4.3	1.6	ND	ND	ND	ND	12.0	18	
01/07/89	4	AQJA		ND	ND	ND	ND	ND	ND	04.0	03	
02/12/89	3	AQJA		ND	ND	ND	ND	7.9	ND	118	124	
06/05/89	15	AQJA		ND	ND	ND	8.6	ND	ND	80.0	06	
09/03/89	20	AQJA		ND	ND	ND	ND	ND	ND	86.0	86	
01/14/90	22	AQJA		ND	ND	ND	8.8	ND	ND	68.0	77	
02/19/90	33	AQJA		ND	ND	ND	8.8	ND	ND	75.0	81	
05/19/90	26	AQJA		ND	ND	ND	ND	ND	ND	60.7	61	
09/23/90	12	AQJA		ND	ND	ND	ND	ND	ND	78.0	78	
02/23/91	17	AQJA		ND	ND	ND	ND	ND	ND	75.0	78	
06/09/91	27	AQJA	024	ND	ND	ND	ND	ND	ND	65.7	68	
09/08/91	13	AQJA	0240	ND	ND	ND	ND	ND	ND	53.8	54	
12/12/91	25	AQJA	0240	ND	ND	ND	5.1	ND	ND	62.4	60	
03/02/92	28	AQJA	0240	ND	ND	ND	6.9	ND	ND	42.4	49	
06/04/92	35	AQJA	0240	ND	ND	ND	6.2	ND	ND	42.0	49	
08/24/92	34	AQJA	0240	ND	ND	ND	6.9	ND	ND	35.0	42	
09/24/92	35	AQJA	0240	ND	ND	ND	6.5	ND	ND	33.6	40	
10/28/92	32	AQJA	0240	ND	ND	ND	ND	8.6	ND	40.4	60	
03/02/93	24	AQJA	0240	ND	ND	ND	8.2	ND	ND	20.6	30	
06/02/93	30	AQJA	0240	ND	ND	ND	ND	ND	ND	27.2	27	
08/31/93	31	AQJA	0240	ND	ND	ND	ND	ND	ND	32.6	33	
09/31/93	32	AQJA	0240	ND	ND	ND	ND	ND	ND	33.0	33	
11/13/93	23	AQJA	0240	ND	ND	ND	5.5	ND	ND	27.6	31	
01/26/94	39	AQJA	0240	ND	ND	ND	ND	ND	ND	24.5	25	
04/02/94	42	AQJA	0240	ND	ND	ND	7.6	ND	ND	31.2	39	
04/02/94	43	AQJA	0240	ND	ND	ND	10.3	ND	ND	38.0	48	
08/23/94	27	AQJA	0240	ND	ND	ND	5.7	ND	ND	27.0	33	
10/31/94	24	AQJA	0240	ND	ND	ND	ND	ND	ND	17.3	17	
02/06/95	34	AQJA	0240	ND	ND	ND	19.3	ND	ND	28.9	40	
02/06/95	35	AQJA	0240	ND	ND	ND	20.5	ND	ND	36.6	57	
05/11/95	15	AQJA	0240	ND	ND	ND	ND	ND	ND	16.9	17	
08/31/95	13	AQJA	0240	ND	ND	ND	ND	ND	ND	23.7	24	
08/31/95	14	AQJA	0240	ND	ND	ND	ND	ND	ND	22.5	23	
12/02/95	20	AQJA	0240	ND	ND	ND	5.2	ND	ND	34.0	39	
12/02/95	21	AQJA	0240	ND	ND	ND	5.2	ND	ND	35.3	41	
02/19/96	40	AQJA	0240	ND	ND	ND	ND	ND	ND	21.8	24	
05/05/96	19	AQJA	0240	12.8	ND	ND	ND	ND	37.7	16.1	67	
09/15/96	25	AQJA	0240	139	ND	44.9	ND	ND	637	43.2	701	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

MPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSIGNAL, INC.
GROUNDWATER INVESTIGATIONS
SMITH HILL, MISSOURI

Trigleason
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S20	S20	S20	S20	S20
				03/20/97	06/04/97	09/23/97	12/09/97	06/09/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	<5	<5	<5.0	<5.0	<5.0
Chloroethene			2	<10	<2	<10	<10	<10
Chloroform			100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane			5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane			7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene			100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene			70	<5	<5	<5.0	<5.0	<5.0
Methylene chloride			5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5	<5	<5.0	<5.0	<5.0
Toluene			1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene			5	<5	<5	<5.0	<5.0	<5.0
Vinyl Chloride			2	<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S20	S20
				12/14/98	06/22/99
				Primary	Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethene			7	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	< 5.0	< 5.0
cis-1,2-Dichloroethene			70	< 5.0	< 5.0
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethane			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0
Trichloroethene			5	< 5.0	< 5.0
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	620	620	620	620
		DATE		03/20/97	09/23/97	06/09/98	06/22/99
		RESULT TYPE		Primary	Primary	Primary	Primary
Total Phenols				< 10	< 10	< 10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S20	S20	S20	S20
				03/20/97	09/23/97	06/09/98	06/22/99
				Primary	Primary	Primary	Primary
Cyanide			200	< 5	< 5	< 5	< 5
Chromium (T), Dissolved				---	< 5	< 5	6.5
Lead, Dissolved				---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20	< 20
Chromium, Total			100	< 5	---	---	---
Lead, Total			15	3.6	---	---	---
Nickel, Total			100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-20 DATE COLLECTED			
			13 MAR 96 AMOUNT Q	05 JUN 96 AMOUNT Q	05 SEP 96 AMOUNT Q	11 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	METHYLENE CHLORIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOTAL VOCS:	UG/L	0	0	0	0
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	2.0 U	-	2.0 U	-
	NICKEL	UG/L	20 U	-	5.4 J	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID		06 DEC 94		13 MAR 95		06 JUN 95		20 SEP 95		05 DEC 95	
			S-20	DATE COLLECTED	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	BENZENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	CHLOROETHANE	UG/L	10	U	10	U	10	U	10	U	10	U	10	U
	1,1-DICHLOROETHANE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	1,2-DICHLOROETHANE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	1,1-DICHLOROETHENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TRANS-1,2-DICHLOROETHENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	CIS-1,2-DICHLOROETHENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	METHYLENE CHLORIDE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TETRACHLOROETHENE	UG/L	-		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TOLUENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	1,1,1-TRICHLOROETHANE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TRICHLOROETHENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	VINYL CHLORIDE	UG/L	10	U	10	U	10	U	10	U	10	U	10	U
	ACETONE	UG/L	100	U	100	U	100	U	100	U	100	U	100	U
	XYLENE (TOTAL)	UG/L	10	U	10	U	10	U	10	U	10	U	10	U
TOTAL VOCS:		UG/L	0		0		0		0		0		0	
E.METALS	LEAD	UG/L	-		-		-		-		2.0	U	-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-		2.0	U	-		-		-		-	
	NICKEL (DISSOLVED)	UG/L	-		20	U	-		-		-		-	
H.MISC	CYANIDE, TOTAL	UG/L	-		19		-		-		5	U	-	
	PHENOLS	UG/L	-		10	U	-		-		10	U	-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S21	S21	S21	S21	S21
				03/20/97	06/04/97	09/26/97	12/10/97	06/10/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	<5	<5	<5.0	<5.0	<5.0
Chloroethane			2	<10	<2	<10	<10	<10
Chloroform			100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane			5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane			7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane			100	16	29	20	18	24
cis-1,2-Dichloroethane			70	22	36	25	23	33
Methylene chloride			5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5	<5	<5.0	<5.0	<5.0
Toluene			1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene			5	[28]	[31]	[42]	[46]	[38]
Vinyl Chloride			2	<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-16 DATE COLLECTED			
			12 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	10 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	25 U	25 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	50 U	50 U	10 U	10 U
	CHLOROFORM	UG/L	25 U	25 U	5.0 U	3.8 J
	1,1-DICHLOROETHANE	UG/L	25 U	25 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	25 U	25 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	44	43	15	26
	TRANS-1,2-DICHLOROETHENE	UG/L	29	13 J	17	16
	CIS-1,2-DICHLOROETHENE	UG/L	440	420	180	170
	METHYLENE CHLORIDE	UG/L	25 U	25 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	25 U	25 U	5.0 U	5.0 U
	TOLUENE	UG/L	25 U	25 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	36	32	27	35
	TRICHLOROETHENE	UG/L	400	370	360	400
	VINYL CHLORIDE	UG/L	210	50	10 U	10 U
	ACETONE	UG/L	500 U	500 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	50 U	50 U	10 U	10 U
	CARBON DISULFIDE	UG/L	25 U	25 U	5.0 U	5.0 U
TOTAL VOCS:		UG/L	1159	928	599	650.8
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	0.92 J	-	1.5 J	-
	NICKEL	UG/L	8 J	-	6.9 J	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S21	S21
				12/14/98	06/22/99
				Primary	Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethene			7	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	13	52
cis-1,2-Dichloroethene			70	22	57
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0
Trichloroethene			5	[25]	[20]
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	S21	S21	S21	S21
					03/20/97	09/26/97	06/10/98	06/22/99
					Primary	Primary	Primary	Primary
Total Phenols					<10	<10	<10	20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	521	521	521	521
				03/20/97	09/26/97	06/10/98	06/22/99
				Primary	Primary	Primary	Primary
Cyanide			200	<5	<5	<5	<5
Chromium (T), Dissolved				---	<5	8.8	9.7
Lead, Dissolved				---	<2.0	<2.0	<2.0
Nickel, Dissolved				---	<20	<20	<20
Chromium, Total			100	5.6	---	---	---
Lead, Total			15	3	---	---	---
Nickel, Total			100	<20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-21 DATE COLLECTED			
			13 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	05 SEP 96 AMOUNT Q	11 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	18	18	17	9.3
	CIS-1,2-DICHLOROETHENE	UG/L	25	25	25	15
	METHYLENE CHLORIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	20	21	21	19
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	43
TOTAL VOCS:	UG/L	63	64	63	86.3	
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	23	-	0.7	-
	NICKEL	UG/L	10	J	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-21		DATE COLLECTED		06 DEC 94		13 MAR 95		06 JUN 95		20 SEP 95		05 DEC 95	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q		
A.VOA	BENZENE	UG/L		5 U		5.0 U				5.0 U			5.0 U			5.0 U
	CHLOROETHANE	UG/L		10 U		10 U				10 U			10 U			10 U
	1,1-DICHLOROETHANE	UG/L		5 U		5.0 U				5.0 U			5.0 U			5.0 U
	1,2-DICHLOROETHANE	UG/L		5 U		5.0 U				5.0 U			5.0 U			5.0 U
	1,1-DICHLOROETHENE	UG/L		5 U		5.0 U				5.0 U			5.0 U			5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	7.9		18				33			15			15	
	CIS-1,2-DICHLOROETHENE	UG/L	14		25				38			21			21	
	METHYLENE CHLORIDE	UG/L		5 U		5.0 U				5.0 U			5.0 U			5.0 U
	TETRACHLOROETHENE	UG/L		-		5.0 U				5.0 U			5.0 U			5.0 U
	TOLUENE	UG/L		5 U		5.0 U				5.0 U			5.0 U			5.0 U
	1,1,1-TRICHLOROETHANE	UG/L		5 U		5.0 U				5.0 U			5.0 U			5.0 U
	TRICHLOROETHENE	UG/L	16		21				11			15			16	
	VINYL CHLORIDE	UG/L		10 U		10 U				10 U			10 U			10 U
	ACETONE	UG/L		100 U		100 U				100 U			100 U			100 U
	XYLENE (TOTAL)	UG/L		10 U		10 U				10 U			10 U			10 U
	TOTAL VOCS:	UG/L		37.9		64				82			51			52
E.METALS	LEAD	UG/L		-		-				-			2.0 U			-
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L		-		2.0 U				-			-			-
	NICKEL (DISSOLVED)	UG/L		-		20 U				-			-			-
H.MISC	CYANIDE, TOTAL	UG/L		-		5 U				-			5 U			-
	PHENOLS	UG/L		-		10 U				-			10 U			-

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-21				CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TRI-CHLOROETHENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	P-70 UG/L	P-100 UG/L	5 UG/L	UG/L	
11/06/88	17	AQJA		ND	118	10	118	
12/17/88	13	AQJA		ND	89.3	10	89	
02/11/87	8	AQJA		ND	88.8	ND	89	
06/03/87	17	AQJA		8.0	30.0	10	35	
08/03/87	18	AQJA		8.8	34.0	10	40	
09/03/87	14	AQJA		50.0	13.0	10	63	
01/14/88	11	AQJA		53.2	20.4	10	74	
02/09/88	22	AQJA		60.0	33.0	10	93	
03/10/88	13	AQJA		137	11.1	10	148	
09/23/88	13	AQJA		58.0	48.0	10	107	
12/08/88	10	AQJA		68.0	32.0	10	99	
02/23/89	10	AQJA		84.1	32.7	ND	97	
06/08/89	24	AQJA	824	48.3	24.0	10	72	
09/18/89	41	AQJA	8240	72.5	41.6	10	114	
12/11/89	8	AQJA	8240	8.3	ND	ND	8	
03/02/90	32	AQJA	8240	98.6	45.0	6.0	151	
06/02/90	15	AQJA	8240	87.3	82.8	ND	140	
08/23/90	10	AQJA	8240	48.4	28.0	6.7	82	
10/20/90	10	AQJA	8240	110	68.7	10	169	
10/29/90	20	AQJA	8240	107	66.1	10	163	
03/03/91	28	AQJA	8240	69.3	38.2	10	106	
06/01/91	18	AQJA	8240	31.1	121	10	152	
08/28/91	3	AQJA	8240	33.5	21.8	6.1	61	
11/12/91	3	AQJA	8240	33.7	18.7	6.7	60	
01/21/92	2	AQJA	8240	28.2	14.8	10	43	
03/30/92	8	AQJA	8240	28.8	14.0	7.9	51	
08/26/92	3	AQJA	8240	28.1	14.3	6.4	51	
10/30/92	13	AQJA	8240	47.8	28.0	6.6	81	
02/03/93	3	AQJA	8240	78.1	51.7	5.8	135	
05/11/93	3	AQJA	8240	76.3	55.0	10	125	
08/31/93	12	AQJA	8240	41.4	33.8	5.1	80	
12/01/93	7	AQJA	8240	78.5	67.8	5.3	153	
02/18/94	3	AQJA	8240	38.8	27.5	5.9	70	
05/04/94	3	AQJA	8240	28.1	18.7	5.4	50	
09/12/94	2	AQJA	8240	11.9	8.3	6.8	26	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

a gleason
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	S22	S22	S22	S22	S22
						03/22/97	06/04/97	09/23/97	12/10/97	06/09/98
						Primary	Primary	Primary	Primary	Primary
Benzene					5	< 5	< 5	< 5.0	< 5.0	< 5.0
Chloroethene					2	< 10	< 2	< 10	< 10	< 10
Chloroform					100	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane						< 5	< 5	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane					5	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene					7	< 5	< 5	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene					100	69	91	97	92	71
cis-1,2-Dichloroethene					70	46	66	64	63	53
Methylene chloride					5	< 5	< 5	< 5.0	< 5.0	< 5.0
Tetrachloroethene					5	< 5	< 5	< 5.0	< 5.0	< 5.0
Toluene					1000	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane					200	< 5	< 5	< 5.0	< 5.0	< 5.0
Trichloroethene					5	< 5	< 5	< 5.0	< 5.0	< 5.0
Vinyl Chloride					2	< 10	< 2	< 10	< 10	< 10
Acetone						< 100	< 100	< 100	< 100	< 100
Xylene (total)					10000	< 10	< 5	< 10	< 10	< 10
Carbon disulfide						< 5	< 5	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S22	S22
				12/14/98	06/22/99
				Primary	Primary
Benzene			5	<5.0	<5.0
Chloroethene			2	<10	<10
Chloroform			100	<5.0	<5.0
1,1-Dichloroethane				<5.0	70
1,2-Dichloroethane			6	<5.0	<5.0
1,1-Dichloroethane			7	<5.0	<5.0
trans-1,2-Dichloroethane			100	86	<5.0
cis-1,2-Dichloroethane			70	59	53
Methylene chloride			5	<5.0	[5.7]
Tetrachloroethene			5	<5.0	<5.0
Toluene			1000	<5.0	<5.0
1,1,1-Trichloroethane			200	<5.0	<5.0
Trichloroethene			5	<5.0	<5.0
Vinyl Chloride			2	<10	<10
Acetone				<100	<100
Xylene (total)			10000	<10	<10
Carbon disulfide				<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	\$22	\$22	\$22	\$22
			03/22/97	09/23/97	06/09/98	06/22/99
RESULT TYPE			Primary	Primary	Primary	Primary
Cyanide		200	<5	<5	<5	<5
Chromium (T), Dissolved			---	<5	<5	<5
Lead, Dissolved			---	<2.0	<2.0	<2.0
Nickel, Dissolved			---	<20	<20	<20
Chromium, Total		100	7.4	---	---	---
Lead, Total		15	<2	---	---	---
Nickel, Total		100	<20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-22 DATE COLLECTED			
			13 MAR 96 AMOUNT q	05 JUN 96 AMOUNT q	04 SEP 96 AMOUNT q	11 DEC 96 AMOUNT q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	92	73	77	70
	METHYLENE CHLORIDE	UG/L	66	55	57	55
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOTAL VOCS:	UG/L	158	128	134	125
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	2.0 U	-	1.6	-
	NICKEL	UG/L	20 U	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

SAMPLE ID
S-22
DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED				
			08 DEC 94 AMOUNT q	13 MAR 95 AMOUNT q	06 JUN 95 AMOUNT q	20 SEP 95 AMOUNT q	05 DEC 95 AMOUNT q
A.VOA	BENZENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U	10 U
	1,1-DICHLOROETHANE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	66	78	79	66	77
	CIS-1,2-DICHLOROETHENE	UG/L	54	57		47	53
	METHYLENE CHLORIDE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	-	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U	10 U
	TOTAL VOCS:	UG/L	120	135	79	113	130
E.METALS	LEAD	UG/L	-	-	-	2.0 U	-
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 U	-	-	-
	NICKEL (DISSOLVED)	UG/L	-	20 U	-	-	-
H.MISC	CYANIDE, TOTAL	UG/L	-	5 U	-	5 U	-
	PHENOLS	UG/L	-	10 U	-	10 U	-

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-22				CIS-1, 2-DICHLOROETHENE	TRANS-1, 2-DICHLOROETHENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	P-70 UG/L	P-100 UG/L	UG/L	
11/06/86	18	AQUA		ND	164	164	
01/07/87	8	AQUA		80	75.8	128	
01/07/87	7	AQUA		80	73.8	124	
02/12/87	8	AQUA		140	132	132	
02/12/87	7	AQUA		ND	109	109	
06/05/87	20	AQUA		41	69	110	
09/03/87	12	AQUA		87	41	90	
01/13/88	8	AQUA		41.8	ND	42	
02/09/88	23	AQUA		48	61	109	
03/10/88	15	AQUA		77.5	27.7	105	
03/10/88	18	AQUA		82	25.2	107	
09/23/88	22	AQUA		21	45	66	
02/22/89	8	AQUA		43.1	38.8	82	
02/22/89	7	AQUA		35.7	37.5	73	
06/09/89	19	AQUA	824	31	40.7	74	
06/09/89	20	AQUA	824	37.8	42.1	80	
09/08/89	28	AQUA	8240	38.4	45.8	84	
12/11/89	8	AQUA	8240	37.7	68.8	85	
03/01/90	21	AQUA	8240	59.8	74.4	134	
06/01/90	11	AQUA	8240	45.1	71.8	117	
08/22/90	7	AQUA	8240	39.8	60.1	100	
08/22/90	8	AQUA	8240	40.7	61.4	102	
10/27/90	8	AQUA	8240	69.3	82.8	142	
02/28/91	7	AQUA	8240	35.8	48.4	84	
08/01/91	18	AQUA	8240	82.8	188.0	221	
08/28/91	5	AQUA	8240	34.1	61.8	86	
11/13/91	12	AQUA	8240	45.8	78.8	122	
01/25/92	33	AQUA	8240	50.8	86.8	137	
03/31/92	14	AQUA	8240	41.3	64.5	106	
08/22/92	19	AQUA	8240	61.7	100.0	162	
08/22/92	18	AQUA	8240	83.9	91.3	145	
02/04/93	11	AQUA	8240	56.7	91.8	148	
02/04/93	12	AQUA	8240	63.7	98.0	160	
02/10/93	2	AQUA	8240	64.7	80.0	135	
05/11/93	9	AQUA	8240	87.0	90.0	147	
08/31/93	7	AQUA	8240	45.8	78.6	124	A
12/01/93	8	AQUA	8240	65.1	113.0	178	
02/18/94	23	AQUA	8240	48.8	78.1	126	
05/04/94	8	AQUA	8240	38.3	62.1	100	
08/14/94	7	AQUA	8240	54.8	88.9	144	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

NO RESULTS FOR 10/92 SAMPLING EPISODE DUE TO LAB ERROR.

A - METHYLENE CHLORIDE 18.3 UG/L

PARAMETER

□ - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSONAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

alliedsonal
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S23	S23	S23	S23	S23
					03/22/97	06/04/97	09/23/97	12/10/97	06/10/98
					Primary	Primary	Primary	Primary	Primary
Benzene				5	<5	<5	<5.0	<5.0	<5.0
Chloroethene				2	<10	<2	<10	<10	<10
Chloroform				100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane					<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane				5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane				100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethane				70	<5	<5	<5.0	<5.0	<5.0
Methylene chloride				5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethane				5	<5	<5	<5.0	<5.0	<5.0
Toluene				1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane				200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene				5	<5	<5	<5.0	[5.1]	[5.2]
Vinyl Chloride				2	<10	<2	<10	<10	<10
Acetone					<100	<100	<100	<100	<100
Xylene (total)				10000	<10	<5	<10	<10	<10
Carbon disulfide					<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S23	S23
				12/14/98	06/22/99
				Primary	Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethene			7	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	< 5.0	< 5.0
cis-1,2-Dichloroethene			70	< 5.0	< 5.0
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0
Trichloroethene			5	[9.8]	[11]
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	S23 03/22/97	S23 09/23/97	S23 06/10/98	S23 06/22/99
Total Phenols					<10	<10	<10	<10
2,4-Dichlorophenol								
2,4,6-Trichlorophenol								
2,6-Dichlorophenol								
2-Naphthol								
3,4-Dichlorophenol								
3,5-Dichlorophenol								
4-Chlorophenol								
4-Nonylphenol								
4-Toluenol								
5-Chlorophenol								
6-Chlorophenol								
Phenol								
2,4,6-Trichlorophenoxyacetic acid								
2,4-Dichlorophenoxyacetic acid								
2,6-Dichlorophenoxyacetic acid								
4-Chlorophenoxyacetic acid								
4-Nonylphenoxyacetic acid								
4-Toluenoxyacetic acid								
5-Chlorophenoxyacetic acid								
6-Chlorophenoxyacetic acid								

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S23	S23	S23	S23
				03/22/97	09/23/97	06/10/98	06/22/99
				Primary	Primary	Primary	Primary
Cyanide			200	<5	<5	11	6
Chromium (T), Dissolved				---	<5	<5	<5
Lead, Dissolved				---	<2.0	<2.0	<2.0
Nickel, Dissolved				---	<20	<20	<20
Chromium, Total			100	<5	---	---	---
Lead, Total			15	<2	---	---	---
Nickel, Total			100	<20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-23 DATE COLLECTED			
			13 MAR 96 AMOUNT Q	05 JUN 96 AMOUNT Q	05 SEP 96 AMOUNT Q	11 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	METHYLENE CHLORIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
TOTAL VOCS:	UG/L	0	0	0	0	
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	2.0 U	-	2.0 U	-
	NICKEL	UG/L	7 J	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

		SAMPLE ID S-23										
		DATE COLLECTED										
GROUP	PARAMETER NAME	UNITS	08 DEC 94		15 MAR 95		06 JUN 95		20 SEP 95		05 DEC 95	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	BENZENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	CHLOROETHANE	UG/L	10 U		10 U		10 U		10 U		10 U	
	1,1-DICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,2-DICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,1-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TRANS-1,2-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	CIS-1,2-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	METHYLENE CHLORIDE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TETRACHLOROETHENE	UG/L	-		5.0 U		5.0 U		5.0 U		5.0 U	
	TOLUENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,1,1-TRICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TRICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	VINYL CHLORIDE	UG/L	10 U		10 U		10 U		10 U		10 U	
	ACETONE	UG/L	100 U		100 U		100 U		100 U		100 U	
	XYLENE (TOTAL)	UG/L	10 U		10 U		10 U		10 U		10 U	
	TOTAL VOCs:	UG/L	0		0		0		0		0	
E.METALS	LEAD	UG/L	-		-		-		2.0 U		-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-		2.0 U		-		-		-	
	NICKEL (DISSOLVED)	UG/L	-		20 U		-		-		-	
H.MISC	CYANIDE, TOTAL	UG/L	-		5 U		-		5 U		-	
	PHENOLS	UG/L	-		10 U		-		10 U		-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-23				CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	P-70 UG/L	P-100 UG/L	UG/L	
11/06/86	10	AOJA		ND	4.5	5	A
01/07/87	8	AOJA		No VOC Detected			
02/11/87	8	AOJA		No VOC Detected			
06/03/87	21	AOJA		No VOC Detected			
09/03/87	13	AOJA		No VOC Detected			
01/13/88	8	AOJA		No VOC Detected			
02/09/88	24	AOJA		No VOC Detected			
05/10/88	17	AOJA		0.4	ND	5	
09/24/88	17	AOJA		No VOC Detected			
12/08/88	7	AOJA		No VOC Detected			
02/23/89	8	AOJA		No VOC Detected			
04/09/89	17	AOJA	024	No VOC Detected			
05/08/89	27	AOJA	0240	No VOC Detected			
12/11/89	7	AOJA	0240	No VOC Detected			
03/02/90	23	AOJA	0240	No VOC Detected			
06/01/90	10	AOJA	0240	No VOC Detected			
08/22/90	9	AOJA	0240	No VOC Detected			
10/27/90	7	AOJA	0240	No VOC Detected			
02/20/91	8	AOJA	0240	No VOC Detected			
06/01/91	17	AOJA	0240	No VOC Detected			
08/28/91	4	AOJA	0240	No VOC Detected			
11/13/91	10	AOJA	0240	No VOC Detected			
03/31/92	15	AOJA	0240	No VOC Detected			
06/22/92	17	AOJA	0240	No VOC Detected			
02/04/93	13	AOJA	0240	No VOC Detected			
02/16/93	3	AOJA	0240	No VOC Detected			
05/11/93	8	AOJA	0240	No VOC Detected			
08/31/93	8	AOJA	0240	No VOC Detected			
12/01/93	8	AOJA	0240	No VOC Detected			
03/28/94	47	AOJA	0240	No VOC Detected			
05/04/94	5	AOJA	0240	No VOC Detected			
09/14/94	8	AOJA	0240	No VOC Detected			

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

A - B19 (2-ETHYLHEXYL) PHTHALATE REPORTED 3.4 UG/L

WELL NOT SAMPLED 01/92.

NO RESULTS FOR 10/92 SAMPLING EPISODE DUE TO LAB ERROR.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIED SIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

allied signal
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S24	S24	S24	S24	S24
				03/21/97	06/05/97	09/23/97	12/09/97	12/14/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	<5	<5	<5.0	<5.0	<5.0
Chloroethene			2	<10	<2	<10	<10	<10
Chloroform			100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane			5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane			7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene			100	85	[170]	[160]	[180]	[150]
cis-1,2-Dichloroethene			70	44	[100]	[91]	[99]	[100]
Methylene chloride			5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5	<5	<5.0	<5.0	<5.0
Toluene			1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene			5	<5	[9.0]	[9.1]	[9.3]	[10]
Vinyl Chloride			2	<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	624 06/22/99 Primary
Benzene			5	< 5.0
Chloroethene			2	< 10
Chloroform			100	< 5.0
1,1-Dichloroethane				< 5.0
1,2-Dichloroethane			5	< 5.0
1,1-Dichloroethane			7	< 5.0
trans-1,2-Dichloroethene			100	[220]
cis-1,2-Dichloroethene			70	[140]
Methylene chloride			5	< 5.0
Tetrachloroethene			5	< 5.0
Toluene			1000	< 5.0
1,1,1-Trichloroethane			200	< 5.0
Trichloroethene			5	[22]
Vinyl Chloride			2	< 10
Acetone				< 100
Xylene (total)			10000	< 10
Carbon disulfide				< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S24	S24	S24
				03/21/97	09/23/97	06/22/99
				Primary	Primary	Primary
Total Phenols				<10	<10	<10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	S24	S24	S24
				03/21/97	09/23/97	06/22/99
				Primary	Primary	Primary
Cyanide			200	< 5	< 5	< 5
Chromium (T), Dissolved				---	< 5	6.4
Lead, Dissolved				---	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20
Chromium, Total			100	13	---	---
Lead, Total			15	13	---	---
Nickel, Total			100	< 20	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-24 DATE COLLECTED			
			13 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	11 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	5.0 U	5.0 U	5.0 U	
	CHLOROETHANE	UG/L	10 U	10 U	10 U	5.0 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	5.0 U	10 U
	1,1-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	71	70	84	77
	METHYLENE CHLORIDE	UG/L	44	47	52	52
	TETRACHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	8.4	9.2	8.0	7.3
	ACETONE	UG/L	10 U	10 U	10 U	10 U
	XYLENE (TOTAL)	UG/L	100 U	100 U	100 U	100 U
	CARBON DISULFIDE	UG/L	10 U	10 U	10 U	10 U
	TOTAL VOCS:	UG/L	123.4	126.2	144	139.4
E.METALS	CHROMIUM	UG/L	5 U	-	5.0 U	-
	LEAD	UG/L	2.0 U	-	0.6 J	-
	NICKEL	UG/L	14 J	-	5.4 J	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID		DATE COLLECTED		08 DEC 94		14 MAR 95		06 JUN 95		20 SEP 95		05 DEC 95	
			S-24		AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	BENZENE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	CHLOROETHANE	UG/L		10 U		10 U		10 U		10 U		10 U		10 U		10 U
	1,1-DICHLOROETHANE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	1,2-DICHLOROETHANE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	1,1-DICHLOROETHENE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	147		65		190		68		73		5.0 U		5.0 U	
	CIS-1,2-DICHLOROETHENE	UG/L	101		48		110		48		50		5.0 U		5.0 U	
	METHYLENE CHLORIDE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	TETRACHLOROETHENE	UG/L		-		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	TOLUENE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	1,1,1-TRICHLOROETHANE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U		5.0 U
	TRICHLOROETHENE	UG/L	23		12		11		9.7		10		5.0 U		5.0 U	
	VINYL CHLORIDE	UG/L		10 U		10 U		10 U		10 U		10 U		10 U		10 U
	ACETONE	UG/L		100 U		100 U		100 U		100 U		100 U		100 U		100 U
	XYLENE (TOTAL)	UG/L		10 U		10 U		10 U		10 U		10 U		10 U		10 U
	TOTAL VOCS:	UG/L		271		125		311		125.7		133				
E.METALS	LEAD	UG/L		-		-		-		1.2	J		-		-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L		-		2.0 U		-		-			-		-	
	NICKEL (DISSOLVED)	UG/L		-		20 U		-		-			-		-	
H.MISC	CYANIDE, TOTAL	UG/L		-		11		-		-		5 U		-		-
	PHENOLS	UG/L		-		10 U		-		-		10 U		-		-

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-24				CIS-1, 2-DICHLOROETHENE	TRANS-1, 2-DICHLOROETHENE	TRI-CHLOROETHENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	NCL	P-70	P-100	5	UG/L	
			METHOD	UG/L	UG/L	UG/L		
07/10/87	2	AQJA		170	145	150	465	
09/04/87	25	AQJA		150	140	170	460	
05/10/88	28	AQJA		277	230	105	612	
09/25/88	26	AQJA		75	124	85	284	
12/08/88	1	AQJA		110	129	66	314	
02/25/89	33	AQJA		107	146	59.6	312	
08/09/89	28	AQJA	824	92.7	110	52.1	255	
09/08/89	16	AQJA	8240	110	130	44.7	283	
09/08/89	17	AQJA	8240	110	130	46	286	
12/11/89	10	AQJA	8240	60.8	79.8	33.6	174	
02/26/90	10	AQJA	8240	61.9	77.9	20.3	180	
06/02/90	16	AQJA	8240	110	150	32.2	292	
08/24/90	31	AQJA	8240	78.1	92.1	39.1	209	
10/28/90	10	AQJA	8240	103	104	105	312	
02/28/91	10	AQJA	8240	61.5	63.8	76.1	201	
05/01/91	21	AQJA	8240	95.8	256.0	78.5	430	
08/21/91	9	AQJA	8240	91.7	139	75.3	306	
11/13/91	17	AQJA	8240	89.5	122.0	61.4	263	
01/25/92	29	AQJA	8240	64.9	139	46.0	270	
03/31/92	18	AQJA	8240	63.8	86.3	31.8	182	
08/23/92	29	AQJA	8240	49.3	66.3	23.1	139	
02/04/93	15	AQJA	8240	132	178	30.5	341	
02/10/93	6	AQJA	8240	116	165	28.0	309	
05/11/93	4	AQJA	8240	130	175	36.3	341	
08/31/93	9	AQJA	8240	118	175	63.4	356	
12/01/93	9	AQJA	8240	152	224	45.5	422	
02/19/94	39	AQJA	8240	67.0	82.0	22.8	182	
05/05/94	9	AQJA	8240	63.8	98.1	13.6	175	
09/14/94	14	AQJA	8240	93.8	134	18.5	246	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

NO RESULTS FOR 10/92 SAMPLING EPISODE DUE TO LAB ERROR.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSTS
ORGANIC COMPOUNDS

ALLIEDSONAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

alliedsonal
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	\$25	\$25	\$25	\$25	\$25
				03/20/97	06/04/97	09/23/97	12/10/97	06/09/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	<5	<5	<5.0	<5.0	<5.0
Chloroethane			2	<10	<2	<10	<10	<10
Chloroform			100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane			5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane			7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane			100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethane			70	<5	<5	<5.0	<5.0	<5.0
Methylene chloride			5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethane			5	<5	<5	<5.0	<5.0	<5.0
Toluene			1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5	<5	<5.0	<5.0	<5.0
Trichloroethane			5	<5	<5	<5.0	<5.0	<5.0
Vinyl Chloride			2	<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	S25	
			12/14/98	06/22/99
RESULT TYPE	US-PMCL	Primary	Primary	
Benzene	5	<5.0	<5.0	
Chloroethane	2	<10	<10	
Chloroform	100	<5.0	<5.0	
1,1-Dichloroethane		<5.0	<5.0	
1,2-Dichloroethane	5	<5.0	<5.0	
1,1-Dichloroethane	7	<5.0	<5.0	
trans-1,2-Dichloroethene	100	<5.0	<5.0	
cis-1,2-Dichloroethene	70	5.2	<5.0	
Methylene chloride	5	<5.0	<5.0	
Tetrachloroethene	5	<5.0	<5.0	
Toluene	1000	<5.0	<5.0	
1,1,1-Trichloroethane	200	<5.0	<5.0	
Trichloroethene	5	<5.0	<5.0	
Vinyl Chloride	2	<10	<10	
Acetone		<100	<100	
Xylene (total)	10000	<10	<10	
Carbon disulfide		<5.0	<5.0	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Phenols in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	625 03/20/97 Primary	625 09/23/97 Primary	625 06/09/98 Primary	625 06/22/99 Primary
Total Phenols				<10	<10	<10	<10
<p>Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed</p>							

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	625	625	625	625
			03/20/97	09/23/97	06/09/98	06/22/99
	DATE		Primary	Primary	Primary	Primary
	RESULT TYPE					
Cyanide		200	< 5	< 5	< 5	< 5
Chromium (T), Dissolved			---	< 5	< 5	6.7
Lead, Dissolved			---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			---	< 20	< 20	< 20
Chromium, Total		100	7.3	---	---	---
Lead, Total		15	[30]	---	---	---
Nickel, Total		100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
 [] = Greater than Action Level
 For RCL INORG

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

SAMPLE ID
S-25
DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	13 MAR 96		05 JUN 96		05 SEP 96		11 DEC 96	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A. VOA	BENZENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	CHLOROETHANE	UG/L	10	U	10	U	10	U	10	U
	CHLOROFORM	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	1,1-DICHLOROETHANE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	1,2-DICHLOROETHANE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	1,1-DICHLOROETHENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	CIS-1,2-DICHLOROETHENE	UG/L	3.1	J	3.0	J	2.3	J	3.2	J
	METHYLENE CHLORIDE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	TETRACHLOROETHENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	TOLUENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	1,1,1-TRICHLOROETHANE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	TRICHLOROETHENE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
	VINYL CHLORIDE	UG/L	10	U	10	U	10	U	10	U
	ACETONE	UG/L	100	U	100	U	100	U	100	U
	XYLENE (TOTAL)	UG/L	10	U	10	U	10	U	10	U
	CARBON DISULFIDE	UG/L	5.0	U	5.0	U	5.0	U	5.0	U
TOTAL VOCS:	UG/L	3.1		3		2.3		3.2		
E. METALS	CHROMIUM	UG/L		5 U	-		5.0 U		-	
	LEAD	UG/L	6.5		-		0.9 J		-	
	NICKEL	UG/L		20 U	-		20 U		-	
H. MISC	CYANIDE, TOTAL	UG/L		5 U	-		5 U		-	
	PHENOLS	UG/L	10		-		10		-	

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

		SAMPLE ID S-25										
		DATE COLLECTED										
GROUP	PARAMETER NAME	UNITS	08 DEC 94		13 MAR 95		06 JUN 95		20 SEP 95		05 DEC 95	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	BENZENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	CHLOROETHANE	UG/L	10 U		10 U		10 U		10 U		10 U	
	1,1-DICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,2-DICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,1-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TRANS-1,2-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	CIS-1,2-DICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	METHYLENE CHLORIDE	UG/L	5 U		5.0 U		3.8 J		2.6 J		3.9 J	
	TETRACHLOROETHENE	UG/L	-		5.0 U		5.0 U		5.0 U		5.0 U	
	TOLUENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	1,1,1-TRICHLOROETHANE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	TRICHLOROETHENE	UG/L	5 U		5.0 U		5.0 U		5.0 U		5.0 U	
	VINYL CHLORIDE	UG/L	10 U		10 U		10 U		10 U		10 U	
	ACETONE	UG/L	100 U		100 U		100 U		100 U		100 U	
	XYLENE (TOTAL)	UG/L	10 U		10 U		10 U		10 U		10 U	
	TOTAL VOCs:	UG/L	0		0		3.8		2.6		3.9	
E.METALS	LEAD	UG/L	-		-		-		5.3		-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-		2.0 U		-		-		-	
	NICKEL (DISSOLVED)	UG/L	-		20 U		-		-		-	
H.MISC	CYANIDE, TOTAL	UG/L	-		5 U		-		5 U		-	
	PHENOLS	UG/L	-		10 U		-		10 U		-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-25				1, 1-DI- CHLORO- ETHANE	1, 2-DI- CHLORO- ETHANE	CIS-1, 2- DICHLORO- ETHENE	TRANS-1, 2 DICHLORO- ETHENE	1, 1, 1-TRI CHLORO- ETHANE	TRI- CHLORO- ETHENE	SUM	NOTES	
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	NPL UG/L	S UG/L	P-70 UG/L	P-100 UG/L	P-100 UG/L	S UG/L	UG/L		
07/10/87	1	AQUA		No VOC Detected								
09/03/87	11	AQUA		No VOC Detected								
01/15/88	32	AQUA		No VOC Detected								
02/09/88	20	AQUA		No VOC Detected								
03/18/88	18	AQUA		ND	ND	7.3	ND	ND	ND	7		
09/25/88	25	AQUA		No VOC Detected								
12/08/88	8	AQUA	0240	25.2	38.0	79.0	9.9	6.5	9.6	164		
02/22/89	8	AQUA		No VOC Detected								
02/23/89	32	AQUA		No VOC Detected								
06/09/89	21	AQUA	024	No VOC Detected								
09/09/89	20	AQUA	0240	No VOC Detected								
12/11/89	9	AQUA	0240	No VOC Detected								
03/03/90	39	AQUA	0240	No VOC Detected								
06/01/90	8	AQUA	0240	No VOC Detected								
09/22/90	6	AQUA	0240	No VOC Detected								
12/27/90	9	AQUA	0240	No VOC Detected								
02/28/01	8	AQUA	0240	No VOC Detected								
06/01/01	15	AQUA	0240	No VOC Detected								
08/29/01	7	AQUA	0240	No VOC Detected								
11/13/01	13	AQUA	0240	No VOC Detected								
01/25/02	32	AQUA	0240	No VOC Detected								
03/31/02	16	AQUA	0240	No VOC Detected								
08/22/02	14	AQUA	0240	No VOC Detected								
10/30/02	4	AQUA	0240	No VOC Detected								
02/04/03	10	AQUA	0240	ND	ND	5.3	ND	ND	ND	5		
05/11/03	7	AQUA	0240	ND	ND	6.0	ND	ND	ND	6		
08/31/03	5	AQUA	0240	ND	ND	10.7	ND	ND	ND	11		
12/01/03	4	AQUA	0240	ND	ND	7.3	ND	ND	ND	7		
02/17/04	9	AQUA	0240	ND	ND	5.5	ND	ND	ND	6		
05/04/04	7	AQUA	0240	ND	ND		ND	ND	ND			
09/14/04	12	AQUA	0240	No VOC Detected								

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Data Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

Waldgeason
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE		S27	S27	S27	S27	S27
		DATE		03/20/97	06/05/97	09/23/97	12/09/97	06/10/98
		RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary
Benzene	5			< 5	< 5	< 5.0	< 5.0	< 5.0
Chloroethene	2			< 10	< 2	< 10	< 10	< 10
Chloroform	100			< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane				< 5	< 5	17	26	44
1,2-Dichloroethane	5			< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	7			< 5	< 5	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene	100			11	15	18	16	14
cis-1,2-Dichloroethene	70			21	26	31	30	29
Methylene chloride	5			< 5	< 5	< 5.0	< 5.0	< 5.0
Tetrachloroethene	5			< 5	< 5	< 5.0	< 5.0	< 5.0
Toluene	1000			< 5	< 5	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	200			< 5	< 5	< 5.0	< 5.0	< 5.0
Trichloroethene	5			[23]	[25]	[36]	[36]	[32]
Vinyl Chloride	2			< 10	< 2	< 10	< 10	< 10
Acetone				< 100	< 100	< 100	< 100	< 100
Xylene (total)	10000			< 10	< 5	< 10	< 10	< 10
Carbon disulfide				< 5	< 5	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	§27	§27
			12/14/98	06/22/99
		US-PMCL	Primary	Primary
Benzene		5	< 5.0	< 5.0
Chloroethene		2	< 10	< 10
Chloroform		100	< 5.0	< 5.0
1,1-Dichloroethane			50	83
1,2-Dichloroethane		5	< 5.0	< 5.0
1,1-Dichloroethane		7	[9.9]	[14]
trans-1,2-Dichloroethane		100	16	5.3
cis-1,2-Dichloroethane		70	29	22
Methylene chloride		5	< 5.0	< 5.0
Tetrachloroethene		5	< 5.0	< 5.0
Toluene		1000	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5.0	< 5.0
Trichloroethene		5	[32]	[31]
Vinyl Chloride		2	< 10	< 10
Acetone			< 100	< 100
Xylene (total)		10000	< 10	< 10
Carbon disulfide			< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than MCL

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Shallow Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	627	627	627	627
			03/20/97	09/23/97	06/10/98	06/22/99
	DATE		Primary	Primary	Primary	Primary
	RESULT TYPE					
Cyanide		200	7	< 5	< 5	< 5
Chromium (T), Dissolved			---	< 5	< 5	< 5
Lead, Dissolved			---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			---	< 20	< 20	< 20
Chromium, Total		100	19	---	---	---
Lead, Total		15	[52]	---	---	---
Nickel, Total		100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL INORG

SHALLOW MONITOR WELLS
 SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
 ALLIEDSIGNAL, INC.
 SOUTH BEND, INDIANA
 REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-27		DATE COLLECTED		13 MAR 96		04 JUN 96		05 SEP 96		11 DEC 96	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q		
A.VOA	BENZENE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	CHLOROETHANE	UG/L	10	U					10	U	10		10	U
	CHLOROFORM	UG/L	5.0	U					5.0	U	5.0		5.0	U
	1,1-DICHLOROETHANE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	1,2-DICHLOROETHANE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	1,1-DICHLOROETHENE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	CIS-1,2-DICHLOROETHENE	UG/L	21				15				14		15	
	METHYLENE CHLORIDE	UG/L	27				23				21		25	
	TETRACHLOROETHENE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	TOLUENE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	1,1,1-TRICHLOROETHANE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	TRICHLOROETHENE	UG/L	39				32				27		27	
	VINYL CHLORIDE	UG/L	10	U					10	U	10		10	U
	ACETONE	UG/L	100	U					100	U	100		100	U
	XYLENE (TOTAL)	UG/L	10	U					10	U	10		10	U
	CARBON DISULFIDE	UG/L	5.0	U					5.0	U	5.0		5.0	U
	TOTAL VOCS:	UG/L	87				70				62		78	
E.METALS	CHROMIUM	UG/L	5	U					-		5.0		-	
	LEAD	UG/L	3.8						-		5.4		-	
	NICKEL	UG/L	20	U					-		6.0		-	
H.MISC	CYANIDE, TOTAL	UG/L	5	U					-		5		-	
	PHENOLS	UG/L	10	U					-		10		-	

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SHALLOW MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID S-27		DATE COLLECTED		08 DEC 94		14 MAR 95		06 JUN 95		20 SEP 95		05 DEC 95	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q		
A.VOA	BENZENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	CHLOROETHANE	UG/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
	1,1-DICHLOROETHANE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	1,2-DICHLOROETHANE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	1,1-DICHLOROETHENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TRANS-1,2-DICHLOROETHENE	UG/L	15		17		21		16		20		20		24	
	CIS-1,2-DICHLOROETHENE	UG/L	22		25		24		22		24		24		24	
	METHYLENE CHLORIDE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TETRACHLOROETHENE	UG/L	-		5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TOLUENE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	1,1,1-TRICHLOROETHANE	UG/L	5	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U	5.0	U
	TRICHLOROETHENE	UG/L	52		52		41		41		37		37		37	
	VINYL CHLORIDE	UG/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
	ACETONE	UG/L	100	U	100	U	100	U	100	U	100	U	100	U	100	U
	XYLENE (TOTAL)	UG/L	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TOTAL VOCS:	UG/L	89		94		86		79		81		81		81		
E.METALS	LEAD	UG/L	-		-		-		9.8		-		-		-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-		2.0	U	-		-		-		-		-	
	NICKEL (DISSOLVED)	UG/L	-		20	U	-		-		-		-		-	
H.MISC	CYANIDE, TOTAL	UG/L	-		5	U	-		-		5	U	-		-	
	PHENOLS	UG/L	-		10	U	-		-		10	U	-		-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: S-27				CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TRI-CHLOROETHENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	P-70 UG/L	P-100 UG/L	5 UG/L	UG/L	
07/10/87	8	AQUA		9.4	10	90	109	
09/04/87	28	AQUA		7.8	8	100	116	
01/15/88	33	AQUA		9.8	19	96	125	
02/18/88	32	AQUA		12	16	81	109	
05/19/88	27	AQUA		24.9	18.4	74.6	118	
09/23/88	27	AQUA		11	26	85	122	
12/08/88	2	AQUA		13.3	21	80	114	
02/23/89	12	AQUA		11.1	17	97.1	125	
06/09/89	25	AQUA	824	10.6	12.3	86	109	
09/08/89	18	AQUA	8240	14.8	19.5	78.8	113	
12/11/89	11	AQUA	8240	14.8	20.4	100	135	
02/28/90	11	AQUA	8240	20.4	22.3	83.1	126	
02/28/90	12	AQUA	8240	20	20.8	84.6	126	
06/02/90	17	AQUA	8240	17.4	21.8	84.6	124	
08/24/90	23	AQUA	8240	17.5	17.9	78.0	113	
10/28/90	17	AQUA	8240	20.8	20.9	91.4	132	
02/28/91	9	AQUA	8240	18.1	12.4	76.4	107	
06/01/91	22	AQUA	8240	22.6	60.0	68.7	151	
08/29/91	8	AQUA	8240	14.8	21.8	66.0	93	
11/13/91	18	AQUA	8240	20.8	23.1	84.1	97	
01/29/92	30	AQUA	8240	17.1	18.9	83.2	91	
03/31/92	19	AQUA	8240	16.8	17.8	87.0	91	
08/23/92	29	AQUA	8240	16.5	16.8	58.8	82	
02/04/93	16	AQUA	8240	23.5	19.8	75.3	119	
02/18/93	5	AQUA	8240	28.4	24.2	80.2	143	
05/11/93	5	AQUA	8240	21.4	21.8	58.2	101	
08/31/93	8	AQUA	8240	21.1	21.7	46.8	89	
12/01/93	8	AQUA	8240	59.2	40.3	59.3	159	
02/17/94	8	AQUA	8240	27.3	23.8	NO	91	
05/05/94	10	AQUA	8240	21.1	18.0	34.8	75	
09/14/94	13	AQUA	8240	29.7	18.7	41.0	81	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

NO RESULTS FOR 10/92 SAMPLING EPISODE DUE TO LAB ERROR.

PARAMETER

o - Date Sampled

SHALLOW MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLTEOSIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

teosignal
associates
Environmental and Geotechnical Services

INTERMEDIATE MONITORING WELLS

Analytical Summary - VOCs in Groundwater
Intermediate Monitoring Well
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	7-50	7-50	7-50	7-50
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	
Benzene	5	< 5	< 5.0	< 5.0	< 5.0	
Chloroethene	2	< 2	< 10	< 10	< 10	
Chloroform	100	< 5	< 5.0	< 5.0	< 5.0	
1,1-Dichloroethane		< 5	< 5.0	< 5.0	< 5.0	
1,2-Dichloroethane	5	< 5	< 5.0	< 5.0	< 5.0	
1,1-Dichloroethene	7	< 5	< 5.0	< 5.0	< 5.0	
trans-1,2-Dichloroethene	100	< 5	< 5.0	< 5.0	< 5.0	
cis-1,2-Dichloroethene	70	< 5	< 5.0	< 5.0	< 5.0	
Methylene chloride	5	< 5	< 5.0	< 5.0	< 5.0	
Tetrachloroethene	5	< 5	< 5.0	< 5.0	< 5.0	
Toluene	1000	< 5	< 5.0	< 5.0	< 5.0	
1,1,1-Trichloroethane	200	< 5	< 5.0	< 5.0	< 5.0	
Trichloroethene	5	< 5	< 5.0	< 5.0	< 5.0	
Vinyl Chloride	2	< 2	< 10	< 10	< 10	
Acetone		< 100	< 100	< 100	< 100	
Xylene (total)	10000	< 5	< 10	< 10	< 10	
Carbon disulfide		< 5	< 5.0	< 5.0	< 5.0	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Intermediate Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	7-50	7-50
			06/09/98	06/22/99
RESULT TYPE	US-PMCL	Primary	Primary	
Cyanide	200	< 5	< 5	
Chromium (T), Dissolved		< 5	< 5	
Lead, Dissolved		< 2.0	< 2.0	
Nickel, Dissolved		< 20	< 20	
Chromium, Total	100	---	---	
Lead, Total	15	---	---	
Nickel, Total	100	---	---	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - VOCs in Groundwater
Intermediate Monitoring Well
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	8D	8D	8D	8D	8D
					03/21/97	06/03/97	09/24/97	12/08/97	06/11/98
					Primary	Primary	Primary	Primary	Primary
Benzene				5	<5	<5	<5.0	<5.0	<5.0
Chloroethene				2	<10	<2	<10	<10	<10
Chloroform				100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane					<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane				5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane				100	27	35	23	21	29
cis-1,2-Dichloroethane				70	[230]	[310]	[240]	[220]	[260]
Methylene chloride				5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethane				5	<5	<5	<5.0	<5.0	<5.0
Toluene				1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane				200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene				5	<5	<5	<5.0	<5.0	<5.0
Vinyl Chloride				2	<10	<2	<10	<10	<10
Acetone					<100	<100	<100	<100	<100
Xylene (total)				10000	<10	<5	<10	<10	<10
Carbon disulfide					<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Intermediate Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	8D	8D
			12/12/98	06/23/99
	DATE		Primary	Primary
	RESULT TYPE			
Benzene		5	< 5.0	< 5.0
Chloroethane		2	< 10	< 10
Chloroform		100	< 5.0	< 5.0
1,1-Dichloroethane			< 5.0	< 5.0
1,2-Dichloroethane		5	< 5.0	< 5.0
1,1-Dichloroethane		7	< 5.0	< 5.0
trans-1,2-Dichloroethane		100	32	28
cis-1,2-Dichloroethane		70	[220]	[240]
Methylene chloride		5	[7.2] B	< 5.0
Tetrachloroethene		5	< 5.0	< 5.0
Toluene		1000	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5.0	< 5.0
Trichloroethene		5	< 5.0	< 5.0
Vinyl Chloride		2	< 10	< 10
Acetone			< 100	< 100
Xylene (total)		10000	< 10	< 10
Carbon disulfide			< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level The following qualifier(s) exist: B

Analytical Summary - Phenols in Groundwater
Intermediate Monitoring Well
Quarterly Monitoring Program - 6/99
AlliedSignal Industrial Complex
South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	8D	8D	8D	8D
					03/21/97	09/24/97	06/11/98	06/23/99
					Primary	Primary	Primary	Primary
Total Phenols					< 10	< 10	< 10	10
2,4-Dichlorophenol								
2,4,6-Trichlorophenol								
2,6-Dichlorophenol								
3,4-Dichlorophenol								
3,5-Dichlorophenol								
4-Chlorophenol								
5-Chlorophenol								
6-Chlorophenol								
Phenol								
2-Naphthol								
3-Naphthol								
4-Naphthol								
1-Naphthol								
2-Methylphenol								
3-Methylphenol								
4-Methylphenol								
2,4-Dinitrophenol								
2,6-Dinitrophenol								
4-Nitrophenol								
2-Nitrophenol								
3-Nitrophenol								
4-Cresol								
3-Cresol								
2-Cresol								
1-Cresol								
2,4,6-Trinitrophenol								
2,4-Dinitrophenol								
2,6-Dinitrophenol								
4-Nitrophenol								
2-Nitrophenol								
3-Nitrophenol								
4-Cresol								
3-Cresol								
2-Cresol								
1-Cresol								
2,4,6-Trinitrophenol								
2,4-Dinitrophenol								
2,6-Dinitrophenol								
4-Nitrophenol								
2-Nitrophenol								
3-Nitrophenol								
4-Cresol								
3-Cresol								
2-Cresol								
1-Cresol								

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Intermediate Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	8D 03/21/97 Primary	8D 09/24/97 Primary	8D 06/11/98 Primary	8D 06/23/99 Primary
Cyanide			200	161	90	110	80
Chromium (T), Dissolved				---	< 5	13	< 5
Lead, Dissolved				---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved				---	< 20	< 20	< 20
Chromium, Total			100	11	---	---	---
Lead, Total			15	< 2	---	---	---
Nickel, Total			100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Intermediate Monitoring Well

SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
 ALLIEDSIGNAL, INC.
 SOUTH BEND, INDIANA
 REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 8-D DATE COLLECTED 12 MAR 96		05 JUN 96		04 SEP 96		12 DEC 96	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	1,2-DICHLOROETHANE	UG/L		10 U		25 U		5.0 U		5.0 U
	1,1-DICHLOROETHENE	UG/L		10 U		25 U		5.0 U		5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	6.9	J	30		23		21	
	CIS-1,2-DICHLOROETHENE	UG/L	97		270		240		200	
	TOLUENE	UG/L		10 U		25 U		5.0 U		5.0 U
	TRICHLOROETHENE	UG/L		10 U		25 U		5.0 U		5.0 U
	VINYL CHLORIDE	UG/L		20 U		50 U		10 U		10 U
	CARBON DISULFIDE	UG/L		10 U		25 U		5.0 U		5.0 U
	TOTAL VOCS:	UG/L	103.9		300		263		221	
E.METALS	LEAD	UG/L		2.0 U		-		1.6	J	-
	NICKEL	UG/L		20 U		-		5.8	J	-
H.MISC	CYANIDE, TOTAL	UG/L	220				180			
	PHENOLS	UG/L		10 U				10 U		

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

Intermediate Monitoring Well

SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
 ALLIEDSIGNAL, INC.
 SOUTH BEND, INDIANA
 REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID		14 MAR 95		07 JUN 95		19 SEP 95		06 DEC 95	
			8-D	DATE COLLECTED	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	1,2-DICHLOROETHANE	UG/L		5 U		5.0 U		10 U		10 U		10 U
	1,1-DICHLOROETHENE	UG/L		5 U		5.0 U		2.6 J		10 U		10 U
	TRANS-1,2-DICHLOROETHENE	UG/L	33		18		34		9.6 J		19	
	CIS-1,2-DICHLOROETHENE	UG/L	244		200		270		89		180	
	TRICHLOROETHENE	UG/L		5 U		5.0 U		10 U		10 U		10 U
	VINYL CHLORIDE	UG/L		10 U		10 U		6.9 J		20 U		20 U
TOTAL VOCS:		UG/L	277		218		313.5		98.6		199	
E.METALS	LEAD	UG/L		-		-		-		1.8 J		-
H.MISC	CYANIDE, TOTAL	UG/L		-		1100		-		250		-

QUALIFIER CODES (Q):

U: THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
 NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOL 8-D				1,1-DI- CHLORO- ETHENE	1,1,2- DICHLORO- ETHENE	TRANS-1,2 DICHLORO- ETHENE	1,1,1-TRI CHLORO- ETHANE	VINYL CHLORIDE	SUM	NOTES		
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	7 UG/L	P-70 UG/L	P-100 UG/L	200 UG/L	2 UG/L	UG/L			
07/10/87	6	AQJA		ND	720	27	ND	ND	747			
09/04/87	30	AQJA		ND	800	ND	ND	ND	800			
01/15/88	28	AQJA		ND	840	ND	ND	ND	840			
01/15/88	29	AQJA		ND	855	ND	ND	ND	855			
02/09/88	13	AQJA		ND	770	ND	ND	ND	770			
02/09/88	14	AQJA		ND	630	ND	ND	ND	630			
05/19/88	23	AQJA		ND	1600	24	ND	67.9	1692			
09/24/88	19	AQJA		ND	420	32	20	ND	472			
12/10/88	32	AQJA		No VOC Detected								
02/23/89	35	AQJA		ND	570	33.1	ND	24.5	628			
06/08/89	11	AQJA	824	ND	600	37.2	ND	18.3	656			
09/18/89	35	AQJA	8240	5.4	560	35.6	ND	17.7	619			
12/13/89	33	AQJA	8240	ND	440	27.3	ND	ND	460			
12/13/89	34	AQJA	8240	ND	440	27.8	ND	ND	460			
03/02/90	15	AQJA	8240	ND	780	41.5	ND	11.6	833			
06/03/90	22	AQJA	8240	ND	430	35.6	ND	ND	466			
08/23/90	15	AQJA	8240	No VOC Detected								
10/29/90	31	AQJA	8240	5.4	440	42.3	ND	16.6	613			
03/01/91	21	AQJA	8240	ND	336	31.2	ND	12.2	379			
06/01/91	11	AQJA	8240	ND	355	62.0	ND	ND	417			
06/01/91	12	AQJA	8240	ND	332	67.8	ND	ND	400			
08/31/91	34	AQJA	8240	5.6	309	33.8	ND	ND	340			
11/14/91	35	AQJA	8240	ND	323	30.8	ND	ND	354			
01/26/92	36	AQJA	8240	ND	324	35.6	ND	ND	364			
04/02/92	41	AQJA	8240	ND	403	59.8	ND	ND	463			
08/21/92	8	AQJA	8240	ND	430	45.7	ND	ND	476			
10/31/92	23	AQJA	8240	ND	318	31.3	ND	ND	349			
02/05/93	33	AQJA	8240	ND	340	29.9	ND	ND	370			
05/12/93	24	AQJA	8240	ND	375	47.7	ND	ND	423			
09/02/93	31	AQJA	8240	ND	282	40.5	ND	ND	323			
09/02/93	32	AQJA	8240	ND	280	42.0	ND	ND	330			
12/02/93	23	AQJA	8240	6.8	344	58.5	ND	ND	409			
02/18/94	21	AQJA	8240	ND	247	27.6	ND	ND	275			
02/18/94	22	AQJA	8240	ND	324	35.1	ND	ND	359			
05/06/94	28	AQJA	8240	ND	240	29.2	ND	ND	269			
09/15/94	22	AQJA	8240	ND	260	32.2	ND	ND	292			

NOTES:
 OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
 ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.
 NPL - NO U.S. EPA PUBLISHED LEVEL
 P - PROPOSED
 VOC RESULTS ARE A SUMMARY OF A GC/MS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER
 o - Date Sampled

Intermediate Monitoring Well
 GROUNDWATER QUALITY ANALYSIS
 ORGANIC COMPOUNDS

ALLIEDSIGNAL, INC.
 GROUNDWATER INVESTIGATIONS
 SMITH DENN, INDIANA

t.a. gleason
 associates
 Environmental and Geotechnical Services

DEEP MONITORING WELLS

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	2D	
				12/12/98	06/23/99
RESULT	TYPE	US-PMCL	Primary	Primary	
Benzene		5	< 5.0	< 5.0	
Chloroethene		2	< 10	< 10	
Chloroform		100	< 5.0	< 5.0	
1,1-Dichloroethane			< 5.0	< 5.0	
1,2-Dichloroethane		5	[7.8]	[12]	
1,1-Dichloroethene		7	< 5.0	< 5.0	
trans-1,2-Dichloroethene		100	< 5.0	< 5.0	
cis-1,2-Dichloroethene		70	18	17	
Methylene chloride		5	< 5.0	< 5.0	
Tetrachloroethene		5	< 5.0	< 5.0	
Toluene		1000	< 5.0	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	< 5.0	
Trichloroethene		5	< 5.0	< 5.0	
Vinyl Chloride		2	< 10	< 10	
Acetone			< 100	< 100	
Xylene (total)		10000	< 10	< 10	
Carbon disulfide			< 5.0	< 5.0	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	2D	2D	2D	2D	2D
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary
Benzene	5	<5	<5	<5.0	<5.0	<5.0
Chloroethene	2	<10	<2	<10	<10	<10
Chloroform	100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane		<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane	5	[12]	[16]	[14]	[10]	[7.9]
1,1-Dichloroethene	7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70	10	17	16	15	15
Methylene chloride	5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene	5	<5	<5	<5.0	<5.0	<5.0
Toluene	1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene	5	<5	<5	<5.0	<5.0	<5.0
Vinyl Chloride	2	<10	<2	<10	<10	<10
Acetone		<100	<100	<100	<100	<100
Xylene (total)	10000	<10	<5	<10	<10	<10
Carbon disulfide		<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	2D	2D	2D	2D
		DATE	03/22/97	09/23/97	06/11/98	06/23/99
		RESULT TYPE	Primary	Primary	Primary	Primary
		US-PMCL				
Total Phenols			< 10	< 10	< 10	20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	2D 03/22/97	2D 09/23/97	2D 06/11/98	2D 06/23/99
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary
Cyanide	200	<5	<5	<5	<5
Chromium (T), Dissolved		---	<5	7.6	<5
Lead, Dissolved		---	<2.0	<2.0	<2.0
Nickel, Dissolved		---	<20	<20	<20
Chromium, Total	100	9.4	---	---	---
Lead, Total	15	<2	---	---	---
Nickel, Total	100	<20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

DEEP MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 2-D DATE COLLECTED			
			14 MAR 95 AMOUNT q	07 JUN 95 AMOUNT q	19 SEP 95 AMOUNT q	06 DEC 95 AMOUNT q
A.VOA	1,2-DICHLOROETHANE	UG/L	18	16	5.0 U	16
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	17	14	11	14
	TRICHLOROETHENE	UG/L	24	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
TOTAL VOCS:	UG/L	59	30	11	30	
E.METALS	LEAD	UG/L	-	-	2.0 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-

QUALIFIER CODES (Q):

U: THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

DEEP MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 2-D DATE COLLECTED			
			12 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	05 SEP 96 AMOUNT Q	12 DEC 96 AMOUNT Q
A.VOA	1,2-DICHLOROETHANE	UG/L	16	15	14	15
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	17	15	11	13
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOTAL VOCS:	UG/L	33	30	25	28
	E.METALS	LEAD	UG/L	9.4	-	2.0 U
NICKEL		UG/L	20 U	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SOURCE 2-D				1,2-DI- CHLORO- ETHANE	CIS-1,2- DICHLORO- ETHENE	TRI- CHLORO- ETHENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	S UG/L	P-70 UG/L	S UG/L	UG/L	
12/18/86	2	AQUA		20.4	ND	ND	20	
05/05/87	11	AQUA		25	ND	ND	25	
09/03/87	18	AQUA		24	ND	ND	24	
01/13/88	34	AQUA		34	ND	ND	34	
02/09/88	11	AQUA		23	ND	ND	23	
05/18/88	24	AQUA		34.2	ND	ND	34	
09/24/88	20	AQUA		28	ND	ND	28	
12/18/88	27	AQUA		22	ND	ND	22	
12/18/88	28	AQUA		21.4	ND	ND	21	
02/24/89	18	AQUA		24.8	13.4	ND	38	
06/08/89	18	AQUA	024	28.8	22.4	ND	49	
09/09/89	31	AQUA	0240	22.6	24.6	ND	47	
12/13/89	30	AQUA	0240	21	14.6	ND	36	
03/01/90	28	AQUA	0240	23.8	31.8	ND	56	
06/03/90	28	AQUA	0240	20.8	26.3	ND	47	
08/23/90	19	AQUA	0240	18.0	17.7	ND	34	
10/29/90	27	AQUA	0240	20.8	26.8	ND	47	
10/29/90	28	AQUA	0240	18.4	25.1	ND	45	
03/02/91	26	AQUA	0240	14.7	13.7	ND	28	
05/30/91	4	AQUA	0240	14.7	9.1	ND	20	
08/31/91	35	AQUA	0240	15.8	14.8	ND	30	
11/14/91	41	AQUA	0240	18.8	12.7	ND	28	
01/24/92	25	AQUA	0240	18.2	9.3	ND	26	
04/02/92	46	AQUA	0240	17.4	12.2	ND	30	
08/21/92	7	AQUA	0240	23.6	13.1	ND	37	
10/31/92	33	AQUA	0240	ND	9.4	16.0	25	
02/03/93	31	AQUA	0240	22.8	21.3	ND	44	
05/12/93	37	AQUA	0240	17.8	11.1	ND	29	
08/02/93	28	AQUA	0240	20.8	11.1	ND	31	
12/03/93	31	AQUA	0240	21.2	15.7	ND	37	
02/18/94	28	AQUA	0240	19.1	12.8	ND	32	
05/05/94	30	AQUA	0240	13.9	10.8	ND	25	
09/13/94	2	AQUA	0240	14.8	11.3	ND	28	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER

o - Data Sampled

DEEP MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSONAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

alliedson
associates

Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	4D DATE 06/10/98 Primary
Benzene			5	< 5.0
Chloroethene			2	< 10
Chloroform			100	< 5.0
1,1-Dichloroethane				< 5.0
1,2-Dichloroethane			5	< 5.0
1,1-Dichloroethane			7	< 5.0
trans-1,2-Dichloroethane			100	< 5.0
cis-1,2-Dichloroethane			70	14
Methylene chloride			5	< 5.0
Tetrachloroethene			5	< 5.0
Toluene			1000	< 5.0
1,1,1-Trichloroethane			200	< 5.0
Trichloroethene			5	< 5.0
Vinyl Chloride			2	< 10
Acetone				< 100
Xylene (total)			10000	< 10
Carbon disulfide				< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

Analytical Summary - Phenols in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	4D	4D
		DATE	06/10/98	06/10/98
		RESULT TYPE	US-PMCL	Primary
			Duplicate 1	

Total Phenols			< 10	< 10
---------------	--	--	------	------

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	4D	4D
				06/10/98	06/10/98
				Primary	Duplicate 1
Cyanide			200	< 5 UJ	19
Chromium (T), Dissolved				< 5	< 5
Lead, Dissolved				< 2.0	< 2.0
Nickel, Dissolved				< 20	< 20
Chromium, Total			100	---	---
Lead, Total			15	---	---
Nickel, Total			100	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

The following quality control(s) exist: U, J

For RCL INORG

400CMV
25-Oct-88

WELL NO.	DATE	SAMPLE #	LAB	PRIORITY POLLUTANTS VOLATILE ORGANIC COMPOUNDS (VOC)										OTHER ORGANIC COMPOUNDS			
				1,1-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHYLENE	TRANS-1,2 DI- ETHYLENE	1,1,1- TRI- ETHANE	TRI- CHLORO- ETHYLENE	1,2 DI- CHLORO- PROPANE	VINYL CHLORIDE	CHLORO- FORM	CHLORO- TOLUENE	CIS-1,2- DICHLORO- ETHENE			
				UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L		
4-D	10/14/86	31	AQUA	ND	ND	ND	11.4	ND	ND	ND	ND	ND	ND	ND	ND		
	01/07/87	5	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
	02/11/87	2	AQUA	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND		
	06/05/87	14	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.8		
	09/04/87	21	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
	01/14/88	21	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10.8		
	02/09/88	17	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11.3**	8.0		
	03/14/88	1	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	18.0		
	05/18/88	12	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	33.4		
	09/24/88	16	AQUA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12.2		

NOTES:
OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
ND = NOT DETECTED. SEE LAB REPORT FOR DETECTION LIMITS.
**NOTE: TOLUENE WAS NOT DETECTED IN 6 PREVIOUS SAMPLINGS. A RESAMPLING ON 3/14/88 DETECTED NO TOLUENE. BASED ON PREVIOUS DATA & THE RETEST, WE CONCLUDE THAT THE 2/9/88 SAMPLING DATA IS AN ANOMOLY.
VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

TABLE 5
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS
PAGE 4 OF 43
MONITOR WELLS
GROUNDWATER INVESTIGATIONS
ALLIED CORPORATION
SOUTH BEND, INDIANA
PROJECT # ALCHPX SBIM 013
T A GLEASON ASSOCIATES
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	5D	5D	5D	5D	5D
				03/20/97	06/04/97	09/24/97	12/10/97	06/10/98
				Primary	Primary	Primary	Primary	Primary
Benzene			5	<5	<5	<5.0 E	<5.0	<5.0
Chloroethane			2	<10	<2	<10	<10	<10
Chloroform			100	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane			5	<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane			7	<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethane			100	<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethane			70	<5	<5	<5.0	<5.0	<5.0
Methylene chloride			5	<5	<5	<5.0	<5.0	<5.0
Tetrachloroethane			5	<5	<5	<5.0	<5.0	<5.0
Toluene			1000	<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5	<5	<5.0	<5.0	<5.0
Trichloroethene			5	<5	<5	<5.0	<5.0	<5.0
Vinyl Chloride			2	<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	5D	5D	5D	5D
					06/10/98	12/13/98	06/22/99	06/22/99
					Duplicate 1	Primary	Primary	Duplicate 1
Benzene	5				<5.0	<5.0	<5.0	<5.0
Chloroethene	2				<10	<10	<10	<10
Chloroform	100				<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane					<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5				<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene	7				<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100				<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70				<5.0	<5.0	<5.0	<5.0
Methylene chloride	5				<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5				<5.0	<5.0	<5.0	<5.0
Toluene	1000				<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200				<5.0	<5.0	<5.0	<5.0
Trichloroethene	5				<5.0	<5.0	<5.0	<5.0
Vinyl Chloride	2				<10	<10	<10	<10
Acetone					<100	<100	<100	<100
Xylene (total)	10000				<10	<10	<10	<10
Carbon disulfide					<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

The following qualifier(s) exist: E

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	SD
DATE	06/22/99	
RESULT TYPE	US-PMCL	Duplicate 1
Total Phenols		< 10
<p>Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed</p> <p>For RCL PHENOLS</p>		

Analytical Summary - Inorganics in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	5D	5D	5D	5D	5D
			03/20/97	09/24/97	06/10/98	06/10/98	06/22/99
	RESULT TYPE		Primary	Primary	Primary	Duplicate 1	Primary
Cyanide		200	<5	<5	<5	<5	10
Chromium (T), Dissolved			<5	<5	<5	<5	<5
Lead, Dissolved			<2.0	<2.0	<2.0	<2.0	<2.0
Nickel, Dissolved			<20	<20	<20	<20	<20
Chromium, Total		100	<5	---	---	---	---
Lead, Total		15	<2	---	---	---	---
Nickel, Total		100	<20	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	5D
		06/22/99			Duplicate 1
Cyanide				200	< 5
Chromium (T), Dissolved					< 5
Lead, Dissolved					< 2.0
Nickel, Dissolved					< 20
Chromium, Total				100	---
Lead, Total				15	---
Nickel, Total				100	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

DEEP MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 5-D DATE COLLECTED			
			13 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	05 SEP 96 AMOUNT Q	11 DEC 96 AMOUNT Q
A.VOA	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	3.3 J	3.2 J	3.0 J	3.0 J
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
TOTAL VOCS:	UG/L	3.3	3.2	3.0	3.0	
E.METALS	LEAD	UG/L	2.0 U	-	0.8 J	-
	NICKEL	UG/L	20 U	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

DEEP MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID 5-D DATE COLLECTED 07 DEC 94		13 MAR 95		06 JUN 95		20 SEP 95		05 DEC 95	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	1,2-DICHLOROETHANE	UG/L	5	U			5.0	U			5.0	U
	1,1-DICHLOROETHENE	UG/L	5	U			5.0	U			5.0	U
	TRANS-1,2-DICHLOROETHENE	UG/L	5	U			5.0	U			5.0	U
	CIS-1,2-DICHLOROETHENE	UG/L	5	U			5.0	U			5.0	U
	TRICHLOROETHENE	UG/L	5	U	16		5.0	U	3.4	J	2.8	J
	VINYL CHLORIDE	UG/L	10	U			10	U			10	U
	TOTAL VOCs: . . .	UG/L	0		16		3.4		2.8		3.0	
E.METALS	LEAD	UG/L	-		-		-		2.0	U	-	
H.MISC	CYANIDE, TOTAL	UG/L	-		5	U	-		5	U	-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: 5-D				CIS-1, 2-DICHLOROETHENE	TOLUENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	P-70 LG/L	P-2000 LG/L	LG/L	
12/18/86	4	AQJA		10	ND	10	
12/18/86	5	AQJA		10	ND	10	
02/11/87	4	AQJA		No VOC Detected			
06/05/87	10	AQJA		No VOC Detected			
09/03/87	15	AQJA		No VOC Detected			
01/14/88	12	AQJA		No VOC Detected			
02/09/88	21	AQJA		ND	8.7	7	A
03/14/88	2	AQJA		8.1	ND	6	
05/18/88	14	AQJA		10.4	ND	10	
09/23/88	15	AQJA		No VOC Detected			
12/08/88	9	AQJA		No VOC Detected			
02/25/89	31	AQJA		5.4	ND	5	
06/09/89	23	AQJA	824	No VOC Detected			
09/10/89	16	AQJA	8240	5.8	ND	6	
12/11/89	8	AQJA	8240	7.5	ND	8	
02/28/90	9	AQJA	8240	6.2	ND	6	
06/02/90	14	AQJA	8240	6.4	ND	6	
08/24/90	20	AQJA	8240	No VOC Detected			
10/28/90	21	AQJA	8240	5.7	ND	6	
03/03/91	27	AQJA	8240	No VOC Detected			
05/30/91	2	AQJA	8240	No VOC Detected			
08/28/91	2	AQJA	8240	No VOC Detected			
11/12/91	2	AQJA	8240	No VOC Detected			
01/21/92	1	AQJA	8240	No VOC Detected			
03/30/92	7	AQJA	8240	No VOC Detected			
06/20/92	2	AQJA	8240	No VOC Detected			
10/30/92	12	AQJA	8240	No VOC Detected			
02/03/93	2	AQJA	8240	No VOC Detected			
05/11/93	1	AQJA	8240	No VOC Detected			
08/31/93	11	AQJA	8240	No VOC Detected			
12/01/93	1	AQJA	8240	No VOC Detected			
02/16/94	2	AQJA	8240	No VOC Detected			
05/04/94	2	AQJA	8240	No VOC Detected			
09/12/94		AQJA	8240	No VOC Detected			

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

A - TOLUENE WAS NOT DETECTED IN 5 PREVIOUS SAMPLING EPISODES. A RESAMPLING ON 03/14/88 DETECTED NO TOLUENE. BASED ON PREVIOUS DATA & THE RETEST, WE CONCLUDED THAT THE 02/09/88 SAMPLING DATA ARE ANOMALOUS.

PARAMETER

o - Date Sampled

DEEP MONITOR WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIED SIGNAL, INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

allied signal
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	D5	D5	D5	D5
						06/11/98	12/12/98	12/12/98	06/23/99
						Primary	Primary	Duplicate 1	Primary
Benzene					5	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethene					2	< 10	< 10	< 10	< 10
Chloroform					100	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane						< 5.0	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane					5	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene					7	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene					100	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethene					70	< 5.0	< 5.0	< 5.0	< 5.0
Methylene chloride					5	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethene					5	< 5.0	< 5.0	< 5.0	< 5.0
Toluene					1000	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane					200	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene					5	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride					2	< 10	< 10	< 10	< 10
Acetone						< 100	< 100	< 100	< 100
Xylene (total)					10000	< 10	< 10	< 10	< 10
Carbon disulfide						< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	D5 06/11/98 Primary	D5 06/23/99 Primary
Cyanide			200	< 5	< 5
Chromium (T), Dissolved				< 5	< 5
Lead, Dissolved				< 2.0	< 2.0
Nickel, Dissolved				< 20	< 20
Chromium, Total			100	---	---
Lead, Total			15	---	---
Nickel, Total			100	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	D7	D7	D7	D7	D7
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary	Primary
Benzene	5	<5	<5	<5.0	<5.0	<5.0	<5.0
Chloroethene	2	<10	<2	<10	<10	<10	<10
Chloroform	100	<5	<5	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane		<5	<5	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5	[13]	[14]	[14]	[14]	[14]	<5.0
1,1-Dichloroethane	7	<5	<5	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100	<5	<5	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70	<5	<5	<5.0	<5.0	<5.0	<5.0
Methylene chloride	5	<5	<5	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5	<5	<5	<5.0	<5.0	<5.0	<5.0
Toluene	1000	<5	<5	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200	<5	<5	<5.0	<5.0	<5.0	<5.0
Trichloroethene	5	<5	<5	<5.0	<5.0	<5.0	<5.0
Vinyl Chloride	2	<10	<2	<10	<10	<10	<10
Acetone		<100	<100	<100	<100	<100	<100
Xylene (total)	10000	<10	<5	<10	<10	<10	<10
Carbon disulfide		<5	<5	<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	D7 12/13/98 Primary	D7 06/22/99 Primary
Benzene			5	<5.0	<5.0
Chloroethene			2	<10	<10
Chloroform			100	<5.0	<5.0
1,1-Dichloroethane				<5.0	<5.0
1,2-Dichloroethane			5	[23]	[51]
1,1-Dichloroethane			7	<5.0	<5.0
trans-1,2-Dichloroethene			100	<5.0	<5.0
cis-1,2-Dichloroethene			70	<5.0	<5.0
Methylene chloride			5	<5.0	<5.0
Tetrachloroethene			5	<5.0	<5.0
Toluene			1000	<5.0	<5.0
1,1,1-Trichloroethane			200	<5.0	<5.0
Trichloroethene			5	<5.0	<5.0
Vinyl Chloride			2	<10	<10
Acetone				<100	<100
Xylene (total)			10000	<10	<10
Carbon disulfide				<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	D7 03/22/97	D7 09/24/97	D7 06/09/98	D7 06/22/99
Total Phenols				10	< 10	< 10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Deep Monitoring Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	D7	D7	D7	D7
			03/22/97	09/24/97	06/09/98	06/22/99
			Primary	Primary	Primary	Primary
Cyanide		200	< 5	< 5	< 5	< 5
Chromium (T), Dissolved			---	< 5	< 5	< 5
Lead, Dissolved			---	< 2.0	< 2.0	< 2.0
Nickel, Dissolved			---	< 20	< 20	< 20
Chromium, Total		100	< 5	---	---	---
Lead, Total		15	< 2	---	---	---
Nickel, Total		100	< 20	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

DEEP MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID D-7			
			DATE COLLECTED 12 MAR 96	04 JUN 96	04 SEP 96	10 DEC 96
			AMOUNT	AMOUNT	AMOUNT	AMOUNT
			q	q	q	q
A.VOA	1,2-DICHLOROETHANE	UG/L	19	15	15	20
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOTAL VOCS:	UG/L	19	15	15	20
E.METALS	LEAD	UG/L	2.0 U	-	0.6 J	-
	NICKEL	UG/L	20 U	-	20 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-
	PHENOLS	UG/L	10 U	-	10 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

SOURCE: D-7				1,2-DI- CHLORO- ETHANE	CIS-1,2- DICHLORO- ETHENE	TRANS-1,2 DICHLORO- ETHENE	VINYL CHLORIDE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	S UG/L	P-70 UG/L	P-100 UG/L	2 UG/L	UG/L	
10/01/86	18	AQJA		689	ND	20.2	ND	709	
11/09/86	26	AQJA		437	ND	15.7	ND	453	
01/07/87	9	AQJA		692	40	ND	ND	842	
02/18/87	14	AQJA		812	ND	30	ND	842	
06/09/87	9	AQJA		890	31	ND	ND	921	
06/05/87	10	AQJA		800	31	ND	ND	831	
09/03/87	17	AQJA		800	ND	ND	ND	800	
09/03/87	18	AQJA		750	ND	ND	ND	750	
01/14/88	14	AQJA		710	30	ND	ND	740	
02/08/88	10	AQJA		680	ND	ND	ND	680	
09/16/88	20	AQJA		1165	48.2	ND	14.1	1232	
09/24/88	20	AQJA		780	26	ND	ND	806	
12/09/88	16	AQJA		483	22.1	ND	ND	515	
12/09/88	17	AQJA		435	21.9	ND	ND	467	
02/24/89	21	AQJA		300	16.4	ND	ND	316	
06/16/89	26	AQJA	624	310	15.3	ND	ND	326	
09/08/89	30	AQJA	8240	300	14	ND	ND	314	
12/12/89	24	AQJA	8240	290	16.8	ND	ND	307	
03/01/90	22	AQJA	8240	340	15.3	ND	ND	355	
08/03/90	27	AQJA	8240	340	11.8	ND	ND	352	
08/23/90	17	AQJA	8240	284	9.3	ND	ND	293	
10/27/90	10	AQJA	8240	437	12.9	ND	ND	450	
03/01/91	18	AQJA	8240	239	17.7	ND	ND	257	
06/01/91	19	AQJA	8240	227	ND	ND	ND	227	
08/31/91	29	AQJA	8240	151	6.7	ND	ND	158	
11/15/91	14	AQJA	8240	123	6.4	ND	ND	131	
01/23/92	10	AQJA	8240	148	6.6	ND	ND	155	
04/01/92	39	AQJA	8240	78.6	ND	ND	ND	79	
08/23/92	30	AQJA	8240	82.1	ND	ND	ND	82	
10/30/92	14	AQJA	8240	60.8	ND	ND	ND	61	
02/03/93	8	AQJA	8240	89.4	ND	ND	ND	89	
05/12/93	38	AQJA	8240	34.8	ND	ND	ND	35	
08/31/93	19	AQJA	8240	20.4	ND	ND	ND	20	
12/03/93	30	AQJA	8240	11.8	ND	ND	ND	11	
02/17/94	11	AQJA	8240	13.4	ND	ND	ND	13	
02/17/94	12	AQJA	8240	13.8	ND	ND	ND	14	
05/09/94	15	AQJA	8240	19.8	ND	ND	ND	19	
09/14/94	15	AQJA	8240	19.4	ND	ND	ND	19	
09/14/94	18	AQJA	8240	18.8	ND	ND	ND	20	

NOTES:
 OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
 ND = NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.
 NPL = NO U.S. EPA PUBLISHED LEVEL
 P = PROPOSED
 VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

PARAMETER
 o - Date Sampled

Intermediate Monitoring Well
 GROUNDWATER QUALITY ANALYSIS
 ORGANIC COMPOUNDS

ALLIEDSIGNAL INC.
 GROUNDWATER INVESTIGATIONS
 SOUTH DEPT, RICHMOND

trigleason
 associates
 Environmental and Geotechnical Services

DEEP MONITOR WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID D-7 DATE COLLECTED				
			07 DEC 94 AMOUNT q	14 MAR 95 AMOUNT q	07 JUN 95 AMOUNT q	19 SEP 95 AMOUNT q	05 DEC 95 AMOUNT q
A.VOA	1,2-DICHLOROETHANE	UG/L	25	24	21	14	18
	1,1-DICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U	10 U
TOTAL VOCS:	UG/L	25	24	21	14	18	
E.METALS	LEAD	UG/L	-	-	-	2.0 U	-
H.MISC	CYANIDE, TOTAL	UG/L	-	5 U	-	5 U	-

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

NAPHTHA RECOVERY WELLS

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	E3 03/18/97 Primary	E3 03/18/97 Duplicate 1	E3 06/04/97 Primary	E3 09/26/97 Primary	E3 09/26/97 Duplicate 1
Benzene		5	< 5	< 5	< 5	[5.0] J	< 5.0 UJ
Chloroethene		2	[17]	[18]	[24]	[32]	[20]
Chloroform		100	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethane			< 5	< 5	10	8.4	6.8
1,2-Dichloroethane		5	< 5	< 5	< 5	< 5.0	< 5.0
1,1-Dichloroethene		7	< 5	< 5	< 5	< 5.0	< 5.0
trans-1,2-Dichloroethene		100	< 5	< 5	< 5	< 5.0	< 5.0
cis-1,2-Dichloroethene		70	14	15	24	15	14
Methylene chloride		5	< 5	< 5	< 5	< 5.0	< 5.0
Tetrachloroethene		5	< 5	< 5	< 5	< 5.0	< 5.0
Toluene		1000	< 5	< 5	< 5	< 5.0	< 5.0
1,1,1-Trichloroethane		200	< 5	< 5	< 5	< 5.0	< 5.0
Trichloroethene		5	< 5	< 5	< 5	< 5.0	< 5.0
Vinyl Chloride		2	[17]	[18]	[24]	[32]	[20]
Acetone			< 100	< 100	< 100	< 100	< 100
Xylene (total)		10000	< 10	< 10	< 5	< 10	< 10
Carbon disulfide			< 5	< 5	< 5	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	E3	E3	E3	E3	E3
					12/10/97	03/17/98	06/12/98	09/18/98	12/13/98
					Primary	Primary	Primary	Primary	Primary
Benzene	5				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chloroethene	2				[27]	[17]	< 10	[24]	< 10
Chloroform	100				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane					17	6.1	6.1	7.7	5.3
1,2-Dichloroethane	5				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	7				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethane	100				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
cis-1,2-Dichloroethane	70				< 5.0	13	18	21	19
Methylene chloride	5				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Tetrachloroethane	5				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene	1000				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	200				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene	5				< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Vinyl Chloride	2				[27]	[17]	< 10	[24]	< 10
Acetone					< 100	< 100	< 100	< 100	< 100
Xylene (total)	10000				< 10	< 10	< 10	< 10	< 10
Carbon disulfide					< 5.0	< 5.0	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1C

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	E3	E3
					03/02/99	06/22/99
					Primary	Primary
Benzene				5	< 5.0	[5.2]
Chloroethene				2	< 10	[14]
Chloroform				100	< 5.0	< 5.0
1,1-Dichloroethane					7	7.3
1,2-Dichloroethane				5	< 5.0	< 5.0
1,1-Dichloroethane				7	< 5.0	< 5.0
trans-1,2-Dichloroethane				100	< 5.0	< 5.0
cis-1,2-Dichloroethane				70	22	9.9
Methylene chloride				5	< 5.0	< 5.0
Tetrachloroethene				5	< 5.0	< 5.0
Toluene				1000	< 5.0	< 5.0
1,1,1-Trichloroethane				200	< 5.0	< 5.0
Trichloroethene				5	< 5.0	< 5.0
Vinyl Chloride				2	< 10	[14]
Acetone					< 100	< 100
Xylene (total)				10000	< 10	< 10
Carbon disulfide					< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level The following qualifier(s) exist: J, U

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	E3	E3	E3	E3	E3
				03/18/97	03/18/97	09/26/97	09/26/97	03/17/98
				Primary	Duplicate 1	Primary	Duplicate 1	Primary
Cyanide			200	< 5	< 5	< 5	< 5	< 5
Chromium (T), Dissolved				---	---	< 2.0	< 2.0	---
Lead, Dissolved				---	---	< 20	< 20	---
Nickel, Dissolved				---	---	---	---	18
Chromium, Total			100	< 5	< 5	---	---	4.8
Lead, Total			15	< 2	< 2	---	---	< 20
Nickel, Total			100	< 20	< 20	---	---	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B
 Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	E3
					06/22/99
					Primary
Cyanide				200	< 5
Chromium (T), Dissolved					---
Lead, Dissolved					---
Nickel, Dissolved					---
Chromium, Total				100	< 5
Lead, Total				15	< 2.0
Nickel, Total				100	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

The following qualifier(s) exist: J

For RCL INORG

NAPHTHA RECOVERY WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID E-3 DATE COLLECTED					
			04 JUN 96 AMOUNT	Q	04 SEP 96 AMOUNT	Q	10 DEC 96 AMOUNT	Q
A.VOCS	BENZENE	UG/L	4.3	J	4.4	J	4.0	J
	CHLOROETHANE	UG/L	7.0	J		10 U		10 U
	1,1-DICHLOROETHANE	UG/L		5.0 U	8.7		9.6	
	1,1-DICHLOROETHENE	UG/L	10			5.0 U		5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L		5.0 U		5.0 U		5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	19		12		16	
	VINYL CHLORIDE	UG/L	20		13		20	
	ACETONE	UG/L		100 U		100 U		100 U
	2-BUTANONE	UG/L		100 U		100 U		100 U
	CARBON DISULFIDE	UG/L		5.0 U		5.0 U	22	
TOTAL VOCS:	UG/L	60.3		38.1		71.6		
E.METALS	LEAD	UG/L	-		0.6	J		-
H.MISC	CYANIDE, TOTAL	UG/L	-			5 U		-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

NAPHTHA RECOVERY WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID E-3 DATE COLLECTED		15 MAR 95		07 JUN 95		19 SEP 95		05 DEC 95	
			09 DEC 94 AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	BENZENE	UG/L		5 U		5.0 U	4.8	J	4.9	J	5.1	
	CHLOROETHANE	UG/L		10 U		10 U	8.2	J	10		12	
	1,1-DICHLOROETHANE	UG/L	8.9		9		7.0		7.2		9.2	
	TRANS-1,2-DICHLOROETHENE	UG/L		5 U		5.0 U		5.0 U		5.0 U		5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	38		24		17		18		18	
	VINYL CHLORIDE	UG/L	20		21		14		23		26	
	ACETONE	UG/L		100 U		100 U		100 U		100 U		100 U
	2-BUTANONE	UG/L	215			100 U		100 U		100 U		100 U
	TOTAL VOCS:	UG/L	281.9		54		51		63.1		70.3	
E.METALS	LEAD	UG/L	-		-		-		2.0 U		-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-		2.0 U		-		-		-	
H.MISC	CYANIDE, TOTAL	UG/L	-		14		-		5 U		-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: E-3				BENZENE	1,1-DI- CHLORO- ETHANE	1,1-DI- CHLORO- ETHENE	ETHYL BENZENE	TOLUENE	CIS-1,2- DICHLORO- ETHENE	TRANS-1,2 DICHLORO- ETHENE	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	METHOD	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	
03/25/87	7	AQJA		72	56	ND	10	10	63	ND	201	
01/14/88	18	AQJA		60	25	ND	0.4	0.2	48	ND	152	
02/10/88	28	AQJA		60	28	ND	11	8.5	81	70	237	
05/19/88	34		0240	43	28.8	ND	7.8	ND	86	ND	163	
09/23/88	32	AQJA		81	28	ND	5.6	ND	28	11	124	
12/08/88	21	AQJA		30.4	21.8	ND	ND	ND	64.2	ND	116	
02/24/89	28	AQJA		42.7	28.8	ND	ND	ND	74	7.2	151	
06/07/89	8	AQJA	024	92.1	18.7	ND	ND	ND	45.8	6.9	164	
09/07/89	8	AQJA	0240	46.3	18.1	ND	ND	9.7	52.4	7.8	134	
12/12/89	28	AQJA	0240	77.6	24.4	ND	7.4	24.1	32.5	8	172	
03/01/90	18	AQJA	0240	72.3	20.1	ND	7.4	25.1	54.2	7	191	
06/04/90	31	AQJA	0240	66.7	23.3	ND	ND	ND	50.6	8	139	
08/24/90	28	AQJA	0240	30.8	13.8	ND	ND	ND	32.0	5.2	82	
08/24/90	27	AQJA	0240	30.8	13.7	ND	ND	ND	31.0	5.1	82	
10/18/90	36	AQJA	0240	31.8	20.2	ND	ND	ND	51.4	6.8	109	
03/04/91	34	AQJA	0240	15.8	13.8	ND	ND	ND	35.9	5.3	71	
06/03/91	35	AQJA	0240	15.8	12.2	ND	ND	ND	0.7	ND	30	A
08/30/91	28	AQJA	0240	11.7	8.7	ND	ND	ND	20.0	ND	40	
11/14/91	37	AQJA	0240	11.8	13.8	ND	ND	ND	30.5	ND	56	
01/24/92	17	AQJA	0240	13.3	ND	ND	ND	ND	27.2	ND	41	
03/30/92	8	AQJA	0240	14.8	9.7	ND	ND	ND	22.1	ND	46	
08/24/92	34	AQJA	0240	14.3	ND	ND	ND	ND	17.7	8.7	41	
11/02/92	44	AQJA	0240	10.7	ND	ND	ND	ND	0.1	ND	10	
02/09/93	41	AQJA	0240	8.7	ND	ND	ND	ND	ND	ND	9	
06/18/93	1	AQJA	0240	8.4	ND	9.1	ND	ND	21.4	5.1	44	
12/11/93	48	AQJA	0240	ND	ND	ND	ND	ND	ND	ND	ND	
05/09/94	43	AQJA	0240	ND	7.9	ND	ND	ND	12.4	ND	20	
09/16/94	42	AQJA	0240	ND	8.8	ND	ND	ND	21.4	ND	20	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

A - METHYLENE CHLORIDE 8.5 UG/L

WELL NOT SAMPLED AUGUST, 1993 DUE TO INOPERATIVE PUMP.

PARAMETER

o - Data Sampled

NAPHTHA RECOVERY WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIEDSIGNAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

ta gleason
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE DATE	US-PMCL	RWB16	RWB16	RWB16	RWB16	RWB16
				03/18/97	06/04/97	09/26/97	12/10/97	12/10/97
RESULT TYPE				Primary	Primary	Primary	Primary	Duplicate 1
Benzene	5			[20]	[27]	[45]	[64]	[71]
Chloroethene	2			<10	<2	<10	<10	<10
Chloroform	100			<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5	<5	<5.0	<5.0	<5.0
1,2-Dichloroethane	5			<5	<5	<5.0	<5.0	<5.0
1,1-Dichloroethene	7			<5	<5	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100			<5	<5	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	70			<5	<5	5.8	<5.0	<5.0
Methylene chloride	5			<5	<5	<5.0	<5.0	<5.0
Tetrachloroethene	5			<5	<5	<5.0	<5.0	<5.0
Toluene	1000			<5	<5	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200			<5	<5	<5.0	<5.0	<5.0
Trichloroethene	5			<5	<5	<5.0	<5.0	<5.0
Vinyl Chloride	2			<10	<2	<10	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)	10000			<10	<5	<10	<10	<10
Carbon disulfide				<5	<5	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Naptha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	RWB16	RWB16	RWB16	RWB16	RWB16
						03/17/98	06/12/98	09/17/98	12/14/98	12/14/98
						Primary	Primary	Primary	Primary	Duplicate 1
Benzene					5	[63]	[55]	[76]	[71]	[70]
Chloroethene					2	<10	<10	<10	<10	<10
Chloroform					100	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane						<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane					5	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane					7	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene					100	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene					70	<5.0	<5.0	<5.0	<5.0	<5.0
Methylene chloride					5	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene					5	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene					1000	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane					200	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene					5	<5.0	<5.0	<5.0	<5.0	<5.0
Vinyl Chloride					2	<10	<10	<10	<10	<10
Acetone						<100	<100	<100	<100	<100
Xylene (total)					10000	<10	<10	<10	<10	<10
Carbon disulfide						<5.0	<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1C
 Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	RWB16 03/02/99 Primary	RWB16 06/22/99 Primary	RWB16 06/22/99 Duplicate 1
Benzene			5	<5.0	[47]	[45]
Chloroethene			2	<10	<10	<10
Chloroform			100	<5.0	<5.0	<5.0
1,1-Dichloroethane				<5.0	<5.0	<5.0
1,2-Dichloroethane			5	<5.0	<5.0	<5.0
1,1-Dichloroethene			7	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene			100	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene			70	<5.0	<5.0	<5.0
Methylene chloride			5	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5.0	<5.0	<5.0
Toluene			1000	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5.0	<5.0	<5.0
Trichloroethene			5	<5.0	<5.0	<5.0
Vinyl Chloride			2	<10	<10	<10
Acetone				<100	<100	<100
Xylene (total)			10000	<10	<10	<10
Carbon disulfide				<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	RWB16	RWB16	RWB16	RWB16	RWB16
				03/18/97	09/26/97	03/17/98	06/22/99	06/22/99
				Primary	Primary	Primary	Primary	Duplicate 1
Cyanide			200	<5	<5	<5	20	<5
Chromium (T), Dissolved				---	<5	---	---	---
Lead, Dissolved				---	<2.0	---	---	---
Nickel, Dissolved				---	<20	---	---	---
Chromium, Total			100	<5	---	24	<5.0	<5.0
Lead, Total			15	<2	---	<2.0	<2.0	<2.0
Nickel, Total			100	<20	---	<20	<20	<20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	RWB22 03/18/97	RWB22 06/04/97	RWB22 06/04/97	RWB22 12/10/97	RWB22 03/17/98
				Primary	Primary	Duplicate 1	Primary	Primary
Benzene			5	<5	<5	<5	<5.0	<5.0
Chloroethene			2	<10	<2	<2	<10	<10
Chloroform			100	<5	<5	<5	<5.0	<5.0
1,1-Dichloroethane				<5	5.6	6.4	7.0	9.9
1,2-Dichloroethane			5	<5	<5	<5	<5.0	<5.0
1,1-Dichloroethene			7	<5	<5	<5	<5.0	<5.0
trans-1,2-Dichloroethene			100	<5	<5	<5	<5.0	<5.0
cis-1,2-Dichloroethene			70	15	18	20	19	24
Methylene chloride			5	<5	<5	<5	<5.0	<5.0
Tetrachloroethene			5	<5	<5	<5	<5.0	<5.0
Toluene			1000	<5	<5	<5	<5.0	<5.0
1,1,1-Trichloroethane			200	<5	<5	<5	<5.0	<5.0
Trichloroethene			5	<5	<5	<5	<5.0	<5.0
Vinyl Chloride			2	<10	<2	<2	<10	<10
Acetone				<100	<100	<100	<100	<100
Xylene (total)			10000	<10	<5	<5	<10	<10
Carbon disulfide				<5	<5	<5	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

NAPHTHA RECOVERY WELLS
 SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
 ALLIEDSIGNAL, INC.
 SOUTH BEND, INDIANA
 REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID RWB-16 DATE COLLECTED			
			12 MAR 96 AMOUNT q	04 JUN 96 AMOUNT q	04 SEP 96 AMOUNT q	10 DEC 96 AMOUNT q
A.VOA	BENZENE	UG/L	25	33	18	22
	CHLOROETHANE	UG/L	10 U	5.0 J	10 U	7.1 J
	1,1-DICHLOROETHANE	UG/L	5.0 U	5.0 U	3.2 J	5.0 U
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	3.0 J	6.0	4.5 J	3.7 J
	CIS-1,2-DICHLOROETHENE	UG/L	2.2 J	12	4.1 J	3.0 J
	VINYL CHLORIDE	UG/L	10 U	6.5 J	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	2-BUTANONE	UG/L	100 U	100 U	100 U	100 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TOTAL VOCS:	UG/L	30.2	62.5	29.8	35.8
E.METALS	LEAD	UG/L	18	-	1.7 J	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

NAPHTHA RECOVERY WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID RWB-16		DATE COLLECTED		09 DEC 94		15 MAR 95		07 JUN 95		19 SEP 95		05 DEC 95	
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q
A.VOA	BENZENE	UG/L	45		44				37				24		16	
	CHLOROETHANE	UG/L		10 U		10 U		6.9	J		5.4	J	5.4	J	6.3	J
	1,1-DICHLOROETHANE	UG/L		5 U		5.0 U			5.0 U		6.7		6.7		3.0	J
	TRANS-1,2-DICHLOROETHENE	UG/L		5 U		5.0 U			5.0 U		3.5	J	3.5	J	3.4	J
	CIS-1,2-DICHLOROETHENE	UG/L		5 U	5			4.1	J		3.7	J	3.7	J	3.6	J
	VINYL CHLORIDE	UG/L		10 U		10 U			10 U		5.4	J	5.4	J	2.6	J
	ACETONE	UG/L		100 U		100 U			100 U				100 U		100 U	
	2-BUTANONE	UG/L		100 U		100 U			100 U				100 U		100 U	
	TOTAL VOCS:	UG/L	45		49			48			48.7		48.7		34.9	
E.METALS	LEAD	UG/L		-		-			-		13				-	
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L		-	2.1				-						-	
H.MISC	CYANIDE, TOTAL	UG/L		-		5 U			-			5 U			-	

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: RWB-16				BENZENE	CARBON TETRA-CHLORIDE	1,1-DI-CHLORO-ETHANE	1,2-DI-CHLORO-ETHANE	CIS-1,2-DICHLORO-ETHENE	TRANS-1,2-DICHLORO-ETHENE	TRI-CHLORO-ETHENE	OTHER VOC	SLM	NOTES	
DATE	SAMPLE	LAB	MCL	5	NPL	1PL	5	P-70	P-100	5				
SAMPLED	ID.		METHOD	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L		
03/25/87	8	AQJA		22	ND	16	ND	16	ND	10	ND	54		
09/04/87	35	AQJA		No VOC Detected										
01/14/88	20	AQJA		ND	220	ND	ND	ND	0.5	ND	ND	220		
02/10/88	30	AQJA		ND	ND	ND	ND	ND	0.2	ND	ND	8		
03/19/88	33	AQJA		ND	149	ND	ND	ND	ND	22.5	ND	172		
09/23/88	33	AQJA		152	ND	ND	ND	ND	6	ND	ND	150		
12/09/88	22	AQJA		ND	140	ND	ND	ND	5.4	ND	15	160		
02/24/89	29	AQJA		100	170	ND	ND	ND	ND	ND	140	410		
06/07/89	8	AQJA	824	83	170	ND	ND	ND	13	ND	ND	236		
09/07/89	8	AQJA	8240	82.1	270	ND	ND	ND	0.2	ND	41.2	372		
09/07/89	10	AQJA	8240	83.2	250	ND	ND	ND	7.4	ND	82.4	373		
12/12/89	21	AQJA	8240	150	140	0.3	ND	ND	8	ND	50	357		
03/01/90	19	AQJA	8240	120	320	10.3	ND	ND	0.3	ND	03.9	541		
06/04/90	32	AQJA	8240	110	380	7.6	ND	ND	10.4	ND	26.0	760		
08/24/90	28	AQJA	8240	ND	114	ND	7.5	ND	5.3	ND	ND	127		
10/30/90	37	AQJA	8240	150	110	ND	ND	7.2	ND	ND	ND	267		
03/04/91	35	AQJA	8240	65.4	106	ND	ND	ND	ND	ND	ND	171		
06/03/91	36	AQJA	8240	100	93.8	ND	ND	ND	ND	ND	74.0	260	A	
06/03/91	37	AQJA	8240	102	110	ND	ND	ND	ND	ND	83.0	295		
08/30/91	21	AQJA	8240	ND	46.8	ND	ND	ND	ND	ND	ND	47		
11/14/91	38	AQJA	8240	6.1	83.1	ND	ND	ND	ND	ND	ND	89		
11/14/91	39	AQJA	8240	ND	89.2	ND	ND	ND	ND	ND	ND	80		
01/24/92	18	AQJA	8240	ND	60.0	ND	ND	ND	ND	ND	ND	50		
01/24/92	19	AQJA	8240	ND	49.8	ND	ND	ND	ND	ND	ND	50		
03/30/92	8	AQJA	8240	82.2	ND	ND	ND	ND	ND	ND	ND	82		
08/24/92	33	AQJA	8240	84.8	49.7	ND	ND	ND	ND	ND	ND	104		
11/02/92	43	AQJA	8240	74.8	28.3	ND	ND	ND	ND	ND	ND	104		
02/05/93	38	AQJA	8240	ND	19.2	ND	ND	ND	ND	ND	ND	19		
03/12/93	34	AQJA	8240	72.4	ND	ND	ND	ND	ND	ND	ND	72		
09/01/93	24	AQJA	8240	No VOC Detected										
09/01/93	25	AQJA	8240	No VOC Detected										
12/04/93	35	AQJA	8240	ND	18.2	ND	ND	ND	ND	ND	ND	18		
02/19/94	37	AQJA	8240	43.2	12.7	ND	ND	ND	ND	ND	ND	56		
02/19/94	38	AQJA	8240	45.7	13.4	ND	ND	ND	ND	ND	ND	50		
03/07/94	41	AQJA	8240	38.6	ND	ND	ND	ND	ND	ND	ND	30		
09/16/94	43	AQJA	8240	No VOC Detected										

NOTES:
 OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
 ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.
 NPL - NO U.S. EPA PUBLISHED LEVEL
 P - PROPOSED
 VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

A - METHYLENE CHLORIDE 9.0 MG/L

PARAMETER
 o - Date Sampled

NAPHTHA RECOVERY WELLS
 GROUNDWATER QUALITY ANALYSIS
 ORGANIC COMPOUNDS

ALLIENIGMA, INC.
 GROUNDWATER INVESTIGATIONS
 SOUTH DEPT, INDIANA

Ita Gleason
 associates
 Environmental and Geotechnical Services

SOURCE: E-3 (CONT'D)				CARBON TETRA- CHLORIDE	TRI- CHLORO- ETHENE	VINYL CHLORIDE	TOTAL XYLENES	OTHER VOC	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	METHOD	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	
03/26/87	7	AQJA		ND	ND	ND	23	ND	23	
01/14/88	10	AQJA		ND	ND	ND	ND	ND	0	
02/10/88	20			ND	ND	ND	ND	ND	0	
05/19/88	34		0240	29.8	22.8	10.3	15	ND	86	
09/23/88	32	AQJA		ND	ND	ND	9.2	ND	9	
12/08/88	21	AQJA		41.7	ND	26.7	ND	489	657	
02/24/89	28	AQJA		49.5	ND	26.3	ND	620	696	
06/07/89	8	AQJA	024	100	ND	19.2	7.1	ND	126	
09/07/89	8	AQJA	0240	ND	ND	29.2	7.6	400	437	
12/12/89	20	AQJA	0240	ND	ND	ND	13.8	670	684	
03/01/90	18	AQJA	0240	74.4	ND	18.8	10.8	620	722	
06/04/90	31	AQJA	0240	81.2	ND	22.7	6.3	550	670	
08/24/90	24	AQJA	0240	34.7	ND	14.4	ND	ND	49	
08/24/90	27	AQJA	0240	33.3	ND	14.0	ND	ND	47	
10/30/90	36	AQJA	0240	66.8	ND	35.9	ND	ND	102	
03/04/91	34	AQJA	0240	ND	ND	ND	ND	ND	0	
06/03/91	35	AQJA	0240	ND	ND	13.1	ND	ND	13	
08/30/91	20	AQJA	0240	ND	ND	13.6	ND	ND	14	
11/14/91	37	AQJA	0240	ND	ND	ND	ND	ND	0	
01/24/92	17	AQJA	0240	ND	ND	ND	ND	ND	0	
03/30/92	8	AQJA	0240	ND	ND	ND	ND	ND	0	
06/24/92	34	AQJA	0240	12.0	ND	12.2	ND	ND	24	
11/02/92	44	AQJA	0240	14.7	ND	ND	ND	ND	15	
02/09/93	41	AQJA	0240	ND	ND	ND	ND	ND	0	
08/10/93	1	AQJA	0240	ND	ND	17.2	ND	ND	17	
12/11/93	40	AQJA	0240	ND	ND	ND	ND	ND	ND	
05/08/94	43	AQJA	0240	17.2	ND	10.9	ND	ND	28	
09/16/94	42	AQJA	0240	ND	ND	14.1	ND	ND	14	

NOTES:
OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

A - METHYLENE CHLORIDE 6.5 UG/L

WELL NOT SAMPLED AUGUST, 1993 DUE TO IMPROVATIVE PLAN.

PARAMETER
o - Data Sampled

NAPHTHA RECOVERY WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLTECHNICAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

alltechnical
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	RWB22	RWB22	RWB22	RWB22
				06/12/98	09/17/98	12/14/98	06/22/99
				Primary	Primary	Primary	Primary
Benzene			5	<5.0	<5.0	<5.0	<5.0
Chloroethene			2	<10	<10	<10	<10
Chloroform			100	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane				5.2	6.3	5.2	6.7
1,2-Dichloroethane			5	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethene			7	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene			100	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene			70	17	23	18	20
Methylene chloride			5	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene			5	<5.0	<5.0	<5.0	<5.0
Toluene			1000	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane			200	<5.0	<5.0	<5.0	<5.0
Trichloroethene			5	<5.0	<5.0	<5.0	<5.0
Vinyl Chloride			2	<10	<10	<10	<10
Acetone				<100	<100	<100	<100
Xylene (total)			10000	<10	<10	<10	<10
Carbon disulfide				<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - phenols in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE	US-PMCL	RWB22	RWB22	RWB22
		DATE		03/18/97	03/17/98	06/22/99
		RESULT TYPE		Primary	Primary	Primary
Total Phenols				< 10	< 10	< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	RWB22	RWB22	RWB22
				03/18/97	03/17/98	06/22/99
				Primary	Primary	Primary
Cyanide			200	< 5	< 5	< 5
Chromium (T), Dissolved				---	---	---
Lead, Dissolved				---	---	---
Nickel, Dissolved				---	---	---
Chromium, Total			100	< 5	20	7.4
Lead, Total			15	< 2	< 2.0	3.9
Nickel, Total			100	< 20	< 20	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

NAPHTHA RECOVERY WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/28/97

GROUP	PARAMETER NAME	UNITS	SAMPLE ID RWB-22 DATE COLLECTED			
			12 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	10 DEC 96 AMOUNT Q
A.VOA	BENZENE	UG/L	2.4 J	3.3 J	5.0 U	3.7 J
	CHLOROETHANE	UG/L	10 U	10 U	10 U	10 U
	1,1-DICHLOROETHANE	UG/L	5.9	8.0	8.8	8.1
	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	5.4	4.8 J	5.3	4.9 J
	CIS-1,2-DICHLOROETHENE	UG/L	25	26	27	24
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	10 U
	ACETONE	UG/L	100 U	100 U	100 U	100 U
	2-BUTANONE	UG/L	100 U	100 U	100 U	100 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	5.0 U	15 J
TOTAL VOCS:	UG/L	38.7	42.1	41.1	55.7	
E.METALS	LEAD	UG/L	2.0 U	-	2.0 U	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	5 U	-

QUALIFIER CODES (Q):

J : THIS RESULT SHOULD BE CONSIDERED A QUANTITATIVE ESTIMATE.

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.

- : INDICATES THAT SAMPLE WAS NOT ANALYZED FOR COMPOUND/ANALYTE.

NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

NAPHTHA RECOVERY WELLS
SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER SAMPLES
ALLIEDSIGNAL, INC.
SOUTH BEND, INDIANA
REPORT DATE 01/29/96

GROUP	PARAMETER NAME	UNITS	SAMPLE ID RMB-22 DATE COLLECTED		09 DEC 94		15 MAR 95		07 JUN 95		19 SEP 95		05 DEC 95		
			AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	AMOUNT	Q	
A.VOA	BENZENE	UG/L		5 U			5.0 U		3.5	J		3.2	J	2.1	J
	CHLOROETHANE	UG/L		10 U			10 U			10 U			10 U		10 U
	1,1-DICHLOROETHANE	UG/L	8.0			8			8.6			6.4		5.4	
	TRANS-1,2-DICHLOROETHENE	UG/L		5 U		6				5.0 U		4.4	J	4.1	J
	CIS-1,2-DICHLOROETHENE	UG/L	27			30			32			25		23	
	VINYL CHLORIDE	UG/L		10 U			10 U			10 U			10 U		10 U
	ACEJONE	UG/L	129				100 U			100 U			100 U		100 U
	2-BUTANONE	UG/L	385				100 U			100 U			100 U		100 U
TOTAL VOCS:	UG/L	549			44			44.1			39			34.6	
E.METALS	LEAD	UG/L		-			-					2.0 U			
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L		-		2.0 U						-			
H.MISC	CYANIDE, TOTAL	UG/L		-		8						5 U			

QUALIFIER CODES (Q):

U : THIS ANALYTE WAS NOT DETECTED. THE NUMERIC VALUE REPRESENTS THE SAMPLE QUANTITATION/DETECTION LIMIT FOR THIS ANALYTE.
NOTE: THIS DATA DID NOT UNDERGO AN ERM QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE: RWB-22				BENZENE	CARBON TETRA-CHLORIDE	1,1-DI-CHLORO-ETHANE	ETHYL BENZENE	TOLUENE	TOTAL XYLENES	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	5 UG/L	10 UG/L	10 UG/L	P-700 UG/L	P-2000 UG/L	P-10000 UG/L	UG/L	
03/26/87	8	AQJA		184	ND	124	84	ND	199	601	
09/04/87	34	AQJA		ND	420	ND	81	ND	160	661	
01/14/88	17	AQJA		117	70	40	47	22	85	309	
01/14/88	18	AQJA		122	90	53	51	24	91	431	
02/10/88	27	AQJA		170	110	69	73	61	140	613	
02/10/88	28	AQJA		151	ND	51	70	140	140	552	
05/18/88	32	AQJA		118	33.8	48.2	103	28.5	133	518	
05/19/88	33	AQJA		118	33.7	47.9	88.8	34.7	113	408	
09/23/88	30	AQJA		ND	ND	8.3	ND	ND	ND	0	
12/09/88	20	AQJA		65.8	ND	29.7	41	18.4	90	243	
02/24/89	27	AQJA		110	82.8	29.8	52.9	34.4	100	308	
06/07/89	4	AQJA	624	158	64.8	23.4	51.9	42.1	97.1	429	
09/07/89	7	AQJA	8240	100	ND	19.3	47.1	13.1	84.7	264	
12/12/89	19	AQJA	8240	ND	ND	24.2	27	ND	36.6	81	
03/01/90	17	AQJA	8240	82.9	ND	17.4	37.3	5.2	44.1	187	
06/04/90	28	AQJA	8240	76.7	ND	19.4	35.4	12.3	44.2	188	
06/04/90	30	AQJA	8240	78.3	ND	18.3	35.2	12.2	44	187	
08/24/90	26	AQJA	8240	45.7	10.1	16.7	32.8	8.1	64.7	167	
10/30/90	35	AQJA	8240	83.8	28.8	21.8	30.6	7.4	48.2	189	
03/04/91	32	AQJA	8240	21.2	ND	25.1	15.7	ND	24.4	86	
03/04/91	33	AQJA	8240	26.2	ND	13.0	20.6	ND	34.8	84	
06/03/91	38	AQJA	8240	8.6	ND	14.2	ND	ND	ND	20	
11/14/91	36	AQJA	8240	10.8	ND	ND	ND	ND	ND	11	
01/24/92	16	AQJA	8240	14.4	ND	ND	8.9	ND	11.9	32	
03/30/92	4	AQJA	8240	8.9	ND	10.7	ND	ND	ND	17	
08/24/92	33	AQJA	8240	8.1	ND	16.7	ND	ND	ND	22	
11/02/92	42	AQJA	8240	8.8	ND	8.1	ND	ND	ND	15	
02/05/93	29	AQJA	8240	ND	ND	17.4	ND	ND	ND	17	
05/12/93	33	AQJA	8240	ND	ND	12.9	ND	ND	ND	13	
09/01/93	23	AQJA	8240	ND	ND	12.5	ND	ND	ND	13	
12/04/93	33	AQJA	8240	ND	ND	23.3	ND	ND	ND	23	
12/04/93	34	AQJA	8240	ND	ND	21.1	ND	ND	ND	21	
02/19/94	38	AQJA	8240	ND	ND	7.9	ND	ND	ND	0	
05/07/94	39	AQJA	8240	ND	ND	8.8	ND	ND	ND	9	
05/07/94	40	AQJA	8240	ND	ND	8.9	ND	ND	ND	0	
09/18/94	39	AQJA	8240	ND	ND	8.7	ND	ND	ND	6	
09/18/94	40	AQJA	8240	ND	ND	8.0	ND	ND	ND	0	

NOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

WELL NOT SAMPLED AUGUST, 1991 DUE TO IMPROVATIVE 14MP.

PARAMETER

o - Data Sampled

NAPHTHA RECOVERY WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLIANTONAL INC.
GROUNDWATER INVESTIGATIONS
SOUTH BEND, INDIANA

allianton
associates
Environmental and Geotechnical Services

SOURCE: RWB-22 (CONT'D)				CIS-1, 2 DICHLORO- ETHENE	TRANS-1, 2 DICHLORO- ETHENE	1, 1, 1-TRI CHLORO- ETHANE	TRI- CHLORO- ETHENE	OTHER VOC	SUM	NOTES
DATE SAMPLED	SAMPLE NO.	LAB	MCL METHOD	P-78 UG/L	P-100 UG/L	200 UG/L	5 UG/L	UG/L	UG/L	
03/26/87	8	AQJA		ND	ND	ND	ND	ND	0	
09/04/87	34	AQJA		ND	ND	ND	ND	ND	0	
01/14/88	17	AQJA		ND	ND	ND	ND	ND	0	
01/14/88	18	AQJA		ND	ND	ND	ND	ND	0	
02/10/88	27	AQJA		ND	ND	ND	ND	ND	0	
02/10/88	28	AQJA		ND	ND	ND	ND	ND	0	
05/19/88	32	AQJA		ND	ND	ND	ND	ND	0	
05/19/88	33	AQJA		ND	ND	ND	ND	ND	0	
09/23/88	30	AQJA		ND	ND	ND	ND	ND	0	
12/09/88	28	AQJA		ND	ND	ND	ND	ND	0	
02/24/89	27	AQJA		ND	ND	ND	ND	ND	0	
06/07/89	4	AQJA	824	ND	ND	ND	ND	ND	0	
09/07/89	7	AQJA	8240	ND	ND	ND	ND	ND	0	
12/12/89	19	AQJA	8240	ND	ND	ND	ND	ND	0	
03/01/90	17	AQJA	8240	ND	ND	ND	ND	ND	0	
06/04/90	29	AQJA	8240	ND	ND	ND	ND	ND	0	
06/04/90	30	AQJA	8240	ND	ND	ND	ND	ND	0	
06/24/90	25	AQJA	8240	ND	ND	ND	ND	ND	0	
10/30/90	35	AQJA	8240	ND	ND	ND	ND	ND	0	
03/04/91	32	AQJA	8240	ND	ND	ND	ND	ND	0	
03/04/91	33	AQJA	8240	ND	ND	ND	ND	ND	0	
06/03/91	38	AQJA	8240	ND	ND	ND	ND	ND	0	
11/14/91	38	AQJA	8240	ND	ND	ND	ND	ND	0	
01/24/92	16	AQJA	8240	ND	ND	ND	ND	ND	0	
03/30/92	4	AQJA	8240	ND	ND	ND	ND	ND	0	
06/24/92	33	AQJA	8240	ND	ND	ND	ND	ND	0	
11/02/92	42	AQJA	8240	ND	ND	ND	ND	ND	0	
02/05/93	29	AQJA	8240	ND	ND	ND	ND	ND	0	
05/12/93	33	AQJA	8240	ND	ND	ND	ND	ND	0	
09/01/93	23	AQJA	8240	ND	ND	ND	ND	ND	0	
12/04/93	33	AQJA	8240	ND	ND	ND	ND	ND	0	
12/04/93	34	AQJA	8240	ND	ND	ND	ND	ND	0	
02/19/94	36	AQJA	8240	ND	ND	ND	ND	ND	0	
05/07/94	38	AQJA	8240	ND	ND	ND	ND	ND	0	
05/07/94	40	AQJA	8240	ND	ND	ND	ND	ND	0	
09/16/94	39	AQJA	8240	32.4	ND	ND	ND	ND	32	
09/16/94	40	AQJA	8240	32.4	ND	ND	ND	ND	32	

NOTES:
OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.

ND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S. EPA PUBLISHED LEVEL

P - PROPOSED

VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

WELL NOT SAMPLED AROUND, 1991 DUE TO IMPENATIVE PUMP.

PARAMETER

• - Date Sampled

HAPHTHA RECOVERY WELLS
GROUNDWATER QUALITY ANALYSIS
ORGANIC COMPOUNDS

ALLTESSION, INC.
GROUNDWATER INVESTIGATIONS
SOUTH UTAH, IRRIGATA

tegleason
associates
Environmental and Geotechnical Services

Analytical Summary - VOCs in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	RWB23	RWB23	RWB23
				03/02/99	03/02/99	06/22/99
				Primary	Duplicate 1	Primary
Benzene			5	[100]	[120]	< 5.0
Chloroethene			2	[580]	< 620	[370]
Chloroform			100	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane				33	27	16
1,2-Dichloroethane			5	[44]	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethane			100	98	30	< 5.0
cis-1,2-Dichloroethane			70	[1900]	[2000]	[1400]
Methylene chloride			5	[16] J	< 5.0	< 5.0
Tetrachloroethene			5	[20]	< 5.0	< 5.0
Toluene			1000	37	54	< 5.0
1,1,1-Trichloroethane			200	20	< 5.0	< 5.0
Trichloroethene			5	[230]	< 260.0	< 5.0
Vinyl Chloride			2	[580]	< 620	[370]
Acetone				< 100	< 100	< 100
Xylene (total)			10000	< 10	< 10	< 10
Carbon disulfide				< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than MCL Level The following qualifier(s) exist: J

For BCL ANSUM

Analytical Summary - Phenols in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	RWB23
					06/22/99
					Primary
Total Phenols					< 10

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

For RCL PHENOLS

Analytical Summary - Inorganics in Groundwater
 Naphtha Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	RWB23
					06/22/99
					Primary
Cyanide				200	20
Chromium (T), Dissolved					---
Lead, Dissolved					---
Nickel, Dissolved					---
Chromium, Total				100	< 5.0
Lead, Total				15	< 2.0
Nickel, Total				100	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

VOC RECOVERY WELLS

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-1	EW-1	EW-1	EW-1	EW-1
				06/03/97	06/03/97	09/24/97	12/11/97	12/11/97
				Primary	Duplicate 1	Primary	Primary	Duplicate 1
Benzene			5	< 5	< 5	< 5.0	< 5.0	< 5.0
Chloroethene			2	< 2	< 2	[15]	< 10 UJ	[20]
Chloroform			100	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane				27	27	23	< 5.0	< 5.0
1,2-Dichloroethane			5	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5	< 5	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	86	90	61	56	60
cis-1,2-Dichloroethene			70	[260]	[260]	[200]	[210]	[230]
Methylene chloride			5	< 5	< 5	< 5.0	< 5.0	< 5.0
Tetrachloroethene			5	< 5	< 5	< 5.0	< 5.0	< 5.0
Toluene			1000	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5	< 5	< 5.0	< 5.0	< 5.0
Trichloroethene			5	[19]	[71]	[61]	[84]	[87]
Vinyl Chloride			2	< 2	< 2	[15]	< 10 UJ	[20]
Acetone				< 100	< 100	< 100	< 100	< 100
Xylene (total)			10000	< 5	< 5	< 10	< 10	< 10
Carbon disulfide				< 5	< 5	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-1	EW-1	EW-1	EW-1	EW-1
					03/17/98	03/17/98	06/16/98	09/17/98	12/13/98
					Primary	Duplicate 1	Primary	Primary	Primary
Benzene	5				<5.0	<5.0	<5.0	<5.0	<5.0
Chloroethene	2				<10	<10	[15]	[27]	[27]
Chloroform	100				<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane					<5.0	19	20	26	26
1,2-Dichloroethane	5				<5.0	<5.0	<5.0	[7.0]	[6.3]
1,1-Dichloroethane	7				<5.0	<5.0	<5.0	<5.0	5.8
trans-1,2-Dichloroethane	100				52	58	57	77	69
cis-1,2-Dichloroethane	70				[210]	[200]	[200]	[270]	[240]
Methylene chloride	5				<5.0	<5.0	<5.0	<5.0	[5.9] B
Tetrachloroethene	5				<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	1000				<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200				<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene	5				[170]	[150]	[150]	[200]	[180]
Vinyl Chloride	2				<10	<10	[15]	[27]	[27]
Acetone					<100	<100	<100	<100	<100
Xylene (total)	10000				<10	<10	<10	<10	<10
Carbon disulfide					<5.0	<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1C

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE	DATE	RESULT TYPE	US-PMCL	EW-1	EW-1
					03/02/99	06/22/99
					Primary	Primary
Benzene				5	< 5.0	< 5.0
Chloroethene				2	[39]	[15]
Chloroform				100	< 5.0	< 5.0
1,1-Dichloroethane					32	33
1,2-Dichloroethane				5	[9.0]	[12]
1,1-Dichloroethane				7	6.7	< 5.0
trans-1,2-Dichloroethene				100	72	55
cis-1,2-Dichloroethene				70	[280]	[210]
Methylene chloride				5	[6.9] J	< 5.0
Tetrachloroethene				5	< 5.0	< 5.0
Toluene				1000	< 5.0	< 5.0
1,1,1-Trichloroethane				200	< 5.0	< 5.0
Trichloroethene				5	[200]	[120]
Vinyl Chloride				2	[39]	[15]
Acetone					< 100	< 100
Xylene (total)				10000	< 10	< 10
Carbon disulfide					< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level The following qualifier(s) exist: U, J, B

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	EW-1	EW-1	EW-1	EW-1
DATE	US-PMCL	09/24/97	03/17/98	03/17/98	06/22/99
RESULT TYPE		Primary	Primary	Duplicate 1	Primary
Total Phenols		< 10	< 10	< 10	< 10
2,4-Dichlorophenol					
2,4,6-Trichlorophenol					
2,6-Dichlorophenol					
3,4-Dichlorophenol					
3,5-Dichlorophenol					
4-Chlorophenol					
Phenol					
2,4,6-Trichlorophenoxyacetic acid					
2,4-Dichlorophenoxyacetic acid					
2,6-Dichlorophenoxyacetic acid					
3,4-Dichlorophenoxyacetic acid					
3,5-Dichlorophenoxyacetic acid					
4-Chlorophenoxyacetic acid					
Phenoxyacetic acid					
2,4,6-Trichlorophenoxyethane					
2,4-Dichlorophenoxyethane					
2,6-Dichlorophenoxyethane					
3,4-Dichlorophenoxyethane					
3,5-Dichlorophenoxyethane					
4-Chlorophenoxyethane					
Phenoxyethane					

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A
 Date: 07/28/99

CONSTITUENT	(Units in ug/l)	SITE	EW-1	EW-1	EW-1	EW-1
		DATE	09/24/97	03/17/98	03/17/98	06/22/99
	US-PMCL	RESULT TYPE	Primary	Primary	Duplicate 1	Primary
Cyanide	200		7	20	20	40
Chromium (T), Dissolved			< 5	---	---	---
Lead, Dissolved			< 2.0	---	---	---
Nickel, Dissolved			< 20	---	---	---
Chromium, Total	100		---	12	15	< 5
Lead, Total	15		---	[132]	2.7	< 2.0
Nickel, Total	100		---	< 20	< 20	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL INORG

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT	(Units in ug/l)	SITE	EW-2				
			DATE	EW-2	EW-2	EW-2	EW-2
RESULT TYPE	US-PMCL	06/16/98	09/17/98	09/17/98	12/13/98	03/02/99	
		Primary	Primary	Duplicate 1	Primary	Primary	
Benzene	5	<5.0	<5.0	<5.0	<5.0	<5.0	
Chloroethane	2	<10	<10	<10	<10	<10	
Chloroform	100	<5.0	<5.0	<5.0	<5.0	<5.0	
1,1-Dichloroethane		41	47	48	43	42	
1,2-Dichloroethane	5	<5.0	<5.0	<5.0	<5.0	<5.0	
1,1-Dichloroethene	7	<5.0	6.5	6.5	5.8	5.6	
trans-1,2-Dichloroethene	100	8.8	22	22	28	26	
cis-1,2-Dichloroethene	70	[150]	[190]	[190]	[180]	[180]	
Methylene chloride	5	<5.0	<5.0	<5.0	<5.0	<5.0	
Tetrachloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0	
Toluene	1000	<5.0	<5.0	<5.0	<5.0	<5.0	
1,1,1-Trichloroethane	200	39	39	40	33	30	
Trichloroethene	5	[59]	[82]	[83]	[68]	[67]	
Vinyl Chloride	2	<10	<10	<10	<10	<10	
Acetone		<100	110	<100	<100	<100	
Xylene (total)	10000	<10	<10	<10	<10	<10	
Carbon disulfide		<5.0	<5.0	<5.0	<5.0	<5.0	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-2 06/22/99 Primary
Benzene			5	< 5.0
Chloroethene			2	< 10
Chloroform			100	< 5.0
1,1-Dichloroethane				44
1,2-Dichloroethane			5	< 5.0
1,1-Dichloroethane			7	< 5.0
trans-1,2-Dichloroethane			100	26
cis-1,2-Dichloroethane			70	[150]
Methylene chloride			5	< 5.0
Tetrachloroethene			5	< 5.0
Toluene			1000	< 5.0
1,1,1-Trichloroethane			200	34
Trichloroethene			5	[56]
Vinyl Chloride			2	< 10
Acetone				< 100
Xylene (total)			10000	< 10
Carbon disulfide				< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Inorganics in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-2 06/22/99 Primary
Cyanide			200	60
Chromium (T), Dissolved			---	---
Lead, Dissolved			---	---
Nickel, Dissolved			---	---
Chromium, Total			100	< 5
Lead, Total			15	4.1
Nickel, Total			100	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

For RCL INORG

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	EW-3 09/24/97	EW-3 03/17/98	EW-3 06/16/98	EW-3 09/17/98	EW-3 12/13/98
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary
Benzene	5	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroethene	2	<10	<10	<10	<10	<10
Chloroform	100	<5.0	6.7	51	<5.0	<5.0
1,1-Dichloroethane		<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethane	5	<5.0	<5.0	<5.0	<5.0	<5.0
1,1-Dichloroethane	7	<5.0	<5.0	<5.0	<5.0	<5.0
trans-1,2-Dichloroethene	100	[110]	75	93	[100]	94
cis-1,2-Dichloroethene	70	65	36	[74]	45	43
Methylene chloride	5	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	1000	<5.0	<5.0	<5.0	<5.0	<5.0
1,1,1-Trichloroethane	200	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethene	5	[39]	[29]	[28]	[39]	[34]
Vinyl Chloride	2	<10	<10	<10	<10	<10
Acetone		<100	<100	<100	140	<100
Xylene (total)	10000	<10	<10	<10	<10	<10
Carbon disulfide		<5.0	<5.0	<5.0	<5.0	<5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-3 03/02/99 Primary	EW-3 06/22/99 Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethane			7	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	[100]	98
cis-1,2-Dichloroethene			70	57	48
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0
Trichloroethene			5	[35]	[27]
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

[] = Greater than Action Level

For RCL ANSUM

Analytical Summary - Phenols in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	US-PMCL	EW-3 09/24/97	EW-3 03/17/98	EW-3 06/22/99
RESULT TYPE			Primary	Primary	Primary
Total Phenols			< 10	< 10	< 10
2,4-Dichlorophenol					
2,4,6-Trichlorophenol					
2,6-Dichlorophenol					
2-Naphthol					
3,4-Dichlorophenol					
3,5-Dichlorophenol					
3-Nitrophenol					
4-Nitrophenol					
4-Chlorophenol					
4-Methylphenol					
5-Chlorophenol					
5-Nitrophenol					
Phenol					
2-Naphthol					
2,4-Dichlorophenol					
2,4,6-Trichlorophenol					
2,6-Dichlorophenol					
2-Naphthol					
3,4-Dichlorophenol					
3,5-Dichlorophenol					
3-Nitrophenol					
4-Nitrophenol					
4-Chlorophenol					
4-Methylphenol					
5-Chlorophenol					
5-Nitrophenol					
Phenol					

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Analytical Summary - Inorganics in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1A

Date: 07/28/99

CONSTITUENT (Units in ug/l)	SITE	US-PMCL	EW-3	EW-3	EW-3
			DATE	DATE	DATE
RESULT TYPE			Primary	Primary	Primary
Cyanide		200	< 5	< 10	< 5
Chromium (T), Dissolved			< 5	---	---
Lead, Dissolved			< 2.0	---	---
Nickel, Dissolved			< 20	---	---
Chromium, Total		100	---	15	7.1
Lead, Total		15	---	5.1	3.6
Nickel, Total		100	---	< 20	< 20

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

VOC RECOVERY WELLS

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-1	EW-1	EW-1	EW-1	EW-1
					06/03/97	06/03/97	09/24/97	12/11/97	12/11/97
					Primary	Duplicate 1	Primary	Primary	Duplicate 1
Benzene	5				< 5	< 5	< 5.0	< 5.0	< 5.0
Chloroethene	2				< 2	< 2	[15]	< 10 UJ	[20]
Chloroform	100				< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane					27	27	23	< 5.0	< 5.0
1,2-Dichloroethane	5				< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane	7				< 5	< 5	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethane	100				88	90	81	56	60
cis-1,2-Dichloroethane	70				[260]	[260]	[200]	[210]	[230]
Methylene chloride	5				< 5	< 5	< 5.0	< 5.0	< 5.0
Tetrachloroethane	5				< 5	< 5	< 5.0	< 5.0	< 5.0
Toluene	1000				< 5	< 5	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane	200				< 5	< 5	< 5.0	< 5.0	< 5.0
Trichloroethane	5				[19]	[71]	[61]	[84]	[87]
Vinyl Chloride	2				< 2	< 2	[15]	< 10 UJ	[20]
Acetone					< 100	< 100	< 100	< 100	< 100
Xylene (total)	10000				< 5	< 5	< 10	< 10	< 10
Carbon disulfide					< 5	< 5	< 5.0	< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For RCL ANSU

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	FW-2 06/22/99 Primary
Benzene			5	< 5.0
Chloroethane			2	< 10
Chloroform			100	< 5.0
1,1-Dichloroethane				44
1,2-Dichloroethane			5	< 5.0
1,1-Dichloroethane			7	< 5.0
trans-1,2-Dichloroethane			100	26
cis-1,2-Dichloroethane			70	[150]
Methylene chloride			5	< 5.0
Tetrachloroethene			5	< 5.0
Toluene			1000	< 5.0
1,1,1-Trichloroethane			200	34
Trichloroethane			5	[50]
Vinyl Chloride			2	< 10
Acetone				< 100
Xylene (total)			10000	< 10
Carbon disulfide				< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For PCL ANS...

Analytical Summary - VOCs in Groundwater
 VOC Recovery Well
 Quarterly Monitoring Program - 6/99
 AlliedSignal Industrial Complex
 South Bend, Indiana

Page: 1B

Date: 07/27/99

CONSTITUENT (Units in ug/l)	SITE DATE	RESULT TYPE	US-PMCL	EW-3	EW-3
				03/02/99	06/22/99
				Primary	Primary
Benzene			5	< 5.0	< 5.0
Chloroethene			2	< 10	< 10
Chloroform			100	< 5.0	< 5.0
1,1-Dichloroethane				< 5.0	< 5.0
1,2-Dichloroethane			5	< 5.0	< 5.0
1,1-Dichloroethene			7	< 5.0	< 5.0
trans-1,2-Dichloroethene			100	[100]	98
cis-1,2-Dichloroethene			70	57	48
Methylene chloride			5	< 5.0	< 5.0
Tetrachloroethene			5	< 5.0	< 5.0
Toluene			1000	< 5.0	< 5.0
1,1,1-Trichloroethane			200	< 5.0	< 5.0
Trichloroethene			5	[35]	[27]
Vinyl Chloride			2	< 10	< 10
Acetone				< 100	< 100
Xylene (total)			10000	< 10	< 10
Carbon disulfide				< 5.0	< 5.0

Values represent total concentrations unless noted < = Not detected at indicated reporting limit -- = Not analyzed

[] = Greater than Action Level

For BCL ANSUM

TRENDLINE PLOTS

- SHALLOW MONITORING WELLS
- DEEP MONITORING WELLS

**SHALLOW MONITORING WELLS
NEAR ORIGIN OF GROUNDWATER PLUME**

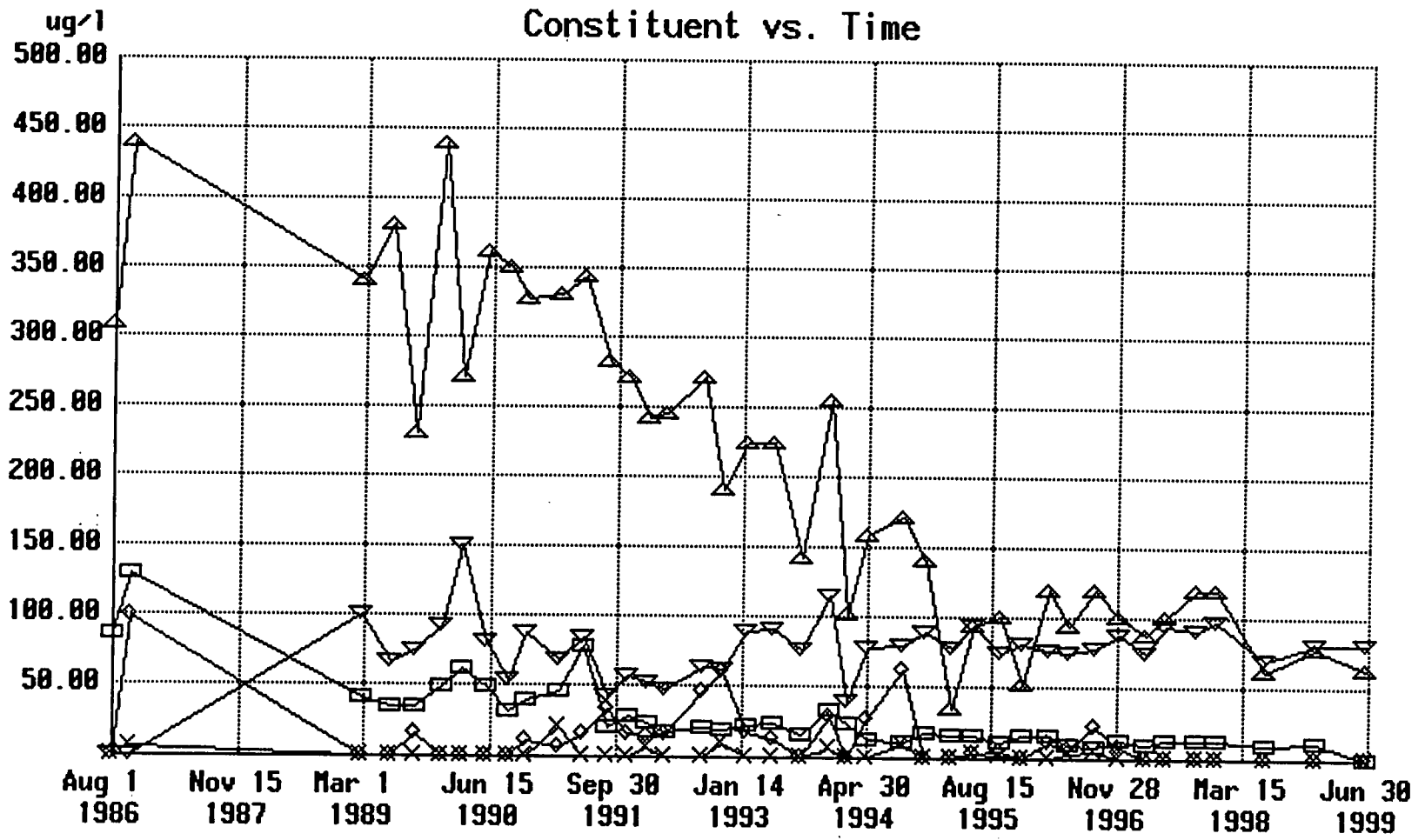
86-10

86-15

S4A

TCL: VOC
PF Code: T
Site: 86-10

- △ = Trichloroethene
- ▽ = cis-1,2-Dichloroethene
- = trans-1,2-Dichloroethene
- ◇ = 1,1,1-Trichloroethane
- × = 1,1-Dichloroethane

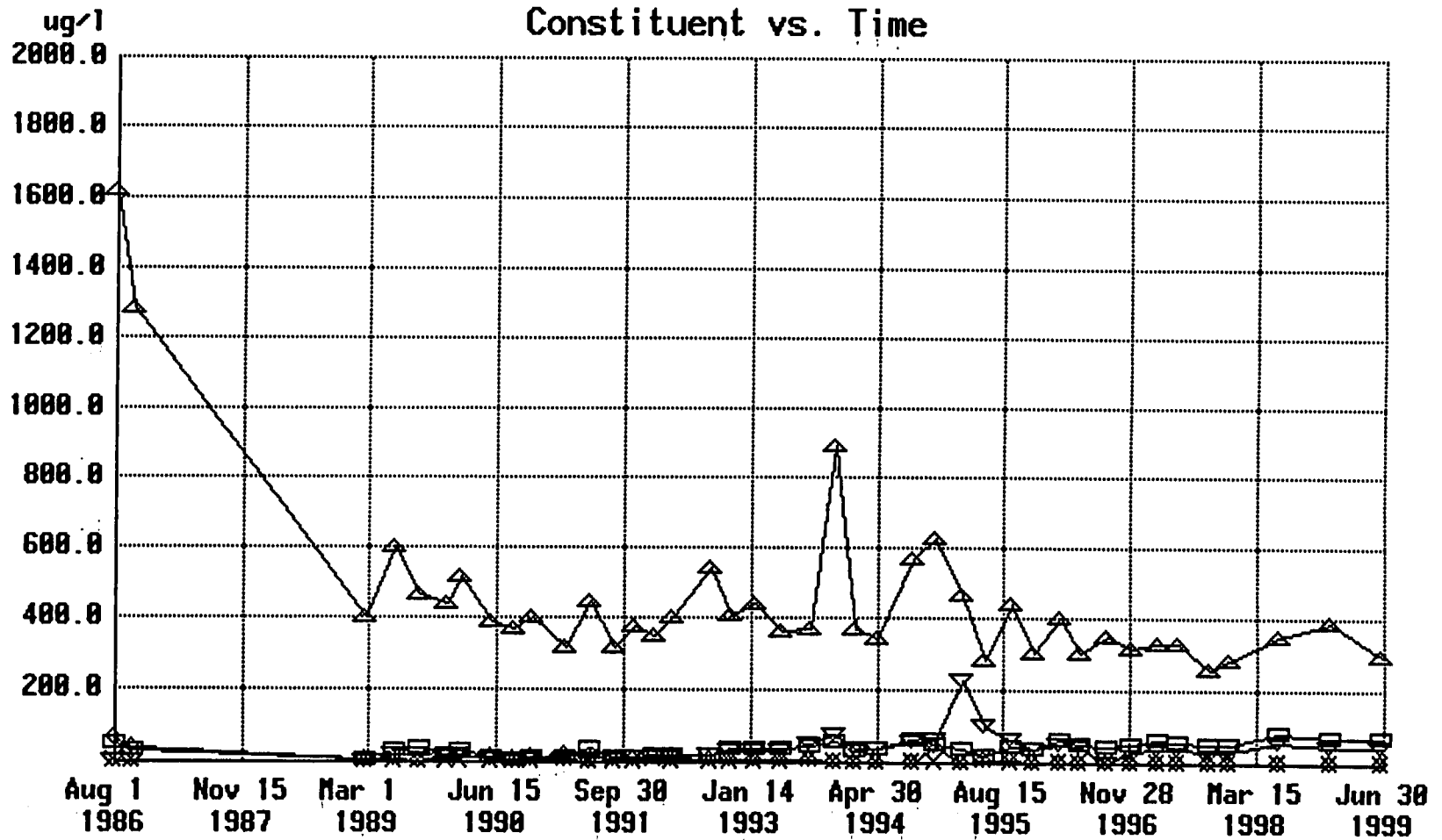


TCL: VOC

PF Code: T

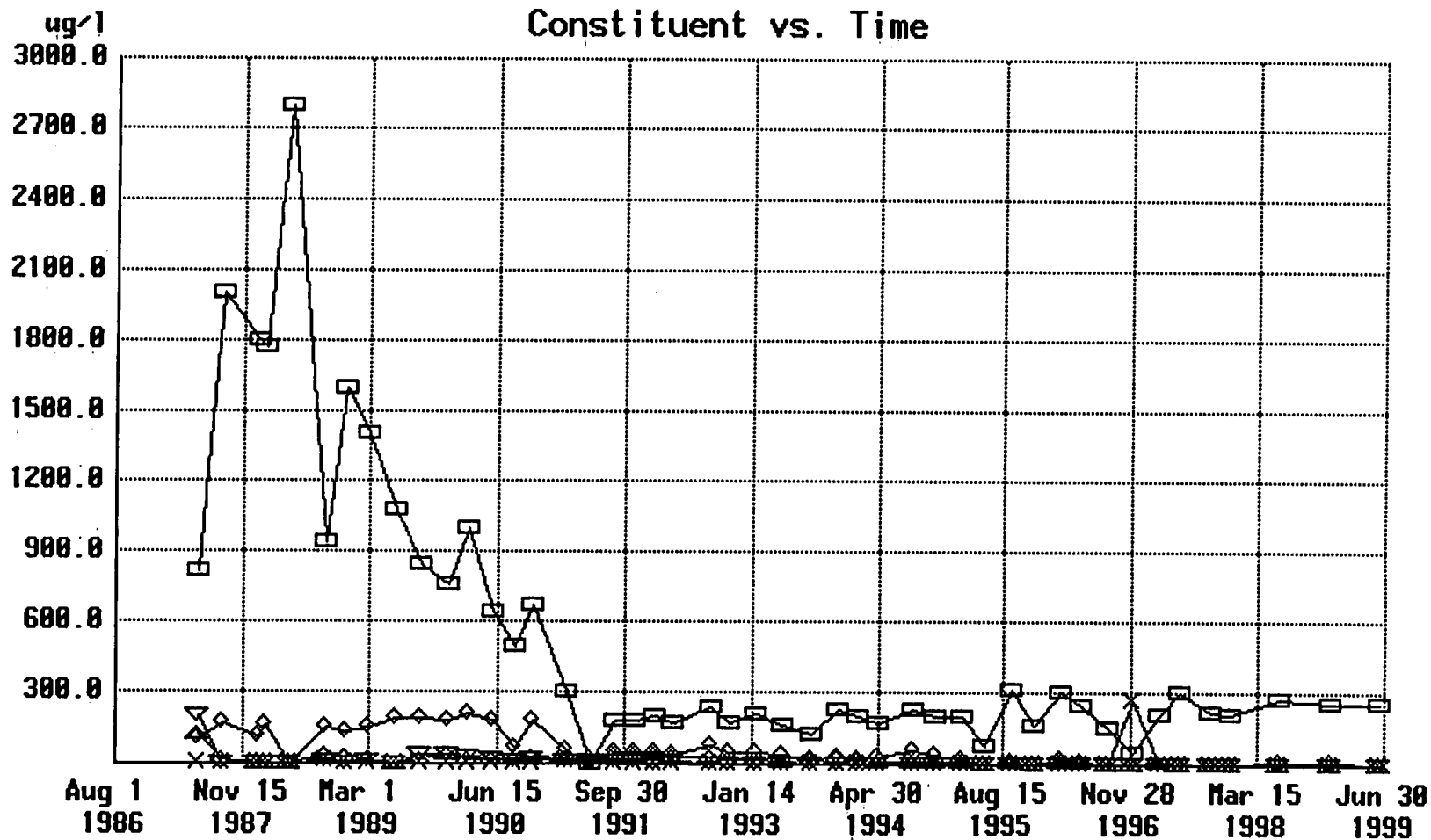
Site: 86-15

- △ = Trichloroethene
- ▽ = cis-1,2-Dichloroethene
- = trans-1,2-Dichloroethene
- ◇ = 1,1,1-Trichloroethane
- × = 1,1-Dichloroethane



TCL: VOC
PF Code: T
Site: S4A

- △ = Trichloroethylene
- ▽ = 1,1,1-Trichloroethane
- = cis-1,2-Dichloroethene
- ◇ = trans-1,2-Dichloroethene
- × = 1,2-Dichloroethane



**SHALLOW MONITORING WELLS
IN CENTRAL PORTION OF GROUNDWATER PLUME**

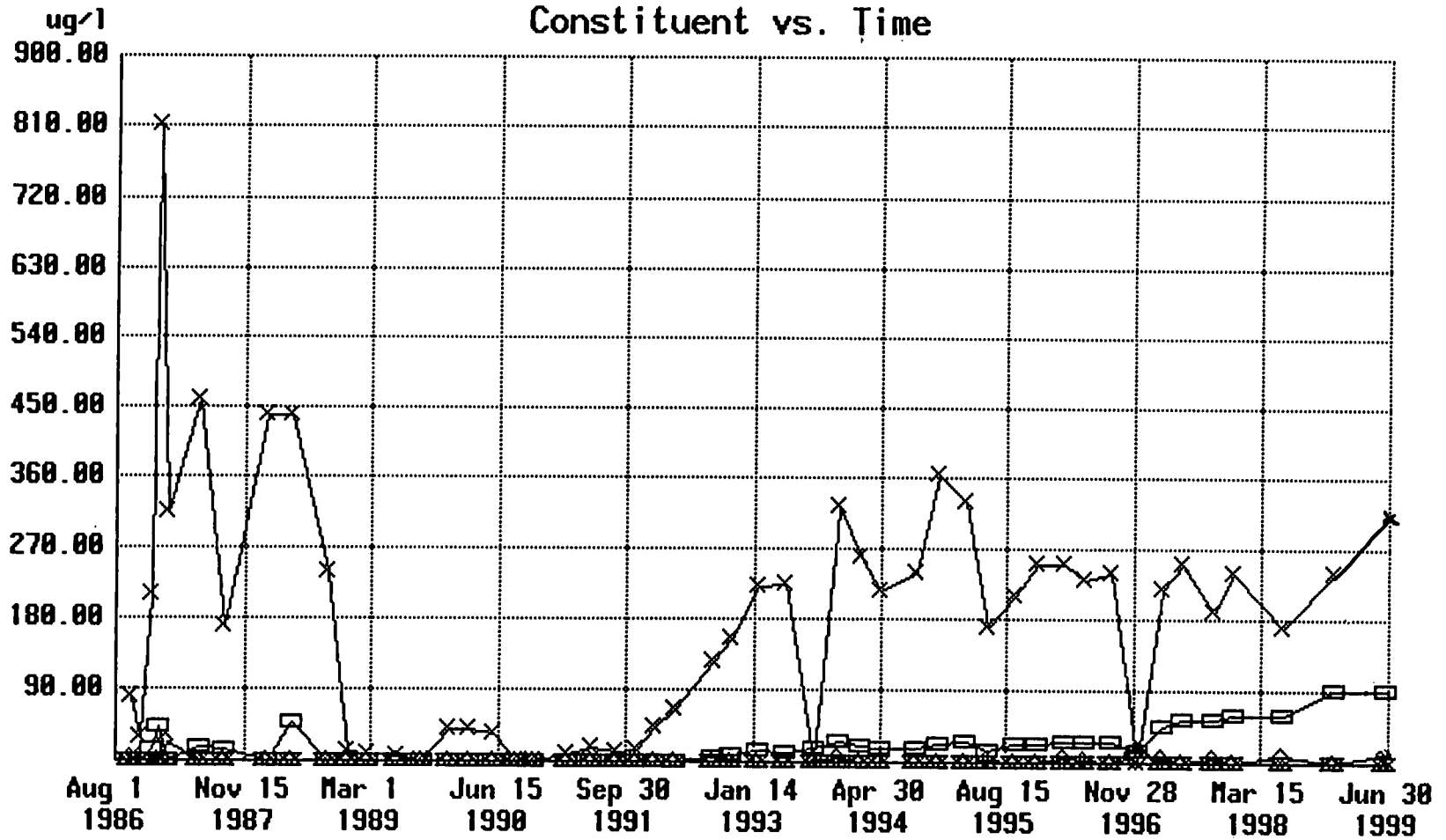
**S9
S24
S27**

TCL: VOC

PF Code: T

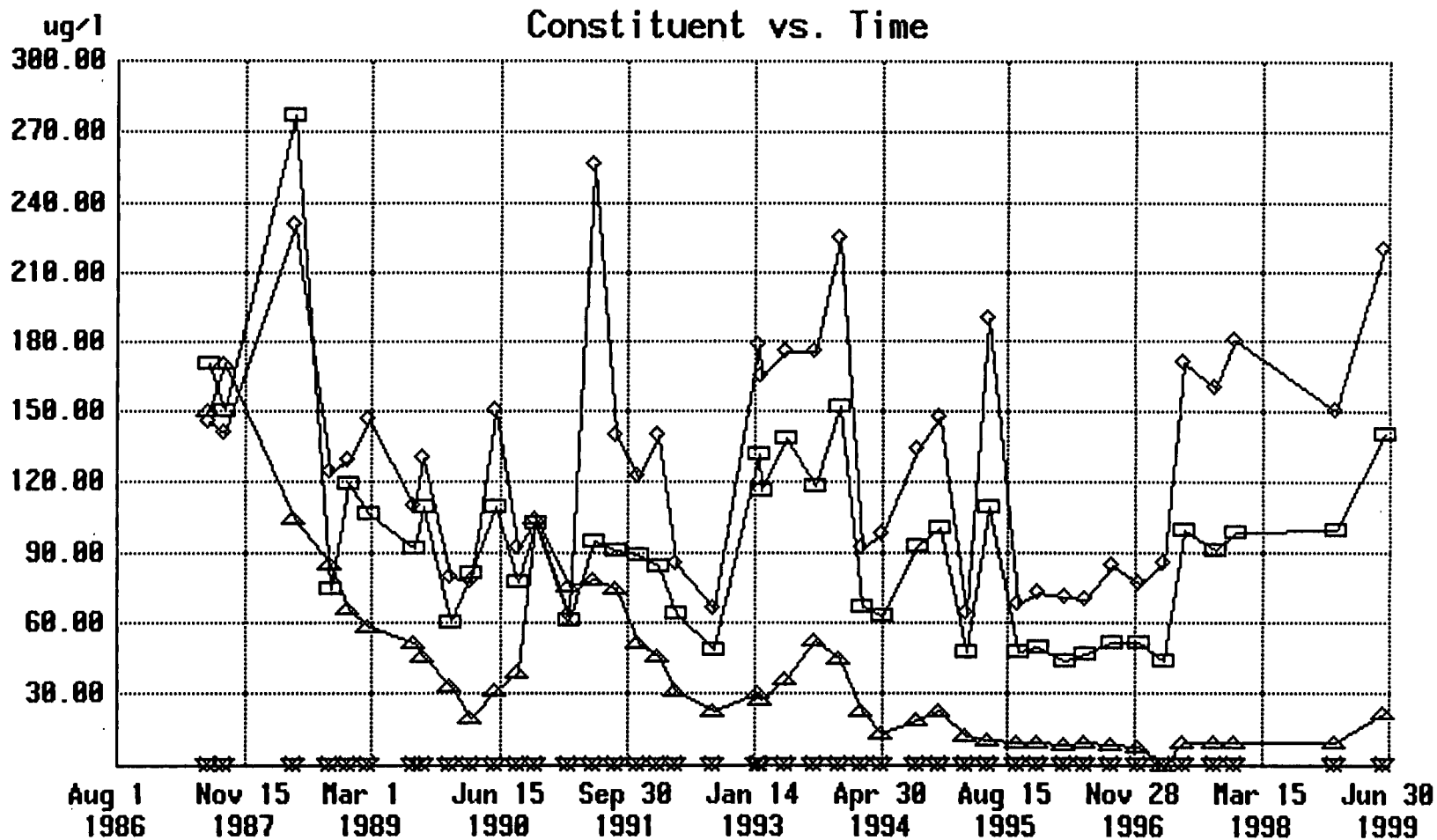
Site: S9

- △ = Trichloroethylene
- ▽ = 1,1,1-Trichloroethane
- = cis-1,2-Dichloroethene
- ◇ = trans-1,2-Dichloroethene
- × = 1,2-Dichloroethane



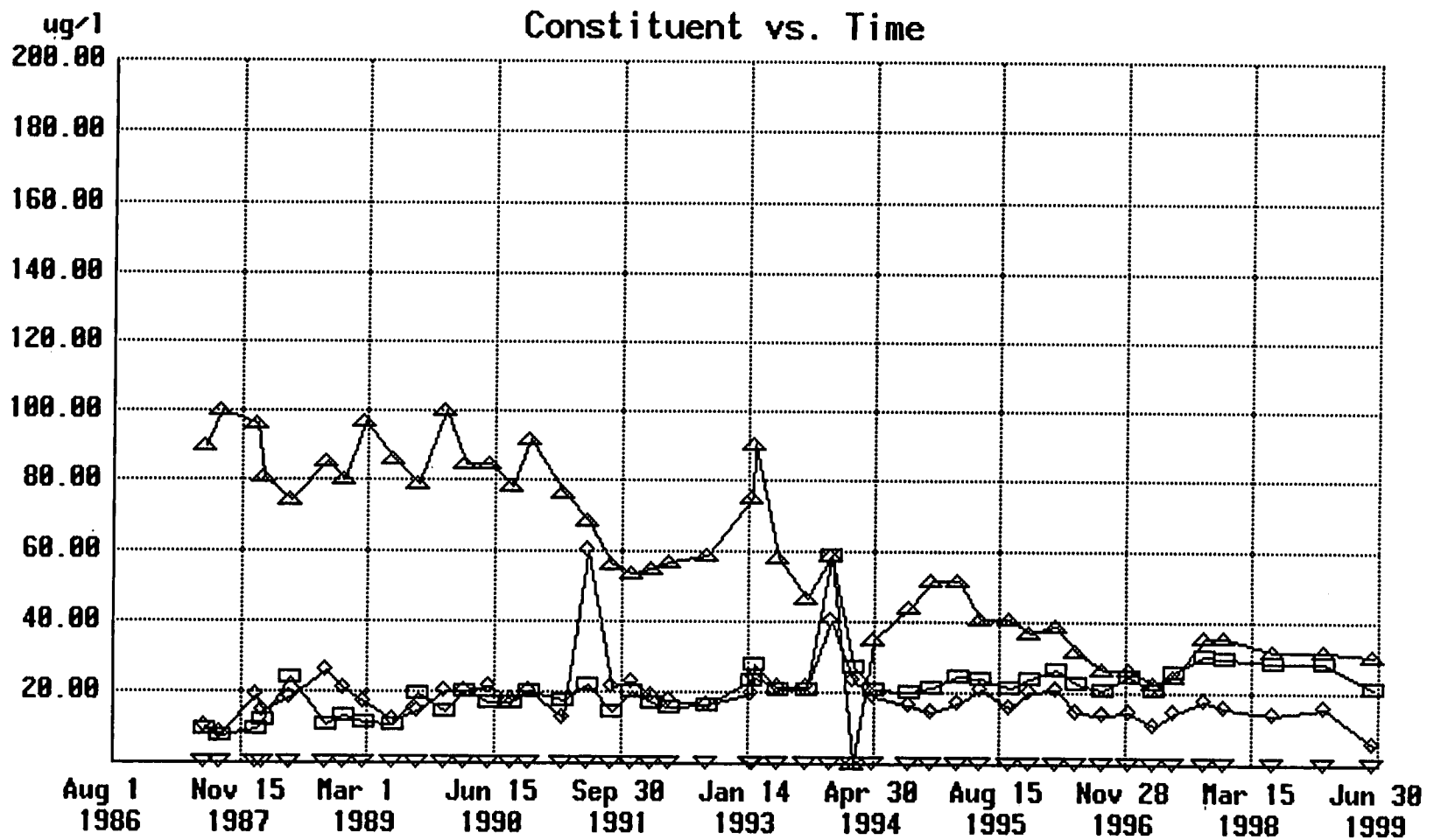
TCL: VOC
PF Code: T
Site: S24

△ = Trichloroethene
▽ = 1,1,1-Trichloroethane
□ = cis-1,2-Dichloroethene
◇ = trans-1,2-Dichloroethene
× = 1,2-Dichloroethane



TCL: VOC
PF Code: T
Site: S27

△ = Trichloroethylene
▽ = 1,1,1-Trichloroethane
□ = cis-1,2-Dichloroethene
◇ = trans-1,2-Dichloroethene

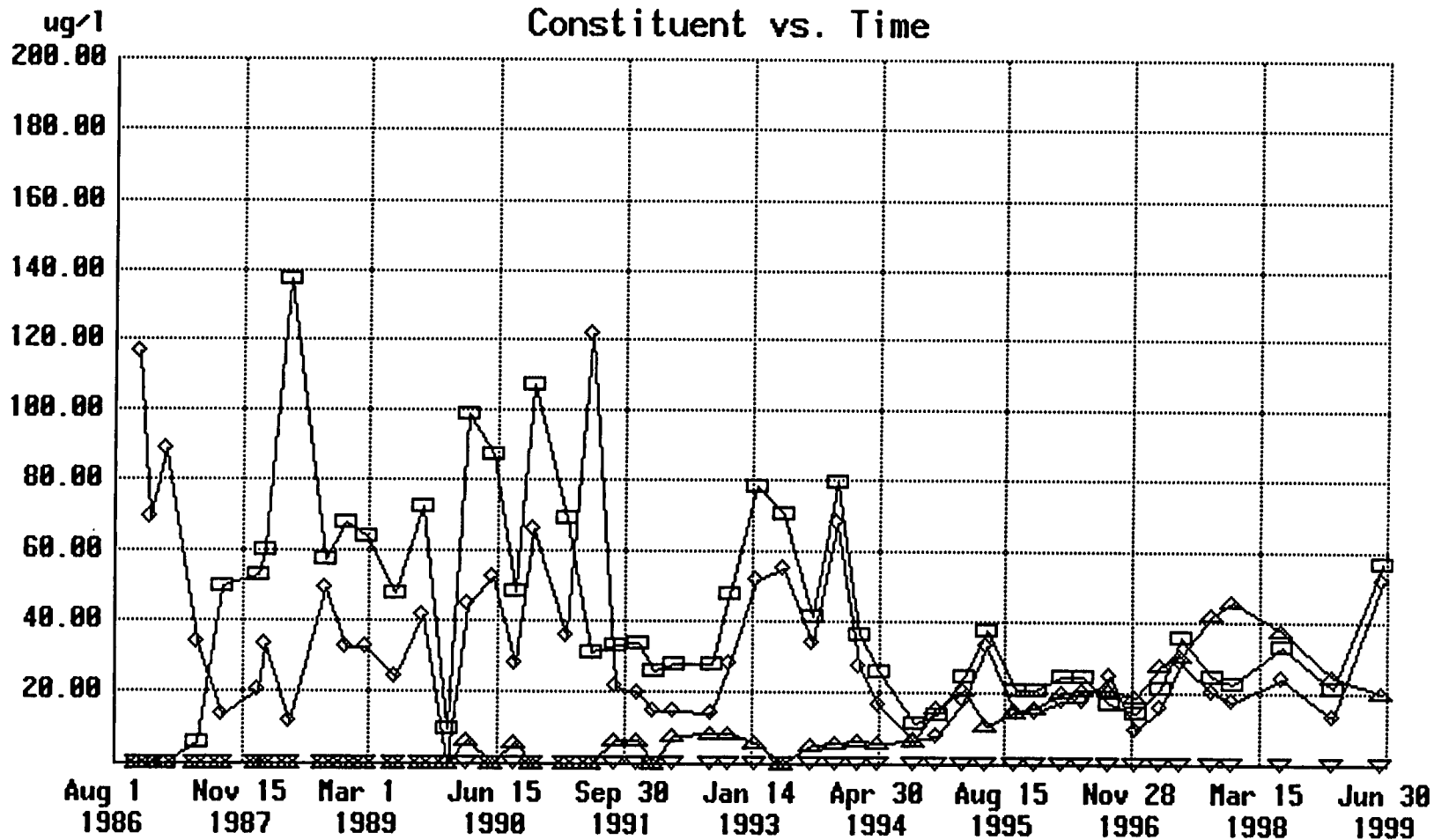


**SHALLOW MONITORING WELLS
DOWNGRAIDENT BOUNDARY OF GROUNDWATER PLUME**

**S21
S22
S25**

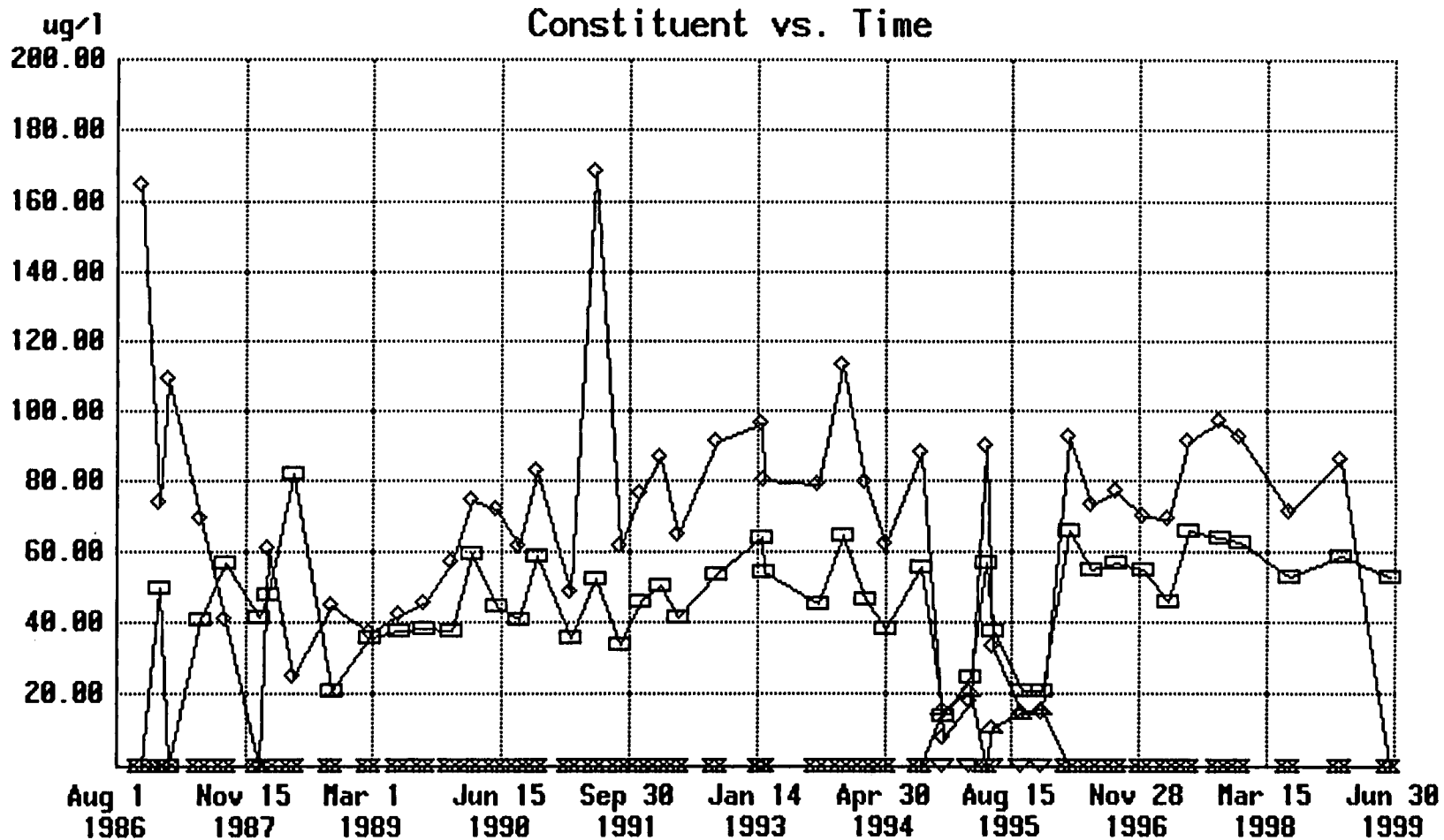
TCL: VOC
PF Code: T
Site: S21

△ = Trichloroethylene
▽ = 1,1,1-Trichloroethane
□ = cis-1,2-Dichloroethene
◇ = trans-1,2-Dichloroethene



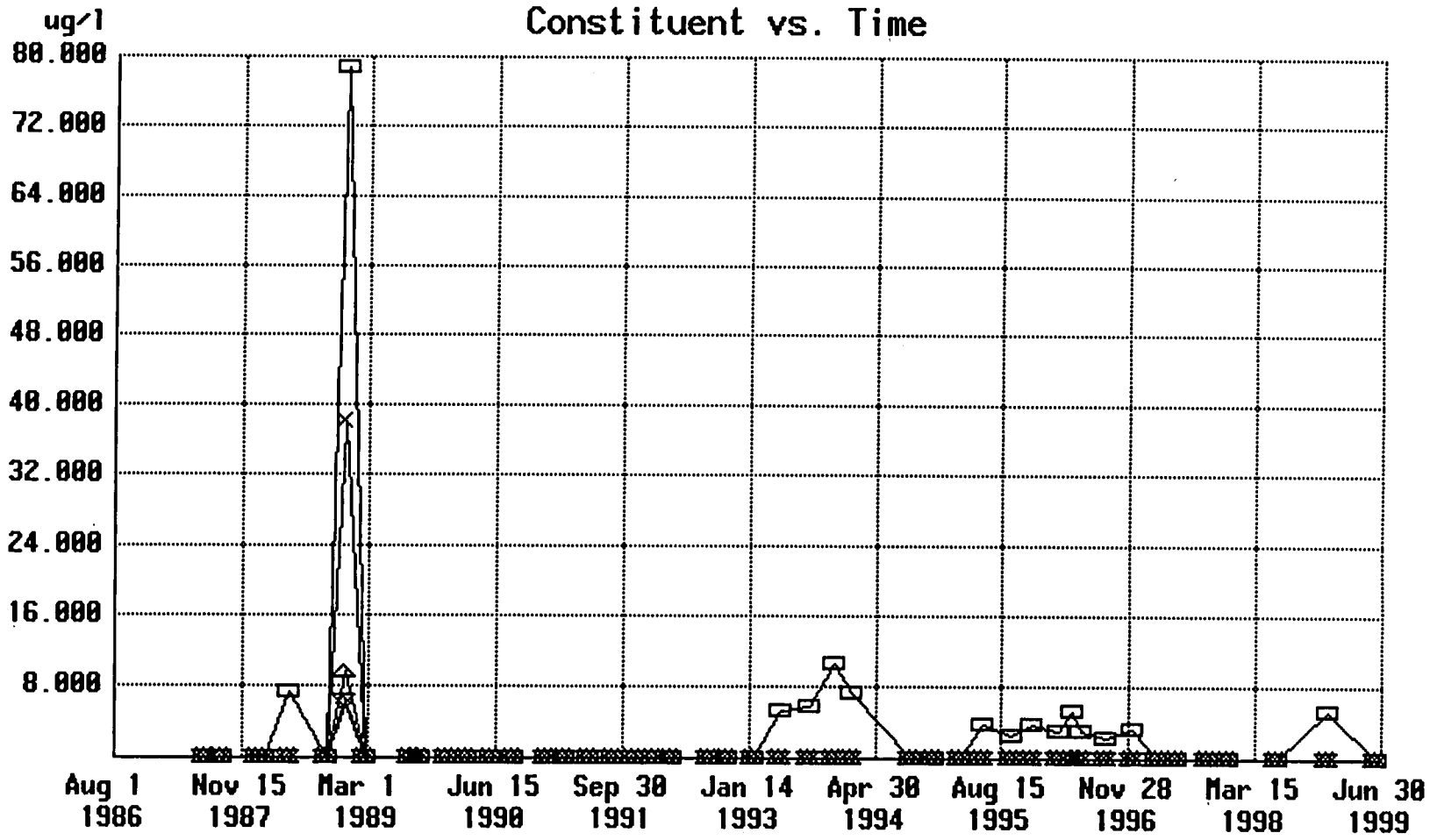
TCL: VOC
PF Code: T
Site: S22

△ = Trichloroethylene
▽ = 1,1,1-Trichloroethane
□ = cis-1,2-Dichloroethene
◇ = trans-1,2-Dichloroethene



TCL: VOC
PF Code: T
Site: S25

- △ = Trichloroethene
- ▽ = 1,1,1-Trichloroethane
- = cis-1,2-Dichloroethene
- ◇ = trans-1,2-Dichloroethene
- × = 1,2-Dichloroethane



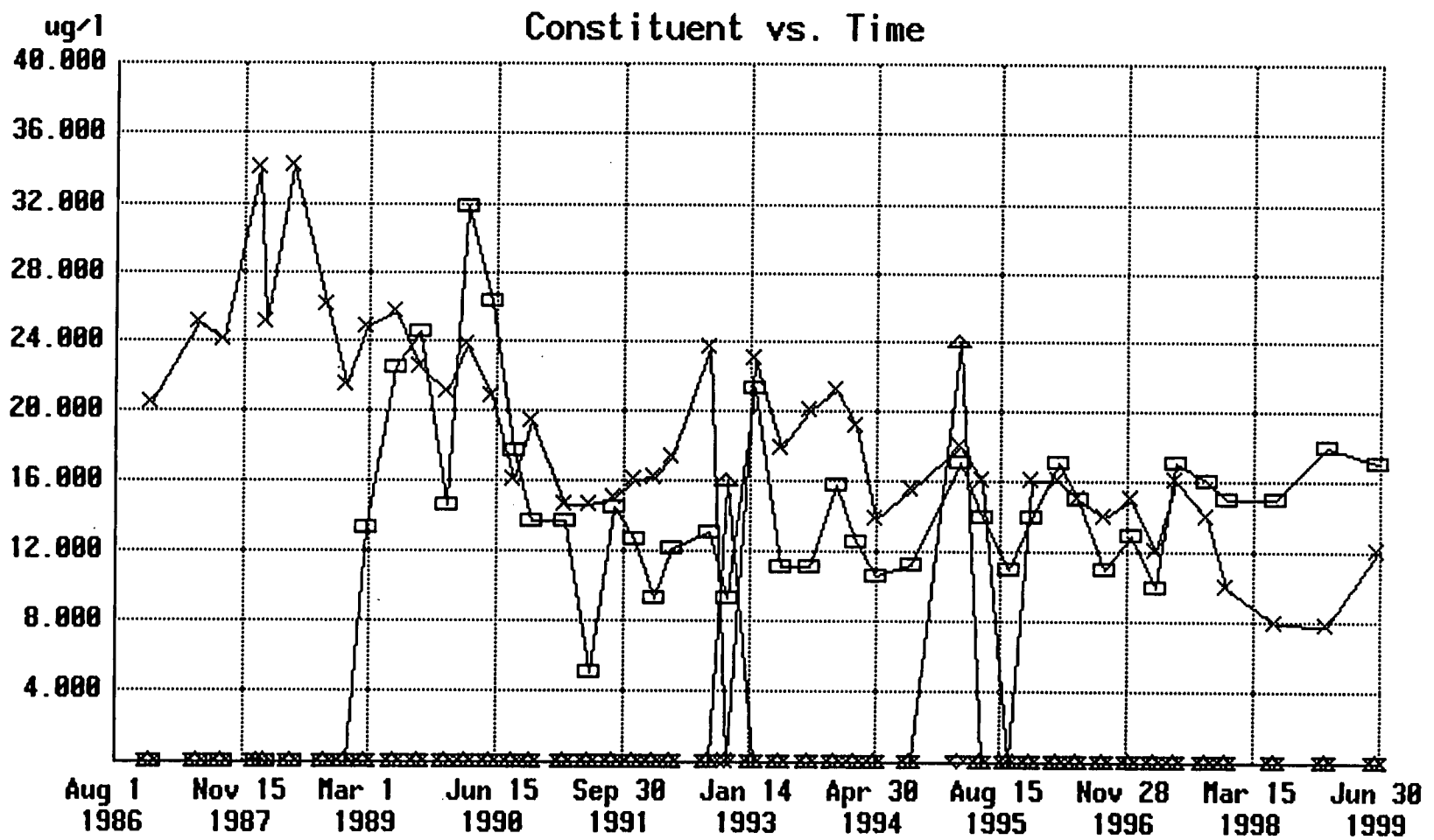
DEEP MONITORING WELLS

2D

5D

TCL: VOC
PF Code: T
Site: 2D

- △ = Trichloroethylene
- ▽ = 1,1,1-Trichloroethane
- = cis-1,2-Dichloroethylene
- ◇ = trans-1,2-Dichloroethene
- × = 1,2-Dichloroethane



TCL: VOC
PF Code: T
Site: 5D

△ = Trichloroethylene
▽ = 1,1,1-Trichloroethane
□ = cis-1,2-Dichloroethylene
◇ = trans-1,2-Dichloroethene
X = Toluene

