SEMI-ANNUAL GROUNDWATER MONITORING REPORT ALLIEDSIGNAL INDUSTRIAL COMPLEX SOUTH BEND, INDIANA

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SEMI-ANNUAL GROUNDWATER MONITORING REPORT

ALLIEDSIGNAL INDUSTRIAL COMPLEX SOUTH BEND, INDIANA

PREPARED FOR:

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TABLE OF CONTENTS

SECTION NO.	TITLE	Page No.
1.1 BACKGROUND	g Program	
2.1 WATER LEVEL MEASURE	EMENTS	4
3.1 LABORATORY METHODS	S	6
4.1 QUALITY CONTROL REVI 4.2 SHALLOW MONITORING V 4.2.1 Volatile Organic (4.3 DEEP MONITORING WEL 4.3.1 Volatile Organic (4.4 NAPHTHA RECOVERY W	EW	
TABLE No.	TITLE	Page No.
	TION SUMMARY, SEPTEMBER 1998 TION SUMMARY, DECEMBER 1998	
FIGURE No.	TITLE	Page No.
FIGURE 1: SITE LOCATION MAP		
	OVERY WELL NETWORK	
	FACE MAP, SHALLOW WELLS - SEPTE	
	FACE MAP, SHALLOW WELLS - DECEM	
FIGURE 5: POTENTIOMETRIC SUR	FACE MAP, DEEP WELLS - DECEMBER	₹ 199819

APPENDICES

APPENDIX A -	GROUNDWATER SAMPLING RECORDS
ADDENDIN D	Anna Veria de Beneviera de

APPENDIX B - ANALYTICAL RESULTS - DECEMBER 1998

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 3rd and 4th Quarter 1998 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 characterized 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. 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 new 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 three 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 3 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 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.
- 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.

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 3rd Quarter water level measurements were collected in September 1998. At that time, well 86-6 could not be located and well MW-10 was covered with construction material. Water levels were not measured at these two locations. The September measurements are listed on Table 1.

The 4th Quarter groundwater measurements were collected in December. These measurements are listed on Table 2. During the December sampling event, well 86-6 was damaged and standing water covered well MW-3, a flush-mount well. 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 September and December 1998 events demonstrate the groundwater flow conditions when the 3 VOC and 3 naphtha recovery wells are fully operational.

2.2 GROUNDWATER SAMPLING

During the September 1998 (3rd Quarter) sampling event, groundwater discharge samples were collected from the naphtha and VOC recovery wells indicated on Table 1. During the December 1998 (3rd Quarter) sampling event, groundwater samples were collected from the 37 locations indicated on Table 2. Sampling locations in December included 31 monitoring wells on and adjacent to the site, the 3 active naphtha recovery wells and the 3 VOC recovery wells. Deep monitoring well 4D could not be sampled in December due to a faulty pump. Pump repair is scheduled during the March 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 MW-2, 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 September 1998 (3rd Quarter) and December 1998 (4th Quarter) sampling events were analyzed for VOCs by U.S. Environmental Protection Agency (USEPA) Method 8260. Monitoring wells sampled during the December 1998 monitoring event were also analyzed for VOCs using Method 8260. Sampling of the recovery wells for total lead, total chromium, total nickel, total cyanide and total phenols was scheduled for December 1998; the samples will instead be collected in March 1999, a schedule change that has been approved the City of South Bend.

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 December 1998 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 September 1998 sampling event).

4.1 QUALITY CONTROL REVIEW

For the 3rd and 4th Quarter sampling events, no VOCs were detected in any of the trip blanks. The equipment rinsate blank collected from the stainless-steel bailer during the 4th Quarter event reported methylene chloride at 31 micrograms per liter (ug/L); however, the methylene chloride concentrations in groundwater samples collected with this bailer after decontamination were below the laboratory reporting limit. Methylene chloride is a common laboratory contaminant and was also detected in laboratory blanks. The detection of methylene chloride is likely attributable to sample cross-contamination in the laboratory.

As part of the quality control program, a duplicate sample was collected from well EW-2 in September 1998 and three duplicate samples were collected in December 1998 (at wells MW-2, 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-dichloroethene and 1,1,1-trichloroethane in sample MW-2 (and its duplicate). The variance in concentrations between the sample and its duplicate resulted in the two samples being flagged with a "J". The "J" flag indicates that the results should be considered estimated. Also, samples MW-2 and S9 reported methylene chloride concentrations that are attributed to possible laboratory contamination. These samples are also flagged with a "J", for estimated concentrations and a "B", which indicates possible blank contamination.

4.2 SHALLOW 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 1998, 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 September 1998 when the 3 VOC and 3 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 December 1998 during the 4th Quarter sampling event. The six recovery wells were also operating in December, and the shallow groundwater flow pattern is similar to that of the September measurements.

4.2.1 Volatile Organic Compounds

Total VOC concentrations in shallow monitoring well samples ranged from non-detectable to 4,216 micrograms per liter ($\mu g/l$) 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.

Five of the nine shallow well graphs indicate stable or decreasing concentrations of VOCs. A slight increase in trichloroethene (TCE) has been observed in on-site well 86-15 since the September 1997 sampling event. This well is located near the origin of the groundwater plume.

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 4th 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 (D5, D7, 2D and 5D) were sampled during the 4th Quarter 1998 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 23 µg/l to 25.8 µg/l. The detected concentrations were adjacent to Plant l and are consistent with previous sampling events. 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, indicate that cis-DCE increased slightly in well 2D since the June 1998 sampling event. All other volatile constituent concentrations in well 2D are stable or decreasing.

4.4 NAPHTHA RECOVERY WELLS

For the 3rd and 4th Quarter 1998 sampling events, VOC constituents detected in the naphtha recovery wells were generally consistent with previous sampling events. The slight increasing trend of benzene concentrations observed in groundwater samples from well RWB16 over the past four events is now decreasing.

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 December 1998 reported total VOC concentrations ranging from 171 μ g/l at well EW-3 to 560 μ g/l at well EW-1. In general, these results are relatively consistent with previous sampling events.

The increasing trend in TCE concentrations observed at well EW-1 in 1997 has become stable; the other constituents detected at this well location remain stable or are decreasing. Slight increases were observed in chemical concentrations at well EW-2 between the June and September 1998 sampling events, but these concentrations appear to have become stable or are decreasing based on the December 1998 results. Chemical concentrations in well EW-3 continue to remain stable.

Table 1 Groundwater Elevation Summary 3rd Quarter Groundwater Monitoring - September 1998 AlliedSignal Industrial Complex - South Bend, Indiana

•	Well Depth	Measuring Point Elevation	Depth to Water	Water	Locations	
Well No.	(feet)	(feet)	vvater (feet)	Elevation (feet)	Locations Sampled	Sampling
hallow Monitoring W			*	(1001)	Sampled	Method
7-25	26.6	720.47	20.60	699.87		
86-2	28.3	714.98	17.99	696.99		
86-4	23.8	715.09	17.87	697.22		
86-5	30.1	715.04	17.93	697.11		
86-6	25.9	715.00	NM	NM		
86-7	27.2	714.15	16.10	698.05		
86-8	28.5	714.62	16.52	698.10		
86-9	26.8	715.25	17.20	698.05		
86-10	27.1	715.06	17.09	697.97		
86-11	27.0	715.14	17.20	697.94		
86-12	25.4	715.71	17.84	697.87		
86-13	28.8	714.75	16.89	697.86		
86-15	25.3	715.06	16.76	698.30		
86-19	28.1	714.33	16.22	698.11		
9-33	27.3	716.20	22.91	693.29		
MW-1	25.3	720.88	18.09	702.79		
MW-2	15.4	713.93	12.24	701.69		
MW-3	17.2	713.10	14.00	699.10		
MW-4	21.0	712.66	16.48	696.18		
MW-5	20.8	713.21	16.46	696.75		
MW-6 (a)	18.0	709.98	NM	NM		
MW-7	18.2	712.59	15.38	697.21		
MW-8 (a)	19.0	712.79	NM	NM		
MW-9	19.8	710.90	15.27	695.63		
MW-10	19.4	716.01	NM	NM		
MW-11 (a)	21.7	717.74	15.79	701.95		
MW-12	13.8	711.58	10.90	700.68		
MW-13	18.8	712.55	15.49	697.06		
OW-1	37.4	711.48	14.48	697.00		
OW-2	35.0	711.45	14.57	696.88		
S1	35.6	728.09	24.60	703.49		
S3	24.6	716.65	20.57	696.08		
S4A	31.6	711.37	14.43	696.94		
S5	33.0	712.83	13.66	699.17		
S6	32.4	716.91	19.92	696.99		
S8	22.6	714.65	18.16	696.49		
S9	21.1	714.17	17.72	696.45		
S12	30.0	721.45	19.84	701.61		
S14	20.2	711.86	16.00	695.86		
S15	22.0	714.37	19.19	695.18		
S16	21.5	716.18	18.62	697.56		
S17	24.8	716.97	18.98	697.99		
S18	32.4	715.41	16.32	699.09		
S19	36.4	723.38	19.86	703.52		
S20	18.8	709.97	15.15	694.82		
S21	23.4	711.33	15.79	695.54		
S22	26.0	709.33	14.92	694.41		
S23	28.2	710.24	18.49	691.75		
S24	21.4	713.03	16.35	696.68		
S25	26.8	710.60	15.62	694.98		
S26	26.9	714.50	17.76	696.74		
S27	27.9	715.40	19.14	696.26		
S28	23.5	714.48	16.59	697.89		

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 3rd Quarter Groundwater Monitoring - September 1998 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 Monito	ring Wells (50 - 75		(1-4-4)	(,,,,,,	Campico	Metriod
7-50	50.0	719.84	20.11	699.73		
ab	59.5	714.56	17.97	696.59		
D8	61.9	717.07	20.26	696.81		
<u> </u>	47.6	711.58	NM	NM		
Deep Monitoring We	lls (75 - 210 feet)				· · · · · · · · · · · · · · · · · · ·	
D3	133.1	714.45	19.00	695.45		
D4	118.6	717.85	21.08	696.77		
D5	186.8	712.07	15.42	696.65		
D 7	78.4	713.83	16.63	697.20		
D9	96.9	717.00	17.45	699.55		
D12	147.1	710.35	21.65	688.70		
1D	208.6	714.17	16.37	697.80		
2D	188.3	715.36	18.19	697.17		
3D	196.9	712.91	17.59	695.32		
4D	192.7	711.68	21.87	689.81		
5D	192.2	712.01	23.01	689.00		
7D	95.1	714.85	18.36	696.49		
Recovery Wells					· · · · · · · · · · · · · · · · · · ·	
ormer VOC System:						
RW-3	30.7	710.93	13.83	697.10		
RW-4	24.4	709.81	12.65	697.16		
RW-7	21.6	710.73	13.74	696.99		
RW-14	28.8	712.63	14.89	697.74		
RW-16	22.1	712.51	15.02	697.49		
RW-17	28.8	712.78	15.63	697.15		
laphtha System:						
E3	36.0	714.50	21.63	692.87	(4)	Cainat
RWB6	36.0	715.80	19.51	696.29	120	Spigot
RWB16	45.0	715.30	18.65	696.65	Duplicate	Spigot
RWB21	29.5	717.62	21.08	696.54	in publicate	Spigot
RWB22	36.0	715.11	19.21	695.90	(4)	0-!:
OC System:				300.00	(5)	Spigot
EW-1	56.3	712.26	18.62	693.64	ı	Spigot
EW-2	43.2	711.58	15.99	695.59	Đ	Spigot
EW-3	30.6	712.59	19.01	693.58	(9)	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 4th Quarter Groundwater Monitoring - December 1998 AlliedSignal Industrial Complex - South Bend, Indiana

	Well Depth	Measuring Point Elevation	Depth to Water	Water Elevation	Locations	Sampling
Well No.	(feet)	(feet)	(feet)	(feet)	Sampled	Method
Shallow Monitoring W						
7-25	26.6	720.47	20.55	699.92	1	Stainless -Steel Baile
86-2	28.3	714.98	18.14	696.84		
86-4	23.8	715.09	18.04	697.05		
86-5	30.1	715.04	18.04	697.00	,	
86-6	25.9	715.00	NM	NM		
86-7	27.2	714.15	16.39	697.76		
86-8	28.5	714.62	16.81	697.81		
86-9	26.8	715.25	17.48	697.77		
86-10	27.1	715.06	17.44	697.62		Dedicated PVC Baile
86-11	27.0	715.14	17.61	697.53		
86-12	25.4	715.71	18.16	697.55		
86-13	28.8	714.75	17.10	697.65		
86-15	25.3	715.06	17.55	697.51		Dedicated PVC Baile
86-19	28.1	714.33	16.54	697.79		
9-33	27.3	716.20	19.04	697.16	•	Stainless-Steel Baile
MW-1	25.3	720.88	18.32	702.56		
MW-2	15.4	713.93	12.35	701.58	Duplicate	Disposable Bailer
MW-3	17.2	713.10	NM	NM		
MW-4	21.0	712.66	16.21	696.45		Disposable Bailer
MW-5	20.8	713.21	16.58	696.63	3	Disposable Bailer
MW-6 (a)	18.0	709.98	NM	NM		Dioposasio Ballor
MW-7	18.2	712.59	15.54	697.05	(D)	Disposable Bailer
MW-8 (a)	19.0	712.79	NM	NM	-	Dioposable Dallel
MW-9	19.8	710.90	15.74	695.16	3	Disposable Bailer
MW-10	19.4	716.01	13.53	702.48		Disposable Bailer
MW-11 (a)	21.7	717.74	NM	NM	_	Dioposabio Danoi
MW-12	13.8	711.58	10.81	700.77		Disposable Bailer
MW-13	18.8	712.55	15.50	697.05	<u> </u>	Disposable Bailer
OW-1	37.4	711.48	14.70	696.78		Disposable Daller
OW-2	35.0	711.45	14.76	696.69		
S1	35.6	728.09	24.99	703.10		
S3	24.6	716.65	21.07	695.58		Bladder Pump
S4A	31.6	711.37	14.67	696.70	1	Bladder Pump
S5	33.0	712.83	14.21	698.62		bladder Fullip
S6	32.4	716.91	20.04	696.87		
S8	22.6	714.65	19.37	695.28		
\$9	21.1	714.17	18.06	696.11		Disposable Bailer
S12	30.0	721.45	19.94	701.51	uz.	Disposable Dallel
S14	20.2	711.86	16.22	695.64		
S15	22.0	714.37	19.59	694.78	(5)	Disposable Bailer
S16	21.5	716.18	19.23	696.95	I I	Dedicated PVC Baile
S17	24.8	716.97	19.78	697.19	<u>.</u>	Bladder Pump
S18	32.4	715.41	17.06	698.35	a)	bladder Pullip
S19	36.4	723.38	20.18	703.20		
S20	18.8	709.97	15.94	694.03	3	Bladder Pump
S21	23.4	711.33	16.63	694.70	00	Bladder Pump
S22	26.0	709.33	15.62	693.71	00	•
S23	28.2	710.24	18.99	691.25	<u>u</u>	Bladder Pump
S24	21.4	713.03	17.21	695.82	(S)	Bladder Pump
S25	26.8	710.60	16.45	694.15		Bladder Pump
S26	26.9	714.50	18.24	696.26	<u>(1)</u>	Bladder Pump
S27	27.9	715.40	19.87		ren	Diada D
S28	23.5	714.48	17.36	695.53 697.12	<u>(9</u>)	Bladder Pump

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, 88-1 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 4th Quarter Groundwater Monitoring - December 1998 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 Monito	ring Wells (50 - 75	feet)				
7-50	50.0	719.84	20.06	699.78	(E)	Dedicated PVC Bailer
8D	59.5	714.56	18.14	696.42	•	Bladder Pump
D8	61.9	717.07	20.61	696.46		Diaddel Fullip
I1	47.6	711.58	19.93	691.65		
Deep Monitoring We	lls (75 - 210 feet)					
D3	133.1	714.45	18.35	696,10		
D4	118.6	717.85	21.37	696.48		
D5	186.8	712.07	15.61	696,46	Duplicate	Bladder Pump
D7	78.4	713.83	16.80	697.03		Bladder Pump
D9	96.9	717.00	17.97	699.03		bladdel Fullip
D12	147.1	710.35	20.41	689.94		
1D	208.6	714.17	16.78	697.39		
2D	188.3	715.36	18.47	696.89		Bladder Pump
3D	196.9	712.91	17.76	695.15		
4D	192.7	711.68	20.51	691.17		
5D	192.2	712.01	21.59	690.42	9	Bladder Pump
7D	95.1	714.85	18.47	696.38		•
Recovery Wells						
Former VOC System:						
RW-3	30.7	710.93	14.74	696.19		
RW-4	24.4	709.81	12.67	697,14		
RW-7	21.6	710.73	14.13	696.60		
RW-14	28.8	712.63	15.81	696.82		
RW-16	22.1	712.51	15.84	696.67		
RW-17	28.8	712.78	16.36	696.42		
Naphtha System:		· · · · · · · · · · · · · · · · · · ·				
E3	36.0	714.50	22.48	692.02	a	Cainat
RWB6	36.0	715.80	19.74	696.06		Spigot
RWB16	45.0	715.30	18.91	696.39	Duplicate	Cainet
RWB21	29.5	717.62	21.08	696.54	in Dublicate	Spigot
RWB22	36.0	715.11	19.67	695.44	•	
VOC System:			10.07	050.44	(E)	Spigot
EW-1	56.3	712.26	19.35	692.91	3	Spigot
EW-2	43.2	711.58	17.42	694.16	E)	Spigot
EW-3	30.6	712.59	19.27	693.32		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

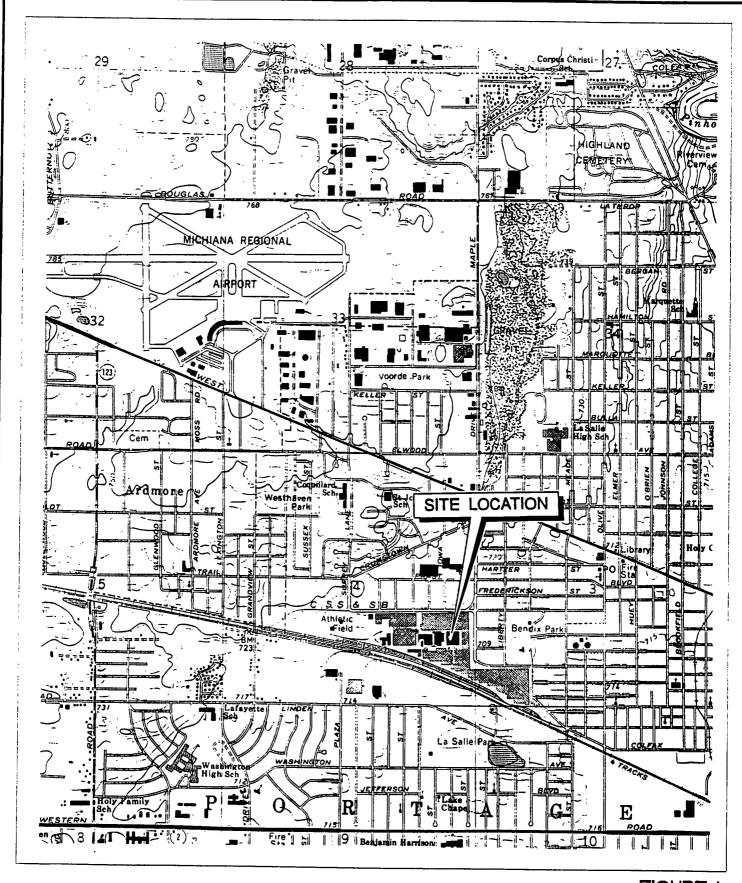
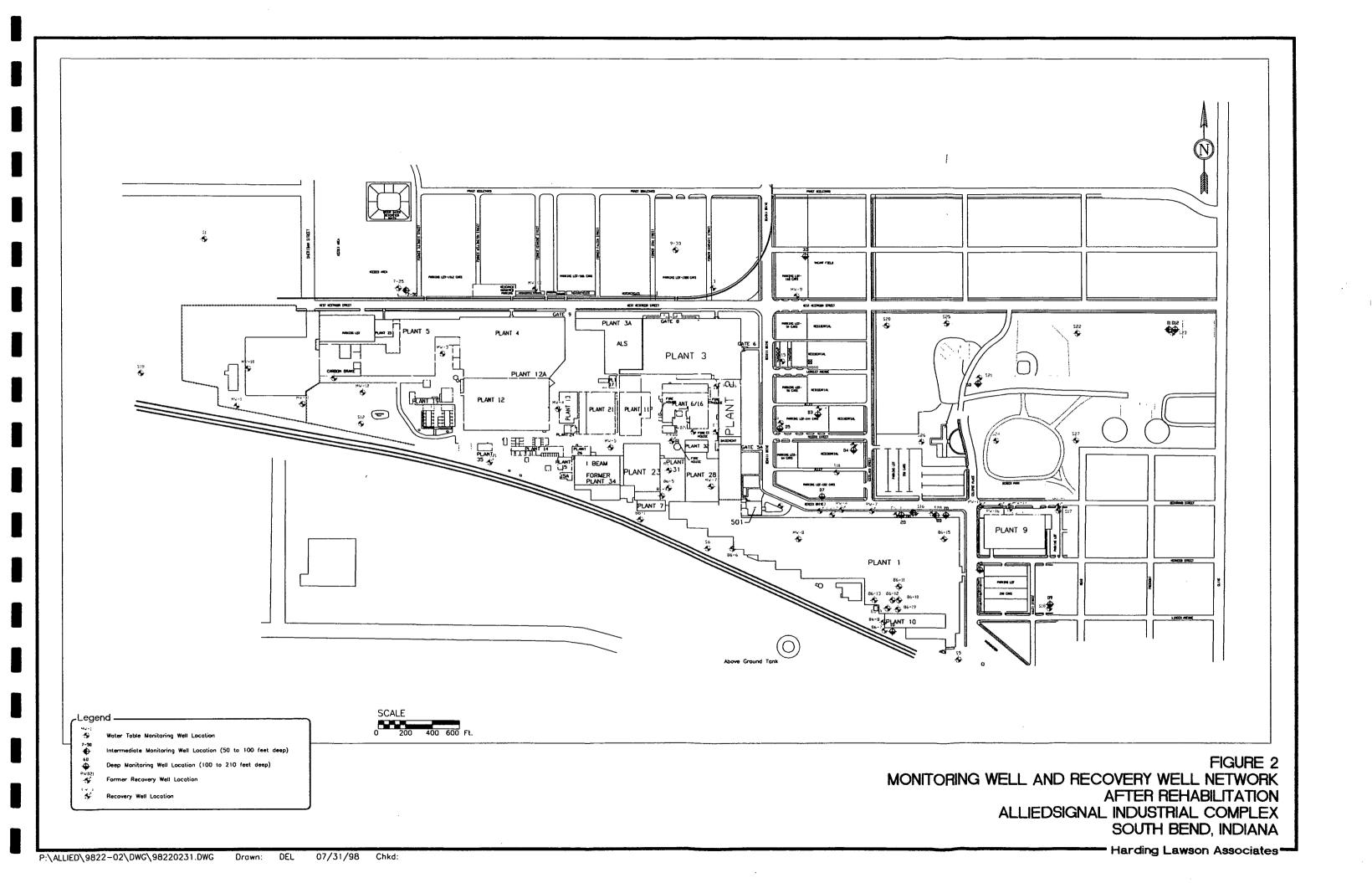
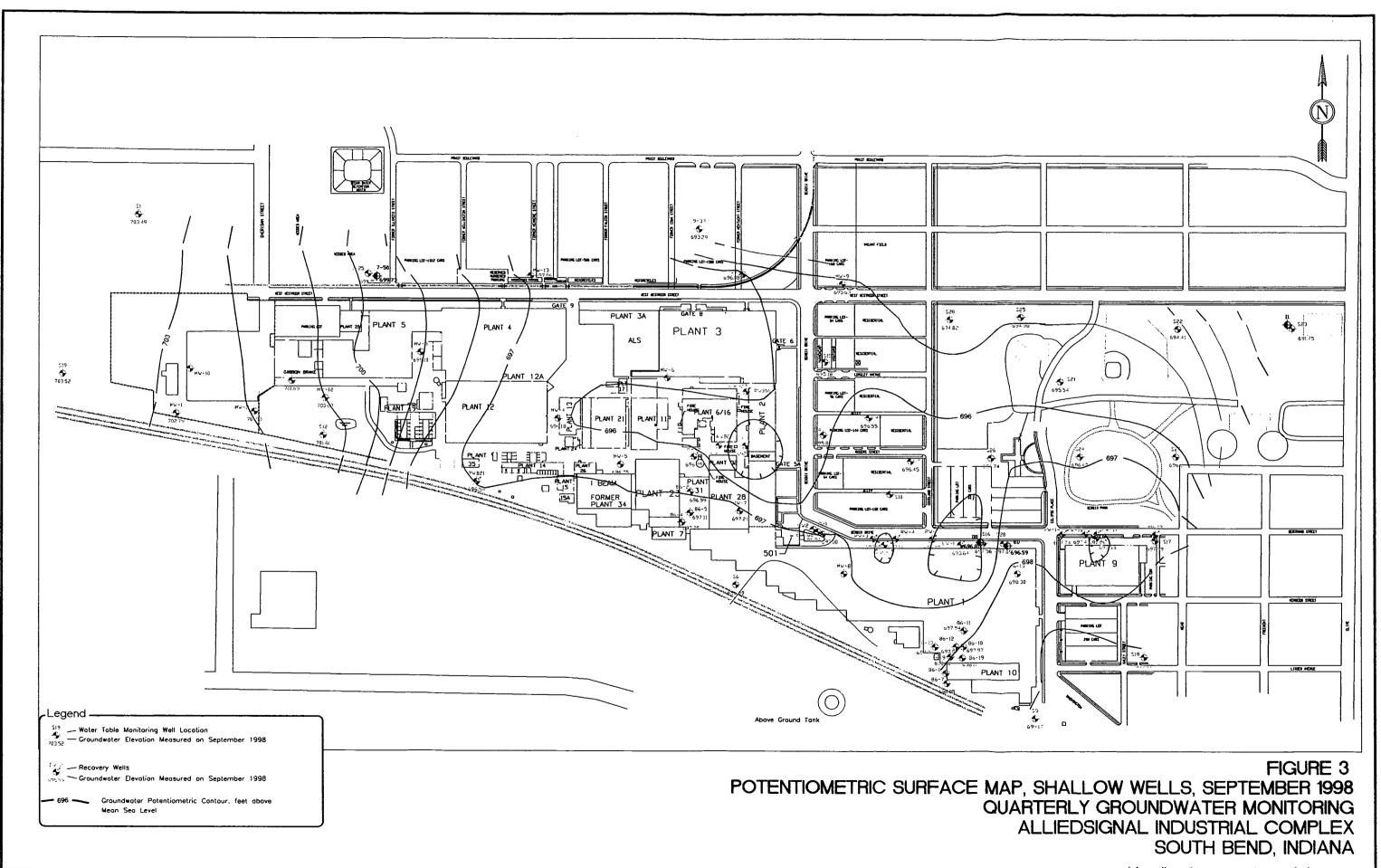
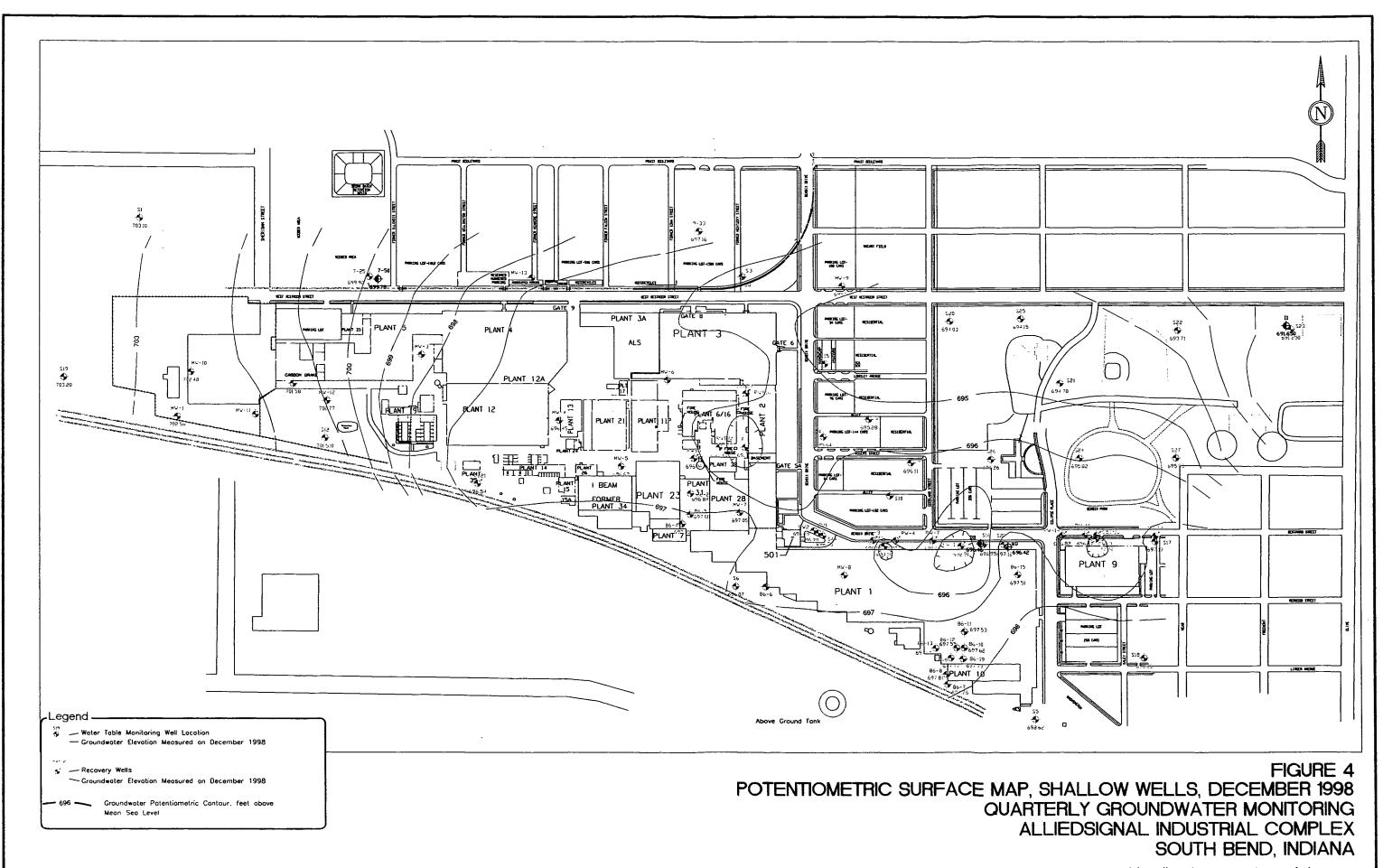
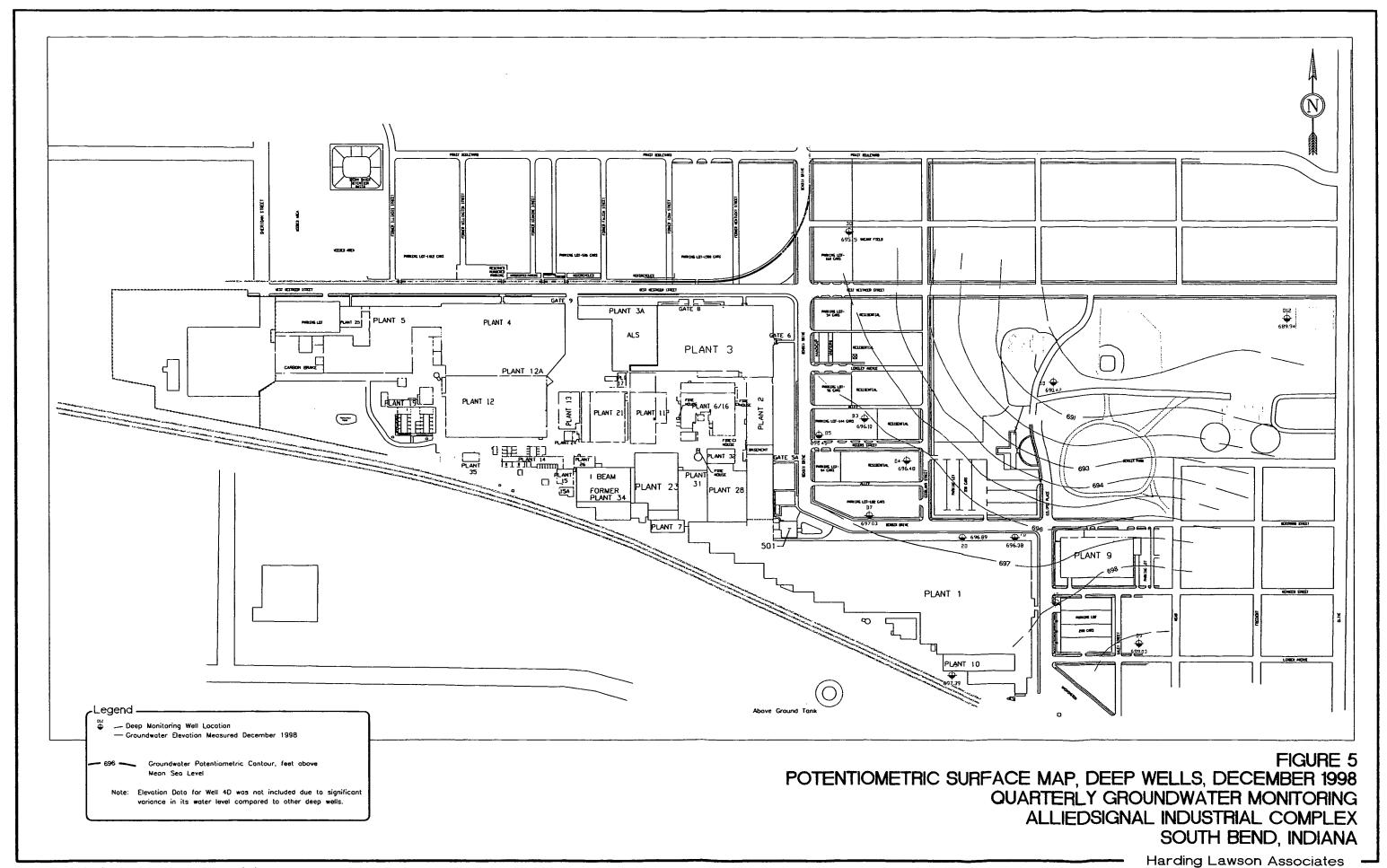


FIGURE 1
SITE LOCATION MAP
QUARTERLY GROUNDWATER MONITORING
ALLIEDSIGNAL INDUSTRIAL COMPLEX
SOUTH BEND, INDIANA









GROUNDWATER SAMPLING RECORDS

HARDING LAWS	ON ASSOCIATES		Sample	No.: E-3
	R SAMPLE REC	ADD	•	Date: 9/18/ 98
GIIOUIAIL	n sample nec	UKU	Sample 7	Time: 1003
SILLS CAMBRELLE (C.A.19)			4	
_	South Bend		Project	No.: 9822-02
	Amore (HLA)			
Activity Start: 095 Weather:		Activity I	End: 1003	
Well Type and Location:	Recovery well			
WATER DEVELOPED AT		***************************************		

Well Depth: feet (from top of well casing)	Using Solinst (measuring device)	Water Depth:	feet u	
		•	op of well casing)	(measuring device)
Historical Well Depth: (from ground	feet Protective	e Casing Stickup:		ect. Casing Well
Floating Product Thickness:		(for above-grou	nd surface) Ca	ising Difference:feet
Floating Floatice Fillion 1699.	feet using		(manusing device)	
Well Condition (see Note 1):			(measuring device)	
Measuring Device Decontami	nation Procedure:	Liquinox/Distilled water		
PI Meter ID: OVM 580 B		ppm	Weil Mo	with.
RURGINGEROGEDUREG			TTC:: 1440	putn:ppm
***************************************	.092 gal/ft (1.5 in)			
	.16 gal/ft (2 ln)	Х са	cica volumos a E	
	.65 gai/ft (4 in)	^ <u></u>	sing volumes = 5	gallons to purge
()	gal/ft (in)			
Purge Method (see Note 2):		n spigot while pump is run	ning	
Purge Vol. (gal)				
Time (Min.)				
Temperature (C*)				
pH (Units)				
Conductivity at 25°C (umhos/c	·m)			
Total Volume Purged		gallons		
Water Appearance (describe cold	or, clarity odor:)	9R 56161	1 DOOR	·
SAMPLINGPROCEOURES				
Sampling Procedure (se	e Note 2): Collect same	ple directly into sample co	ntainers from open spig	ot
Sample Water Appearar	ace (color clarity ador):	CLOME SUR	7/ 4	
	· · · · ·	curre surg	LA GOOR	
ANALYMIDAUPARAMETER				
Amahada	** ** .	No. of Bottles	Preservative/	Field Cool
Analysis	Method	Volume, Type	Volume	Filtered? to 4°C?
VOCs	8260	2x40-ml vials	HCI	YODON
				YNYN
				YNYN
				YNYN
			·	YNYN
OTHER OBSERVATIONS DUD TO LEW FEW NOT ABOUT TO PU	/ / -			_
NO 70 Lew Few	at work 6.5 g	NAME (Print)	CHPIS	Amors
NOT ABLY N PU	RGF FUL 5- EA	2000		
·		SIGNATURE:	CHi (Mrs -

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

HARDING LAWSON ASSOCIATES		Sample No.: EW-1
GROUNDWATER SAMPLE RECO	npn	Sample Date: 9/48/98 9 - 12-92
		Sample Time: 1448
SITE/SAMPLE LOCATION Site Name: AlliedSignal South Bend		Septemble : 0000 00
Personnel Present: Chris Amore (HLA)		Project No.: 9822-02
Activity Start: 1445	Activity End:	448
Weather: Suny 80'S		
Well Type and Location: Recovery well		
WATERNEYEWERLDATA		
Well Depth: feet using Solinst	Water Depth:	feet using Solinst
(from top of well casing) (measuring device)	(from top of well casi	ng) (measuring device)
	asing Stickup:feet	Protect. Casing Well
(from ground surface)	(for above-ground surface)	Casing Difference:feet
Floating Product Thickness:feet using		
Well Condition (see Note 1):	(measur	ing device)
	Juinox/Distilled water	
PI Meter ID: OVM 580 B Ambient Air:	ppm	Well Mouth: pom
PURGING PROCEDURES.		vveii Mouth:ppm
Height of Water () .092 gal/ft (1.5 in)		
	Casing volume	s = 5 gallons to purge
() .65 gal/ft (4 in)	Ceany found	s = 5 gallons to purge
() gal/ft (in)		
Purge Method (see Note 2): Purge 5 gallons through sp	igot while pump is running	
Purge Vol. (gal) 50.4		
Time (A4)=)		
Temperature (C°) /57 /		
Conductivity at 25°C (urable-term) 7,3/		
Total Volume Purged	gallons	
Water Appearance (describe color, clarity odor.)	galloris	
SAMPI HNG PROGEDURES	70 00A	
	directly into sample containers from	n open spigat
Sample Water Appearance (color, clarity, odor):		
ANALYMGALPARAMETERS		
	No. of Bottles Prese	rvative/ Field Cool
Analysis Method	Volume, Type Vol	ume Filtered? to 4°C?
VOCs 8260	2x40-ml viais HCI	Y @ Ø N
		Y N Y N-
		Y N Y N.
		Y N Y N ==
		Y N Y N
OTHER OBSERVATIONS		4
	NAME (Print)	ELS Amoro
	2 /	2 /
	SIGNATURE:	in Chru

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

⁽¹⁾ (2)

HARDING LAWSON	ASSOCIATES		Sample No	.: EW-2
GROUNDWATER S	· -	ΛDN	Sample Date	9/18/08 9-17-91
	MINIFEL NEO	UKD	Sample Time	: 1425
SITE/SAMPLE EQCATION Site Name: AlliedSignal Sout	h Rend		Project No.	
Personnel Present: Chris Amo			FIUJOULIAU	: 9822-02
Activity Start: 1415		Activity End	1: 1425	
Weather: Sway 8			* <u> </u>	· · · · · · · · · · · · · · · · · · ·
Well Type and Location. Reco	very well			
Wanesquavalung				
Well Depth: feet using	Solinst	Water Depth:	feet using	Solinst
(from top of well casing)	(measuring device)	(from top o	f well casing)	(measuring device)
Historical Well Depth:		Casing Stickup:	feet Protect.	Casing Well
(from ground surfa		(for above-ground	-	g Difference: feet
Floating Product Thickness:	feet using			
	. ^		(measuring device)	
Well Condition (see Note 1):	OK South		**	
Measuring Device Decontamination		Liquinox/Distilled water		
PI Meter ID: OVM 580 B	Ambient Air: _	ppm	Well Mouth	:ppm
PURGING PROGEDURES Height of Water () .092	gal/ft (1.5 in)			
• • • • • • •	al/ft (2 in)	X casin	a valumaa a	
. , ,	al/ft (4 in)	A Casin	g volumes = 5	_gallons to purge
	gal/ft (in)			
		spigot while pump is runnin	g	
· · · · · · · · · · · · · · · · · · ·				
Purge Vol. (gal)				
Time (Min.)	1425	<u> </u>		
Temperature (C°)	14.8			
pH (Units)	6.92	<u> </u>		
Conductivity at 25°C tumbercon	1.14	<u> </u>		
Total Volume Purged	_5_	gallons		
Water Appearance (describe color, clarit	ty odor.) LLOTTE	NO ODOR		
SAMPENCER GUENTRES				
Sampling Procedure (see Not	e 2): Collect samp	ole directly into sample conta	iners from open spigot	
Sample Water Appearance (c				
	olor, clanty, odor):			
ANALYTICAUPARAMETERS				
		No. of Bottles	Preservative/	Field Cool
Analysis	Method	Volume, Type	Volume	Filtered? to 4°C?
VOCs	8260	2x40-mi vials	HCI	Y 🔿 🐧 N+
				Y N Y N:
				Y N Y N
				Y N Y N=
				YNYN
OTHER OBSERVATIONS				
		NAME (Print)	CHRIS A	mors
		SIGNATURE:	CA: 1	2_

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

				DUP 2	20-2
HARDING LAWSON A	SSOCIATES		Sample (No.: <u>MW-100</u>	
GROUNDWATER S	AMPLE REC	ORD		ate: 9/18/98	-9-17
		OILD	Sample Ti	me: <u>/-/25</u>	
SITE/SAMPLE L'OCATION Site Name: AlliedSignal South	Rond		Darle A		
Personnel Present: Chris Amore			Project i	No.: 9822	-02
Activity Start:	(1,12,1)	Activity 6	End:		
Weather:					
Well Type and Location: Recov	ery well				
WATER LEVEL/WELL DAY!					
Well Depth: feet using	Solinst	Water Depth:	feet us	ing Solin	st
(from top of well casing)	(measuring device)		p of well casing)		suring devic
istorical Well Depth:	eet Protective	e Casing Stickup:	feet Prote	ct. Casing Well	
(from ground surface		(for above-groun		sing Difference:	
Floating Product Thickness:	feet using				
			(measuring device)		
Veil Condition (see Note 1):	3			·····	
Measuring Device Decontamination I PI Meter ID: OVM 580 B		Liquinox/Distilled water			
PI Meter ID: OVM 580 B	Ambient Air:	ppm	Well Mou	.th:	ррп
urge Vol. (gal) Ime (Min.) emperature (C*) H (Units) conductivity at 25°C (umhos/cm) otal Volume Purged /ater Appearance (describe color, clarity	odory	gallons			
AMPENGEROGEDURES					
Sampling Procedure (see Note	2): Collect sam	ple directly into sample co	ntainers from open spigo	ot	
Sample Water Appearance (co	lor, clarity, odor):				
NALYTICAL PARAMETERS					
		No. of Bottles	Preservative/	Field	Cool
Analysis	Method	Volume, Type	Volume	Filtered?	to 4°C?
VOCs	8260	2x40-ml vials	HCI	Y N	Y N
				Y N	YN
				YN	YN
		 		 Y N	YN
				Y N	YN
THER OBSERVATIONS					
		NAME (Print)	CHRIS	1	

SIGNATURE:

⁽¹⁾ (2)

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

HARDING LAWSON AS	SOCIATES		Sample	No.: EW-3
GROUNDWATER SA	MPLF REC	CORD	Sample D	Date: 9/18/ 98
	WALL TE TIE	JUND	Sample T	ime: 1405
SITE/SAMPLE L'OCATION Site Name: Allied Signal South E Personnel Present: Chris Amore (Project	No.: 9822-02
Activity Start: 845 Weather: Sunny 80'S		Activity	End: <u>/405</u>	
	y weii			
WATER ITEVELYWELL DATA WELL DATA FOR USING (from top of well casing)	Solinst (measuring device)	_ Water Depth:	feet us	
Historical Well Depth: fee (from ground surface)		e Casing Stickup: (for above-grou	feet Prote	(measuring device: Casing Well sing Difference: feet
Floating Product Thickness:	feet using			
Well Condition (see Note 1):	OK Soci		(measuring device)	
Measuring Device Decontamination Pr PI Meter ID: OVM 580 B	***************************************	Liquinox/Distilled water		
	Amblent Air:	ppm	Well Mo	uth:ppm
PÜRGING PROCEDURES	9 (1 5 in)			
	(4 in) Vft (in)	X <u></u> ca	sing volumes = 5	gallons to purge
Purge Vol. (gal)				
lime (Min.)	140			
remperature (C°)	70.6			
oH (Units)	6.68			
Conductivity at 25°C (umboviern)	1.64			
Total Volume Purged	5	gallons		
Water Appearance (describe color, clarity of	lor:)			
Sampling Procedure (see Note 2 CLOPAC Sample Water Appearance (color	OBER	ple directly into sample co	ntainers from open spige	ot .
NALYTICAUPARAMETERS				
		No. of Bottles	Preservative/	Field Cool
Analysis	Method	Volume, Type	Volume	Filtered? to 4°C?
VOCs	8260	2x40-ml vials	HCI	YOON
				YNYN
				YNYN
				YNYN
				YNYN
THER OBSERVATIONS		NAME (Print)	CHRIS	Amoro
		SIGNATURE:	CHRIS Chin C	Ann

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

HARDING LAWSON ASSOCIATES		Sample No.: RWB-16
GROUNDWATER SAMPLE RECO	DN	Sample Date: 9/18/ 98
	ND	Sample Time: 1507
SITE/SAMPLE FORATION		
Site Name: AlliedSignal South Bend Personnel Present: Chris Amore (HLA)		Project No.: 9822-02
Personnel Present: Chris Amore (HLA) Activity Start:	A -41, da , F - 4,	
Weather: Survey 80's	Activity End:	7
Well Type and Location: Recovery well		
WATER REVERWEED DAYA		
	Water Depth:	feet using Solinst
(from top of well casing) (measuring device)	(from top of well casing	
Historical Well Depth: feet Protective Ca	asing Stickup: feet	Protect. Casing Well
(from ground surface)	(for above-ground surface)	Casing Difference: feet
Floating Product Thickness:feet using	•	
	(measurin	g device)
Well Condition (see Note 1): OK Society		
	uinox/Distilled water	
PI Meter ID: OVM 580 B Ambient Air:	ppm	Well Mouth:ppm
PURGING PROCEDURES Height of Water () .092 ga/ft (1.5 in)		
		en over a p
Column feet X () .16 gal/ft (2 ln) X () .65 gal/ft (4 ln)	casing volumes	= gallons to purge
() gal/ft (in)		
Purge Method (see Note 2): Purge 5 gallons through spi	got while pump is running	
	· · · · · · · · · · · · · · · · · · ·	
Purge Vol. (gal)		
Time (Min.) /507		
Temperature (C°)		
pH (Units) m S/cm 7.11		
Conductivity at 25°C (umbde/cm) 1, 26		
Total Volume Purged Water Appearance (describe color, clarity odor.)	_gallons	
	Slight ODOR	
SAMPLING PROCEDURES		
Sampling Procedure (see Note 2): Collect sample	directly into sample containers from	open spigot
Sample Water Appearance (color, clarity, odor):	ome Sight aprox	
ANALYTICAL PARAMETERS	THE PROPERTY OF	
26.7.	No. of Bottles Preserv	ative/ Field Cool
Analysis Method	Volume, Type Volume	
VOCs 8260	2x40-mi viais HCI	
	240-118 Vidio 1101	
		Y N Y N Y N Y N Y N Y N
		YNYN
		Y N Y N
OTHER OBSERVATIONS		
	NAME (Print)	213 Amoreo
	SIGNATURE:	213 Amoreo

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

HARDING LAWSON ASSOCIATES	Sample No.: RWB-22
GROUNDWATER SAMPLE RECO	· · · · · · · · · · · · · · · · · · ·
	Sample Time: / 545
SITE/SAMPHEILOGATION	,
Site Name: AlliedSignal South Bend Personnel Present: Chris Amore (HLA)	Project No.: 9822-02
Activity Start:	Activity End:
Weather: Survy &	o'S
Well Type and Location: Recovery well	
WATTERSELYEUWELEBATTA	
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 C	asing Stickup:feet Protect. Casing Well
	(for above-ground surface) Casing Difference:feet
Floating Product Thickness:feet using	(measuring device)
Well Condition (see Note 1): OK Sec. 20	(illodouling worker)
Measuring Device Decontamination Procedure: Liq	uinox/Distilled water
PI Meter ID: OVM 580 B Ambient Air:	ppm Well Mouth:ppm
RURGINGERROGEDURES	
Height of Water () .092 gal/ft (1.5 in)	
Column feet X () .16 gal/ft (2 in) X () .65 gal/ft (4 in)	casing volumes = 5 gallons to purge
() .05 gal/ft (in)	
Purge Method (see Note 2): Purge 5 gallons through sp	igot while pump is running
Purge Vol. (gal)	
Time (Min.) Temperature (C°)	
pH (Units)	
Conductivity at 25°C (umbos/cm)	<u> </u>
Total Volume Purged	galions
Water Appearance (describe color, clarity odor.)	Stight our
SAMERINGERGEEDERE	stryer var.
Sampling Procedure (see Note 2): Collect sample	directly into sample containers from open spigot
Sample Water Appearance (color, clarity, odor):	
	me Sight once
ANALYDICAUPARAMETERS	
Analysis Method	No. of Bottles Preservative/ Field Cool
VOCs 8260	Volume, Type Volume Filtered? to 4°C?
0200	2x40-mi vials HCI Y O N
	Y N Y N
	Y N Y N
	Y N Y N
OTHER OBSERVATIONS	
	NAME (Print) CHRIS ANDRO
	SIGNATURE: Chin Chin

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

HARDING LAWSON	ASSOCIATI	ES		Sample No.:	7-25	
GROUNDWATER SA		-		Sample Date:		8
				Sample Time:	845	<u> </u>
SITE/SAMPLE LOCATION		OFFICE PROPERTY.				om called children Colon social Alia
Site Name Allied signal- South Bend			14 A 14 A 15 A 15 A 16 A 16 A 16 A 16 A 16 A 16	Project No.: 9	822 .02	ما جسال الآل
Personnel Present: Adam gouda,	Pete Kaczor					
Activity Start: 939		Activ	vity End:	748		·
Weather: Summer Well Type and Location: Shill		- 1 / 2 10				
	, , , , , , , , , , , , , , , , , , , ,	ni+ad pvc				
WATERGEVELWELFDATA		THE THE PARTY OF THE				
Well Depth: 76.6 feet using (from top of well casing)	20.55		20.55	feet using	5642	s d
	(measuring device)		m top of well casi	ng)	(measurir	ng device)
Historical Well Depth: fee	t Protective C	Casing Stickup:	feet	Protect. Ca		
(from ground surface)		(for above-(ground surface)	Casing D	ifference:	feet
Floating Product Thickness:	feet using					
Well Condition (see Note 1):	and		(measur	ing device)		
Measuring Device Decontamination P	rocedure: Li	quinox-DI water				
PI Meter ID:	Ambient Air:	· · · · · · · · · · · · · · · · · · · 	—	Marit Maritin		
	and the prints of the party of	ppr		Well Mouth:		ppm
PURGING PROCEDURES Height of Water () .041 gal/						
Height of Water () .041 gal/ Column feet X () .16 gal/ft		. T		17		
() .65 gal/ft	•	×	casing volumes	s = <u>1.7</u> g:	allons to purg	e -
6.05 () .042 gal						
Purge Method (see Note 2):	A. Dept.	Sticals)	Last 1	bailes		
		77.62-7	7 66 8	14101		
Purge Vol. (gal)	.56	1.2	*	1.66	"	
Time (Min.)	840	0843	<u> </u>	846		
Temperature (C°)	11.8	12.2		12.6		
pH (Units)	7.09	7.11		7.07		
Conductivity at 25°C (mS/cm)	.700	,707	 -	,7/2		
Total Volume Purged		gallons		777 =		
Water Appearance (describe color, clarity odd	(r) franslucen	t, light brow	UK			
SAMPLING PROCEDURES		HATTER DUNCT				
Sampling Procedure (see Note 2): Stainle	o steel	66:61		Participant Control	
			30			
Sample Water Appearance (colo	r, clarity, odor):					
ANALYTICAL PARAMETERS STORY		CERTAIN PARTIES		Secretar		
	No. of Bottles		Presei	vative/	,	Cool
Analysis Method	Volume, Type	Bottle Lot	Volu	ume F		4°C?
Voc 8260	2		H	CL 1-1	Y JD -Q	איכ
			<u> </u>		YNY	N
		 			YNY	N
					Y N Y Y N Y	N
TUED ODDEDVATIONS				· · · · · · · · · · · · · · · · · · ·	Y N Y	N ·
THER OBSERVATIONS						
		NAME (Print)	Ad	lam Gouda		
·				المراجع		
	•	SIGNATURE:	-	10		ı
					~	

⁽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 ASSOCIATE	ES	Sample No.: 7-50
GROUNDWATER SAMPLE REC		Sample Date: / 8/9/43
		Sample Time: 42/
SITE/SAMPLEILOCATION		
Site Name Allied signal- South Bend	21-217-4-7-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-	Project No.: 9822 • O Z
Personnel Present: Adam gouda, Pete Kaczor		
Activity Start: 8:54 Weather: Sum 750	Activity End:	
Weather: Sury 250 Well Type and Location: 1.5" geturn ? 200		
WATERILEVELWELIDATAN	and the second section of the section o	
The state of the s		
Well Depth: 50-0 feet using Z0.06 (from top of well casing) (measuring device)	Water Depth:(from top of well	feet using Sociast
		the second of th
ristorical vveil Depth: feet	Casing Stickup: fee	
Flenkler Dec 4 - 4 Flenk	(for above-ground surfac	ce) Casing Difference: feet
Floating Product Thickness:feet using	(m/	easuring device)
Well Condition (see Note 1):	<i>(</i> 111.0	asuring device)
	iquinox-DI water	
PI Meter ID: Ambient Air:	ppm ppm	Well Mouth: ppm
PURGING PROCEDURES 199	······································	Well Mouth:ppm
Height of Water () .041 gal/ft (1 in)		
October 5-14 M 4 A A A A A A A A A A A A A A A A A	x A casing volu	07
() .16 gal/ft (2 in)	Cashiy voic	umes = 8.3 gallons to purge
24. 1 (4) .112gal/ft (65 in)		
Purge Method (see Note 2):	PVL beiler	
	740 90.0.	
Purge Vol. (gal) 2.75	5.0	8.26
Time (Min.)	9:08	918
Temperature (C°)	11.4	11.2
pH (Units) 7.08	7.13	7.18
Conductivity at 25°C (mS/cm)	- (1)	
Total Volume Purged	gallons	.68
Water Appearance (describe color, clarity odor:)	,— yanons	
SAMPLINGIPROCEDURES		The state of the s
Sampling Procedure (see Note 2):	uted PVC beign	
Sample Water Appearance (color, clarity, odor):	Clear	
ANALYTICAL PARAMETERS		
No. of Bottles		reservative/ Field Cool
Analysis Method Volume, Type		Volume Filtered? to 4°C?
<u>Voc</u> <u>8260</u> <u>2</u>		HCL 1-1 Y (5) (5) N
		Y N Y N
		Y N Y N
		Y N Y N
		Y N Y N
OTHER OBSERVATIONS		
	NAME (Print)	Adam Souda
		CL
-	SIGNATURE:	(A)
		

(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 ASSOCIATE	S	Sample No.:	9-37
GROUNDWATER SAMPLE RECO	חפר	Sample Date:	12/4/44
		Sample Time:	0153
SITE/SAMPLE LOCATIONS	《自然表现的代码 》		
Site Name Allied signal- South Bend		Project No.: 9	
Personnel Present: Adam gouda, Pete Kaczor Activity Start: 5135			
C	Activity End:		
WATER LEVELWELL DATA			
(from top of well casing) (measuring device)	Water Depth: 10.04 (from top of well ca	feet using sing)	(measuring device)
	asing Stickup: feet	Protect. Ca	sing Well
(from ground surface)	(for above-ground surface)	Casing Di	fference: feet
Floating Product Thickness: feet using			
	(meas	uring device)	
Well Condition (see Note 1):	·		
	uinox-DI water	·	
7 dibiotit 7 di .	ppm	Well Mouth:	ppm
PURGING PROCEDURES: Height of Water () .041 gal/ft (1 in)			
Column feet X () .16 gal/ft (2 in) X	casing volum	es = 7.7 ga	illons to purge
() .65 gal/ft (4 in)		<u></u> 90	mono to puigo
(K) <u>.047</u> gal/ft (<u>I.S</u> in)	0 / " /		
Purge Method (see Note 2):	D. biler		
Purge Vol. (gal)			
	<u> </u>	2.2	
Temperature (C°) 0743 75.5	0746	0749	
	(5.8	100	
pH (Units) Conductivity at 25°C (mS/cm) 7 0	<u> 6.9a</u>	6.99	
Total Volume Purged	.665	.708	
Mater Assessment	gallons - I.L. I		
SAMPLING PROCEDURES CONTROL OF THE PROCEDURE	ght brown, silty	Change a trace of the recognition above the	
	ion steel bails		
3767	1011 JANO PAIGE		
Sample Water Appearance (color, clarity, odor):	me		
ANALYTICAL PARAMETERS 1984		ारणद्वारकृति । गर्मम् व्यक्तारा १ क्ट्रास	Translation of the contract of
No. of Bottles	As a meant for a management of the	ervative/	Field Cool
Analysis Method Volume, Type			itered? to 4°C?
Voc 8260 2		HCL 1-1	
		Y	
		Υ	NYN
		Y	
		Y	'NYN®
OTHER OBSERVATIONS			
	NAME (Print)	dam Gouda	
		CIL	
	SIGNATURE:	109	

⁽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 AS	SSOCIATES	3	Sample No.	: 86-	10
GROUNDWATER SAM			Sample Date		8
CROCKDWATER SAW	PLE RECU	ΚD	Sample Time	1630	2
SITE/SAMPLE LOCATION CONTROL					Name of
Site Name Allied signal- South Bend			Project No.	: 9822,02	e has the grant and the
Personnel Present: Adam gouda, Pete	Kaczor				·
Activity Start: (60Z		Activity End:	1640		
Weather: Sunny 45°	74				
Well Type and Location: Stick 1.	. \$				
WATERIUEVELWEUSDAWY		AND WINDS			4
Well Depth: 27. feet using		/ater Depth: <i>/ 7. Y</i>	feet using	Sol	inst
·	suring device)	(from top of	well casing)	(measu	ring device)
Historical Well Depth: feet	Protective Cas	ing Stickup:	feet Protect.	Casing Well	
(from ground surface)		(for above-ground st	urface) Casing	Difference:	feet
Floating Product Thickness:	feet using				
Mall Condition () and ()			(measuring device)		
Well Condition (see Note 1):	BOU		· · · · · · · · · · · · · · · · · · ·		
Measuring Device Decontamination Proces		nox-DI water			
PI Meter ID:	Ambient Air:	ppm	Well Mouth:		ppm
PURGING PROCEDURES	the control of a secretary and the secretary and the second	MUSTE WORK HATE			Majorani len denesti e.
Height of Water () .041 gal/ft (1 i		2			
Column feet X () .16 gal/ft (2 in	•'	casing	volumes = <u>Z. 6</u>	gallons to pu	rge
() .65 gal/ft (4 in)				-	
Purge Method (see Note 2):	· · · · · · · · · · · · · · · · · · ·				
r dige Meditod (see Note 2).). Builer				
Purge Vol. (gal)		1.78			
Time (Min.)	1618		Z. C		
Temperature (C°)		1622	16 28		
pH (Units)	14.9	15,5	<u> </u>	<u> </u>	
Conductivity at 25°C (mS/cm)	7.05	7.02	6.99	-	
Total Volume Purged		2.02	2.03		
Water Appearance (describe color, clarity odor.)		gallons	. <i>L</i>		
SAMPLING PROCEDURES THE SAMPLI	Cleer s	light yellow to	<u>м</u>		
Sampling Procedure (see Note 2):	PRESENTATION OF THE PARTY OF			Sept. Market Service	
Jamping 1 1000dard (388 Note 2).	Dedice	tes pre	beiler		
Sample Water Appearance (color, cla	rity, odor):	Cear			
ANALYGUEAU PARAMETERS	· · · · ·		This is the last last to the Pick of any decided this bear and		
	lo. of Bottles	the winder of minimal fill by last			
	olume, Type	Bottle Lot	Preservative/ Volume	Field	Cool
Voc 8260	2	DOME LO	HCL 1-1	Filtered?	to 4°C?
			TIOL 1-1		Y N -
					YN
	· · · · · · · · · · · · · · · · · · ·		*		Y N
					Y N
OTHER OBSERVATIONS					
]	ALABAE (Dein4)	Adam 6		
		NAME (Print)	Adam Gouda		
		CIONATUCE	4		
	<u>-</u> ·	SIGNATURE:			

⁽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 ASSOCIATE	S Sample No.: 86-15
GROUNDWATER SAMPLE RECO	Sample Date: 12/4/48
CHOCKDAYATER SAMPLE RECO	Sample Time: 1770
SUIE/SAMPLE FOR AUTON	
Site Name Allied signal- South Bend	Project No.: 9822.02
Personnel Present: Adam gouda, Pete Kaczor	3,
Activity Start: 0.36	Activity End: 17(0
Weather: Sun 45	
Well Type and Location: Stick Jo 1.5 PV	<u>C</u>
Wyderygene werenty was a second of the world	
Well Depth: 25.1 feet using _	Water Depth: 17.55 feet using GALLE
(from top of well casing) (measuring device)	(from top of well casing) (measuring device)
Historical Well Depth: feet Protective Ca	asing Stickup: feet Protect. Casing Well
(from ground surface)	(for above-ground surface) Casing Difference: feet
Floating Product Thickness: 6 feet using	- Outsing Smortings.
	(measuring device)
Well Condition (see Note 1):	, ,
Measuring Device Decontamination Procedure: Liq	uinox-DI water
PI Meter ID: Ambient Air:	ppm Well Mouth:ppm
PURGING PROCEDURES 100 100 100 100 100 100 100 100 100 10	
Height of Water () .041 gal/ft (1 in)	的一种,我们就是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个
Column feet X () .16 gal/ft (2 in) X	casing volumes = 2.14 gallons to purge
7 7 () .65 gal/ft (4 in)	casing volumes = 2.17 gailons to purge
() .047gal/ft (1.5 in)	A
Purge Method (see Note 2):	licated OVC build
Purge Vol. (gal)	1.42 2.14
Time (Min.) 1646	1652 (655
Temperature (C°)	16.7 6.2
pH (Units) 7.05	6.99 7.00
Conductivity at 25°C (mS/cm)	2.26 2.22
Total Volume Purged	gallons
Water Appearance (describe color, clarity odor:)	Brown / transment clarks
SAMPLING PROCEDURES TO EAST A SECOND	
Sampling Procedure (see Note 2):	edicated PVC bails
Sample Water Appearance (color, clarity, odor):	Sche (1) Clave
ANALYTICALIPARAMETERS	
No. of Bottles	Preservative/ Field Cool
Analysis Method Volume, Type	Bottle Lot Volume Filtered? to 4°C?
Voc 8260 2	HCL 1-1 Y N
	Y N Y- N.
	Y N Y N
	Y N /Y N.
	Y N/Y N :
OTHER OBSERVATIONS	
·	NAME (Print) Adam Gouda
	Additi Space
	SIGNATURE:
· ·	CIONATONE.

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 ASSO	CIATES		Sample No.:	MW-2	
GROUNDWATER SAMPLE			Sample Date:	12/9/58	
			Sample Time:	212	
SITE/SAMRIEE LOCATION					TE
Site Name Allied signal- South Bend			Project No.: 9		
Personnel Present: Adam gouda, Pete Kaczo	ſ				
Activity Start: 10:07	A	ctivity End:	1015		
Weather: 500 35° Well Type and Location:					
WATERUEVELWEILEDAUA		AND SERVICES			, ,'''
Well Depth: 15.1 feet using (from top of well casing) (freesuring d	Water Depth:	12.75	feet using	Selias	1
	•	(from top of well casing	3)	(measuring de	vice)
Historical Well Depth: feet P	rotective Casing Stickup:	feet	Protect. Ca	sing Well	
(from ground surface)		ve-ground surface)	Casing D	ifference: fe	eet
Floating Product Thickness: fee	t using				
Well Condition (see Note 1):	.[(measurin	g device)		
Measuring Device Decontamination Procedure:	Liquinox-DI water				
5111			144-1144		
74110	ient Air.	ppm 	Well Mouth:	p	pm
PURGINGIPROCEDURES Height of Water () .041 gal/ft (1 in)			NUMBER OF STREET		
Height of Water () .041 gal/ft (1 in) Column feet X () .16 gal/ft (2 in)	v 7		1.11		
() .65 gal/ft (4 in)	×	casing volumes	= <u>/, 46</u> ga	allons to purge	
3.07 () gal/ft (in)					
Purge Method (see Note 2):	D. balor				
Purge Vol. (gal)	48	76	1.46		
Time (Min.)			1014		
Temperature (C°)	10.9	<u> </u>			
pH (Units) 6.87	4	86	11.1		
Conductivity at 25°C (mS/cm)	1.00	30	1-30		
Total Volume Purged	gallons		1.30		
Water Appearance (describe color, clarity odor:)		rey tour lun	cloude	^	
SAMPLING PROCEDURES 100 PM		TO SERVICE OF THE PROPERTY OF	Lord Control)	
Sampling Procedure (see Note 2):	D. baile		A TO SERVICE THE		
Sample Water Appearance (color, clarity, od	or):				
WIND WINDS THE WARRANT AND THE				AND DESCRIPTION OF	
No. of B	ottles	Preserv		Field Cool	
Analysis Method Volume,	Type Bottle Lot	t Volur		iltered? to 4°C	
Voc 8260	2	HCI	_ 1-1 Y		N
			Y	NYI	N ·=
			Y		N >
			Y	•	N
			Y	NYI	V
OTHER OBSERVATIONS				·····	_
	NAME (Print)	Ada	m Gouda		
			A.A.		
	SIGNATURE	: <u>0</u>			
					_

⁽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 ASSOCIATE	S	Sample No.: Dup 200
GROUNDWATER SAMPLE RECO	•	Sample Date: 12/7/13
	Dugot MW-Z	Sample Time:
SHEISAMPLELLOCATION		
Site Name Allied signal- South Bend		Project No.: 9822
Personnel Present: Adam gouda, Pete Kaczor		
Activity Start:	Activity End:	
Weather:		
Well Type and Location:		
WAITEREMENTED AND THE STATE OF T	THE REPORT OF THE PROPERTY OF	
Well Depth:	Water Depth: /2.35	feet using
(from top of well casing) (measuring device)	(from top of well casi	
Historical Well Depth: feet Protective Ca	asing Stickup: feet	Protect. Casing Well
(from ground surface)	(for above-ground surface)	Casing Difference: feet
Floating Product Thickness: feet using		
	(measu	ring device)
Well Condition (see Note 1):		
Measuring Device Decontamination Procedure: Liqu	uinox-DI water	
PI Meter ID: Ambient Air:	ppm	Well Mouth: ppm
PURGING PROCEDURES:		
Height of Water () .041 gal/ft (1 in)	The state of the s	
Column feet X () .16 gal/ft (2 in) X	casing volume	asilons to nurse
() .65 gal/ft (4 in)	Judding Folking	es = gailons to purge
() gal/ft (in)		
Purge Method (see Note 2):	iler	
	,,,	
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:)	gallons	
SAMPLING PROCEDURES THE RESERVE OF THE PROPERTY OF THE PROPERT	COLUMN A COLUMN ACTION AND A COLUMN ACTION AND A COLUMN ACTION AC	
		Control Property Control of the Cont
Sampling Procedure (see Note 2):	167	
Sample Water Appearance (color, clarity, odor):		
AVATYLICATERARAMETERSINE		
No. of Bottles Analysis Method Volume, Type		ervative/ Field Cool
Analysis Method Volume, Type Voc 8260 2		llume Filtered? to 4°C?
700 0200 2		ICL 1-1 Y (6) (7) N
		Y N Y N **
		Y N Y N
		Y 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) A	dam Gou g a
<u>.</u> .	SIGNATURE:	CA T
•		

(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 AS	SSOCIATE	S	S ,	imple No.:	MW-1	1
GROUNDWATER SAM	IPLE RECO	RD		nple Date:	12/9	198
				nple Time: _	122	4
SITE/SAMPLE LOCATION						
Personnel Present: Adam gouda, Pete	e Kaczor		Pi	roject No.: 9	9822.07	
Activity Start: /Z/o	77.000	Activity Er		- ·		
Weather: SURRY 45°		ACTIVITY ET	na:			
Well Type and Location:	TO PVC					
WATER LEVELWELL DATA LESS SERVICES			North Control of the		and the strength of	SERVICE CONTRACTOR
Well Depth: ZI.O feet using	V	Vater Depth:	7/	feet using		299 L
	suring device)		of well casing)	ieet using	<u>ט ני</u> ל (mea	suring devi
Historical Well Depth: Z/.o feet	Protective Cas		feet	Brotost C		•
(from ground surface)	. 10.000.00	(for above-ground		Protect. Ca	asing vver Difference:	
Floating Product Thickness:	feet using		,	Casing L		
			(measuring de	vice)		
Well Condition (see Note 1):	4000					
Measuring Device Decontamination Proce	aure: Liqu	inox-DI water	·			
PI Meter ID:	Ambient Air:	— ppm	We	ell Mouth:		pp
URGING PROCEDURES		OPEN PROPERTY OF S		Order Control	Windle State	Parametri de la Carta de La Ca
leight of Water ().041 gal/ft (1	in)					100
() (5) (6)	•	-		22		nuraa
	n) X	casir	na volumes =	2·3 a	allone to	
Column feet X () 16 gal/ft (2 in		casir	ng volumes = _	<i>Z</i> .3	allons to	pulye
Column feet X (16 gal/ft (2 in	1)	casir	ng volumes = _	2. 5	allons to	parge
Column feet X (2-) .16 gal/ft (2 in (2 in(1)	casir	ng volumes = _	2. 5	allons to	pulye
Column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in () gal/ft (1)	casir	ng volumes = _	2. <u>3</u> g	allons to	
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 9 gal/ft (2 in 9 gal	1)				pallons to	
Column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in () .65 gal/ft (4 in ()	in) D. bailer			z 9	allons to	purge
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 () gal/ft ()	n) D. bailer 76 1218	1219		z 9 z z	gallons to	purge
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 () gal/ft (gal/ft ()	0. bailer - 76 - 1218	/.5Z 1219 17.1		29 22	gallons to	purge
Column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in () .65 gal/ft (4 in ()	1) 1) 1) 10) 10) 11) 11) 16:1 16:1	/.52 1219 17.1 6.90		29 22 2./	gallons to	purge
Column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in ()) .65 gal/ft (4 in ()) .65 gal/ft (4 in ())	0. bailer - 76 - 1218	/.52 1219 17.1 6.90		29 22	gallons to	purge
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 ()	0. bailer - 76 - 1218 - 16:1 - 6:1 - 7.29	/.52 219 7.1 6.90 (.33		29 22 2./	gallons to	purge
Column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in ()) .65 ga	0. bailer - 76 - 1218 - 16:1 - 6:1 - 7.29	/.52 1219 17.1 6.90		29 22 2./	allons to	purge
Column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in ()) .65 ga	0. bailer - 76 - 1218 - 16:1 - 6:1 - 7.29	/.52 1219 17.1 6.90 (.33 gallons		29 22 2./	allons to	purge
Column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in ()	10) D. bailer - 76 - 1218 - 16:1 - 6:11 - 1:29 - 516	/.52 219 7.1 6.90 (.33 gallons	2. 12 17 6.9 1.	29 22 2./	allons to	purge
column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in ()) .65 ga	10) 20. 5a.lor - 76 - 1218 - 16:1 - 6:1 - 7:29 - 5:6 - 10. 56:1 - 10. 56:1 - 10. 56:1	/.52 219 7.1 6.90 (.33 gallons		29 22 2./ 94 32		, and the second
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 9 gal/ft (4 in 9 gal/ft (2 in 9 gal/ft (4 in 9 gal	10) 2. 5a; 6r - 76 - 1218 - (6:) - 6. 91 - 7. 2 9 - 516 arity, odor):	/.52 219 7.1 6.90 (.33 gallons	2. 12 6.9 1. Cloudy	29 22 2./ 94 32		
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 ()) .65 gal/ft (4 in 9 gal/ft ())	10) 2. 5a.ler 2. 76 1218 16:1 1. 2 9 310 310 Anity, odor):	/.52 219 7.1 6.90 (.33 gallons V, franshumf,	2. /2 /7 6.9 1. Cloudy Preservative	29 22 21 34 32	Field	Cool
Column feet X () .16 gal/ft (2 in .17 9 () .65 gal/ft (4 in .17 9 () .65 gal/ft (4 in .17 9 ()) .6	1) in) D. 56.67 - 76 - 1218 - (6.1) - (6.1) - (7.29 - 56.66 arity, odor): No. of Bottles Volume, Type	/.52 219 7.1 6.90 (.33 gallons	Z. /Z //Z // // // // // // // // // // //	29 22 ./ 94 32	Field Filtered?	Cool to 4°C?
column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in ()) .65 ga	10) 2. 5a.ler 2. 76 1218 16:1 1. 2 9 310 310 Anity, odor):	/.52 219 7.1 6.90 (.33 gallons V, franshumf,	2. /2 /7 6.9 1. Cloudy Preservative	29 27 2./ 94 32	Field Filtered?	Cool to 4°C?
Column feet X () .16 gal/ft (2 in .17 9 () .65 gal/ft (4 in .17 9 () .65 gal/ft (4 in .17 9 ()) .6	1) in) D. 56.67 - 76 - 1218 - (6.1) - (6.1) - (7.29 - 56.66 arity, odor): No. of Bottles Volume, Type	/.52 219 7.1 6.90 (.33 gallons V, franshumf,	Z. /Z //Z // // // // // // // // // // //	29 22 2./ 94 32	Field Filtered? Y N	Cool to 4°C?
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 ()) .65 gal/ft (4 in 9 gal/ft () gal/ft (1) in) D. 56.67 - 76 - 1218 - (6.1) - (6.1) - (7.29 - 56.66 arity, odor): No. of Bottles Volume, Type	/.52 219 7.1 6.90 (.33 gallons V, franshumf,	Z. /Z //Z // // // // // // // // // // //	29 22 27 32	Field Filtered? Y N Y N	Cool to 4°C? N Y N Y N
column feet X () .16 gal/ft (2 in () .65 gal/ft (4 in ()) .65 ga	1) in) D. 56.67 - 76 - 1218 - (6.1) - (6.1) - (7.29 - 56.66 arity, odor): No. of Bottles Volume, Type	/.52 219 7.1 6.90 (.33 gallons V, franshumf,	Z. /Z //Z // // // // // // // // // // //	29 22 ./ 94 32	Field Filtered? Y N Y N Y N	Cool to 4°C? N Y N Y N Y N
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 () .65 gal/ft (4 in 9 gal/ft ()	1) in) D. 56.67 - 76 - 1218 - (6.1) - (6.1) - (7.29 - 56.66 arity, odor): No. of Bottles Volume, Type	/.52 219 7.1 6.90 (.33 gallons V, franshumf,	Z. /Z //Z // // // // // // // // // // //	29 22 ./ 94 32	Field Filtered? Y N Y N	Cool to 4°C? N Y N Y N
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 () .65 gal/ft (4 in 9 gal/ft ()	1) in) D. 56.67 - 76 - 1218 - (6.1) - (6.1) - (7.29 - 56.66 arity, odor): No. of Bottles Volume, Type	.52 219 7.1 6.90 1.33 gallons V,	Z. /Z // G. /. /. // Cloudy Preservative Volume HCL 1-1	29 27 2./ 94 32	Field Filtered? Y N Y N Y N	Cool to 4°C? N Y N Y N Y N
Column feet X () .16 gal/ft (2 in 4.79 () .65 gal/ft (4 in 4.79 () .65 gal/ft (4 in 9 gal/ft ()	1) in) D. 5a, 6x - 76 - 1218 - (6 1) - (6 1) - (7 2 9) - (7 2 9) - (7 2 9) - (7 2 9) - (8 2 1)	/.52 219 7.1 6.90 (.33 gallons V, franshumf,	Z. /Z //Z // // // // // // // // // // //	29 27 2./ 94 32	Field Filtered? Y N Y N Y N	Cool to 4°C? N Y N Y N Y N
Column feet X () .16 gal/ft (2 in .179 () .65 gal/ft (4 in .179 ()	1) in) D. 5a, 6x - 76 - 1218 - (6 1) - (6 1) - (7 2 9) - (7 2 9) - (7 2 9) - (7 2 9) - (8 2 1)	.52 219 7.1 6.90 1.33 gallons V,	Z. /Z // G. /. /. // Cloudy Preservative Volume HCL 1-1	29 27 2./ 94 32	Field Filtered? Y N Y N Y N	Cool to 4°C? N Y N Y N Y N

(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 ASSOCIATE	S	Sample No.:	nw-s
GROUNDWATER SAMPLE RECO		Sample Date:	12/9/98
ONCOMPANIER SHIMLE KECO	טאי	Sample Time:	1140
SITE/SAMPLE LOCATION STATES OF THE STATES OF			
Site Name Allied signal- South Bend	The state of the second	Project No.: 9	822 . <i>o</i> Z
Personnel Present: Adam gouda, Pete Kaczor			
Activity Start: 1123	Activity End:		~
Weather: Sung 1/5			
Well Type and Location:			
WATER PLANE WELLDAWARE			
Well Depth: Zo. 8 feet using	Water Depth: 16.58	feet using	Chick
(from top of well casing) (measuring device)	(from top of well casi		(measuring device)
Historical Well Depth: feet Protective Car	sing Stickup: feet	Protect. Ca	asing Well
(from ground surface)	(for above-ground surface)		oifference: feet
Floating Product Thickness: O feet using		-	
	(measur	ring device)	
Well Condition (see Note 1):			
Measuring Device Decontamination Procedure: Liqu	inox-DI water		
PI Meter ID: Ambient Air:	ppm	Well Mouth:	ppm
PURGING PROCEDURES			
Height of Water () .041 gal/ft (1 in)			
Column feet X (3 casing volume	s= 7.02 g	allone to nurse
		2- C.O.	alions to purge
() gal/ft (in)			
Purge Method (see Note 2):	•	-	
Purge Vol. (gal)	1.34	7.02	
Time (Min.)	- 1112	11:15	
Temperature (C°)	<u> </u>	14.8	
pH (Units)	6.74	6.77	
Conductivity at 25°C (mS/cm)	- /.26 -	1.19	
Total Volume Purged	gallons	1.17	·
5	notwork, Busty Dray o	120	.1.41
SAMPLING PROCEDURES SAMPLING PROCEDURES	DUNKT VIII VIII VIII	- Ped po.	(P,CF6)
	cibe		production of the second
Sample Water Appearance (color, clarity, odor):			
ANAIMICAURARAMBIERSEE		TOPERSON REPORT	
No. of Bottles		rvative/	Field Cool
Analysis Method Volume, Type			Filtered? to 4°C?
Voc 8260 2	H	CL 1-1	Y (N) (Y) N
			Y N Y N=
			Y N Y N F
			Y N Y N S
			Y N Y N
OTHER OBSERVATIONS			
	NAME (Print) Ad	dam Goyda	
			
	SIGNATURE:	24	
<u>-</u>	OIONATONE.		

⁽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 ASSOCIATE	ES	Sample No.:	4w-7
GROUNDWATER SAMPLE RECO		Sample Date:	
	טאכ	Sample Time:	1205
SITE/SAMPLET OCATION	er en		
Site Name Allied signal- South Bend Personnel Present: Adam gouda, Pete Kaczor		Project No.: 98	122.02
Activity Start: 1145	Activity End:	710	
Weather: Suan 40 Well Type and Location: **The Country of the C			
WATERUEVEEMEN DATA	TO SERVICE THE PROPERTY OF THE		
Well Depth: 14.7 feet using	Water Depth: 5.54	feet using	Sulins
(from top of well casing) (measuring device)	(from top of well ca		(measuring device)
	Casing Stickup: feet	Protect. Cas	sina Well
(from ground surface)	(for above-ground surface)		•
Floating Product Thickness: O feet using	Continue.		
·	(meas	suring device)	
Well Condition (see Note 1):		•	
Measuring Device Decontamination Procedure: Lic	quinox-DI water		
PI Meter ID: Ambient Air: _	ppm ppm	Well Mouth:	ppm
PURGING PROCEDURES - PARTIES - PARTI	 ''		
Height of Water () .041 gal/ft (1 in)	Special state of the second of		A Company of the Comp
	x 3 casing volum	nes = [.27 gai	
() .65 gal/ft (4 in)	Odoniy volum	168 = (. ~ 1 9ai	illons to purge
() sal/ft (in)			
	buler		
	26101		
Purge Vol. (gal)	:84	1.27	· · · · · · · · · · · · · · · · · · ·
Time (Min.)	1201	1.27	
Temperature (C°)	13.6	17.6	
pH (Units) [6.77]	6.13	6.73	
Conductivity at 25°C (mS/cm)			
		1:26	
Total Volume Purged Vater Appearance (describe color, clarity odor:)	gallons		
SAMRUNG RROCEDURES Sampling Procedure (see Note 2):			
oamping Flocedure (see Note 2).). build		
Sample Water Appearance (color, clarity, odor):	Bush BI- transtrunt		
ANALYAICALIBARAMETERS	WATER STANFACTOR	The state of the s	
No. of Bottles Analysis Method Volume, Type			Field Cool
Analysis Method Volume, Type Voc 8260 2			itered? to 4°C?
VOC 0200 2		HCL 1-1 Y	
		Y	
		Y	
		Υ	′ N Y N ==
OTHER OBSERVATIONS			
	NAME (Print)	Adam Gouda	
	` .		
	SIGNATURE:	(1)	
•	-		

(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	S	Sample No.: mw-9
GROUNDWATER SAMPLE RECO		Sample Date: /2/4/4 ¥
GROUIDAAY I EU SAIAILEE VECO	RU	Sample Time: /3/8
SITERAMBLE FOR VIION TO THE TOTAL STATE OF THE STATE OF T		
Site Name Allied signal- South Bend		Project No.: 9822.0 C
Personnel Present: Adam gouda, Pete Kaczor		
Activity Start: (307	Activity End:	330
Weather: Suh - 45		
Well Type and Location: (Lmwf - 7' PVC		
WATERENEWED DATA		
Well Depth: 14.7 feet using	Nater Depth: /5.74	feet using
(from top of well casing) (measuring device)	(from top of well casing	
Historical Well Depth: feet Protective Case	sing Stickup:feet	Protect. Casing Well
(from ground surface)	(for above-ground surface)	Casing Difference: — feet
Floating Product Thickness: feet using	-	
	(measurin	ng device)
Well Condition (see Note 1):		,
	inox-DI water	
PI Meter ID: Ambient Air:	ppm	Well Mouth: ppm
PURGINGIPROCEDURES		
Height of Water () .041 gal/ft (1 in)	Mark the Control of t	A production of the state of th
Column feet X ().16 gal/ft (2 in) X	3 casing volumes	1 (21)
	casing volumes	= 1.94 gallons to purge
() .65 gal/ft (4 in) () gal/ft (in)		
Purge Method (see Note 2):	/	
Purge Vol. (gal)	AF 1.28	1.94
Time (Min.)	1312	/3/6
Temperature (C°)	17.9	7718
pH (Units) 6.70	- 	5.57
Conductivity at 25°C (mS/cm)		
		1.63
	_gallons	L
2149	willgry transluon	
SAMPEING PROCEDURES: Sampling Procedure (see Note 2):	osib!	Guille Berger, Marie San, 1936 and reddered the de San, or year to the Committee of the second second to the second seco
Sample Water Appearance (color, clarity, odor):		
ANAMAICALEARAMETERE		क्रिकेट विकास स्टब्स हुए साम्यक के प्रोटक के स्टब्स के प्राट के स्टब्स के स्टब्स के स्टब्स के स्टब्स के स्टब्स स्टब्स के स्टब्स के
No. of Bottles	Presen	And the second section of the second section of the second section of the second section of the second section
Analysis Method Volume, Type	Bottle Lot Volu	
Voc 8260 2		CL 1-1 Y D D N
		Y N Y N 4
		Y N Y N÷
		Y N Y N-
		Y N Y N -
OTHER OBSERVATIONS		
	NAME (Print) Ada	om Goudo
	TANKE (FINIT)	am Gouda
	CONTRACTOR C	
<u> </u>	SIGNATURE:	

(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 AS	SOCIATES	S	ample No.:	mw-	10
GROUNDWATER SAME		Sa	mple Date:	12/9/98	,
		Sa	mple Time:	952	
SITE/SAMPLE LOCATION LA COMPANY	EWHALL DE HALL		NAME OF STREET	L TELESITIE	100,170,18
Site Name Allied signal- South Bend		F	Project No.: 9	822.02	
Personnel Present: Adam gouda, Peter	(aczor				
Activity Start: 437		Activity End:			
Weather: Sum 30 Well Type and Location:					
	7" PVC				
WATER LEVEL WELL DATA THE RESERVED					कार्या ५ र वस र
Well Depth: 19.4 feet using 13.	53 Water Depth	: -	feet using	Sal	int
(from top of well casing) (measu	uring device)	(from top of well casing)	_	(measu	ring device
Historical Well Depth: feet	Protective Casing Stickup:	: feet	Protect. Ca	sina Well	
(from ground surface)		ove-ground surface)		ifference:	feet
Floating Product Thickness:	feet using		•	-	
		(measuring d	evice)		
Well Condition (see Note 1):	ind				
Measuring Device Decontamination Proced	ure: Liquinox-DI wate	er er			
PI Meter ID:	Ambient Air:	ppm V	Vell Mouth:	•	ppm
PURGING PROCEDURES 1		Marie Control of the	a Sand Academic Marian Sandar	and the second second	— bbiii
Height of Water () .041 gal/ft (1 in	Assistant and the second of th				
Column feet X (16 gal/ft (2 in)	′ × 7	casing volumes =	28		
	^	- casing volumes = .	2.0 g:	allons to pu	ırge
5.8 7 () .65 gal/ft (4 in) gal/ft (in)				
Purge Method (see Note 2):		tainliss-steel l	عداده		
	<u> </u>	14111633 3 (CC. 1	M W		
Purge Vol. (gal)	.94 /	.88 Z.	0		
Time (Min.)			10		
Temperature (C°)					
pH (Units)			3.8		
Conductivity at 25°C (mS/cm)				*****	
Total Volume Purged		38 (.)	8		· · · · · · · · · · · · · · · · · · ·
Water Appearance (describe color, clarity odor.)	gallons		, ,		
	- Kusty bon	, slight dra	nslvert		
SAMPLING PROCEDURES (1994): Sampling Procedure (see Note 2):					Pro e
Camping Procedure (See Note 2):	-Proorby-	Stainless-ste	el baik	<u> </u>	
Sample Water Appearance (color, clari	ity odor): 2 al. I a				·
	200 000		MUNY		
ANAISMICAU PARAMETERS TO	CONTRACTOR OF STREET,	mit auf beftete gegeb fieben in Die beiter gegeben geben be-			
	o. of Bottles	Preservativ		Field	Cool
	olume, Type Bottle L	· · ·		_	to_4°C?
<u>Voc</u> <u>8260</u>		HCL 1-	<u>·1 </u>	Y OP	(A) N
				Y N	Υ Ν 🕆
				Y N	Y N
					Y N
				Y N	Y N
OTHER OBSERVATIONS	ellabule				
W(11(4)) 17 104 104 104 104 104 104 104 104 104 104	NAME (Prin	nt) Adam (3 ouda		
well casing bent not positives steel o	bi Ut ,				
- /	SIGNATUR	KE:)		

⁽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 ASSOCIATE	S	Sample No.: ,nw-/Z
GROUNDWATER SAMPLE RECO	ORD	Sample Date: /2/4/48 Sample Time: /033
SITE/SAMPLE LOCATION Site Name Allied signal- South Bend Personnel Present: Adam gouda, Pete Kaczor		Project No.: 9822, 27
Personnel Present: Adam gouda, Pete Kaczor Activity Start: /02/	Activity End: /6	40
Weather: Sum 40°	Activity Line.	40
Well Type and Location: A Mut 2 PVC		
WATERILEVELWEELDATA		"苏京村"的《李文明》
(from top of well casing) (measuring device)	Water Depth: 10.8 (from top of well casin	feet using Scinst (measuring device)
Historical Well Depth: feet Protective Ca (from ground surface)	sing Stickup:feet (for above-ground surface)	Protect. Casing Well Casing Difference: feet
Floating Product Thickness: feet using		
Well Condition (see Note 1): Measuring Device Decontamination Procedure. Liqu	(measuri	ing device)
P! Meter ID: Ambient Air:	ppm	Well Mouth: ppm
PURGINGIPROCEDURES Height of Water () .041 gal/ft (1 in)		
Q. () .65 gal/ft (4 in) () gal/ft (in) Purge Method (see Note 2):	ili	
Purge Vol. (gal)	. 14	1.43
Time (Min.)	1029	1031
Temperature (C°)		17.0
pH (Units) 7. 29	7.78	7.39
Conductivity at 25°C (mS/cm)	244	,233
Total Volume Purged Water Appearance (describe color, clarity odor:)	gallons Slight Franslower, a	727
SAMPUNGEROCEDURES Sampling Procedure (see Note 2):	l. beiler	
Sample Water Appearance (color, clarity, odor):	sem 6) above	
ANALYTICAU PARAMETERS No. of Bottles		AND THE STATE OF T
Analysis Method Volume, Type	Preser Bottle Lot Volu	vative/ Field Cool ume Filtered? to 4°C?
Voc 8260 2	•	ume Filtered? to 4°C?
		Y N Y N
		Y N Y N#
		Y N Y N Y N Y N Y N Y N Y N Y N Y N Y N
New apenifalled	NAME (Print) Ad	am Gouda
New cap enstaller	SIGNATURE:	35

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

⁽²⁾

HARDING LAWSON ASSOCIAT	ES	Sample No.:	ML 73
GROUNDWATER SAMPLE REC	OPD	Sample Date:	2/9/98
		Sample Time:	819
SITE/SAMPLE LOCATION	《美国哲学的图》		
Site Name Allied signal- South Bend Personnel Present: Adam gouda, Pete Kaczor	· · · · · · · · · · · · · · · · · · ·	Project No.: 9	822.07
Activity Start: 805	A addition	026	
Weather: 5.4- 7.5	Activity End: _	876	
Well Type and Location: Z'PVC - L. Aud			
WATER LEVELWEILEDATA			
Well Depth: 18.4 feet using	Water Depth: / 5.5	feet using	
(from top of well casing) (measuring device)	(from top of we		(measuring device)
Historical Well Depth: feet Protective (Casing Stickup: fe	et Protect. Ca	
(from ground surface)	(for above-ground surfa		ifference: feet
Floating Product Thickness: feet using			
Moll Condition (see Market)	(n	neasuring device)	
Well Condition (see Note 1): Measuring Device Decontamination Procedure:	51		
PI Meter ID: Ambient Air:	iquinox-DI water		
////DIGITE AII.	ppm	Well Mouth:	ppm
PURGING PROCEDURES: Height of Water () .041 gal/ft (1 in)		新加州的	Sec. 18
	x 3 casing vo		
() .65 gal/ft (4 in)	^ casing vo	olumes =g	allons to purge
5.) () gal/ft (in)			
Purge Method (see Note 2):	cilor		
Durgo Vol (pel)			
Purge Vol. (gal) .57 Time (Min.) .57	10 7.0	1.5	
	10 817	8/8	-
Temperature (C°) pH (Units) 7	12.4	12.5	
Conductivity at 25°C (mS/cm)	7.04	7.04	
Total Volume Purged	67 .762	.767	
Water Appearance (describe color, clarity odor:)	gallons Cleran		
SAMPLING PROCEDURES AND	THE RESERVE OF THE PARTY OF THE		P. P
Sampling Procedure (see Note 2):	6.6	地方可以對於自然和時代的關係	SEG SEGMENT OF THE SE
Sample Water Appearance (color, clarity, odor):	dear		
ANALYTICALPARAMETERS		The state of the s	CONTRACTOR
No. of Bottles		Preservative/	Field Cool
Analysis Method Volume, Type Voc 8260 2	Bottle Lot		iltered2 to 4°C?
8260 2			A M M N
			Y N Y N-
			YNYN YNYN
			YNYN
OTHER OBSERVATIONS			
	NAME (Print)	Adam Gouda	
		Adam Gouda	
	SIGNATURE:	Part -	
4	S		

⁽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		Sample No.: 5- 3	
GROUNDWATER SAMPLE RE	ren nan	Sample Date Date	6-17/1d4
	เบบกบ	Sample Time: 1804	19141
SITESAMPUELLOCATION			THE TRAINS
Personnel Present: Marie Fond Ol	1969	Project No.: 5827.	02
MULINI STORE P. C.			
Activity Start: 1750 Weather: 167 750	Activity End:	1808	
Well Type and Leasting 11 / 1			
7,000,100,11	ichup		
WATER BENEFIT TO A COMMITTEE TO A CO	ATMENT AND THE PARTY OF THE PAR	A PARTY OF THE PAR	
(from top of well casing) (measuring device)	Water Depth: 21.07	feet using Solin	いナ
	(from top of we	ell casing) (meas	uring device)
Historical Well Depth: feet Protecti	- · · · · · · · · · · · · · · · · · · ·	eet Protect. Casing Well	
Floating Oreduct Thister	(for above-ground surfa	(ace) Casing Difference:	feet
feet using		-	
Well Condition (see Note 1):	(n	neasuring device)	
Measuring Device Decontamination Procedure:			
PI Meter ID: Ambient Air			
	ppiii	Well Mouth:	ppm
PURGINGPROCEDURES Height of Water () .041 gal/ft (1 in)		Marine Company of the	7 m m 1 m m
Column feet X () .16 gal/ft (2 in)			
2 (★ .65 gal/ft (4 in)	X casing vo	plumes = gallons to pu	ırge
50) () galff (in)			
Purge Method (see Note 2):	edicated bladder pu	4-0	
	The state of the s	mp	
Purge Vol. (gal) 2.7	9 4.58	6.8	
Time (Min.)		1801	
Temperature (C°)		14.1	
pH (Units)		7.37	
Conductivity at 25°C (umhos/cm)		.500	
Total Volume Purged	gallons	-300	
Water Appearance (describe color, clarity odor:)	set .		
SAMPLINGEPROCEDURES	BY THE REAL PROPERTY OF THE		
Sampling Procedure (see Note 2):	elileted bladder pump	raise e filosofie de la secreta de la compansión de la compansión de la compansión de la compansión de la comp	
Comple Wide America			
Sample Water Appearance (color, clarity, odor):	Clark		
WANTE AND THE STATE OF THE STAT	· · · · · · · · · · · · · · · · · · ·	The second of th	
No. of Bottles		Preservative/ Field	Cool
Analysis Method Volume, Type	Bottle Lot		to 4°C?
Voc 8760 Z	·	<u>Hl-/-/</u> y ODC	1
			Y N
	-		Y N
			Y N
OTHER OBSERVATIONS		Y N	Y N
P - 7:00		1 1 1	
1-3:00	NAME (Print)	JdeM toda	
30PST.	•	2 h	
30(1× .	SIGNATURE:		

Described whether well was locked and the condition of the protective casing and concrete collar. (1)

Describe sequence of purging/sampling including equipment type and decontamination method. (2)

HARDING LAWSON A	ASSOCIAT	ES	Sample No	:: 12/ /98 54A
GROUNDWATER SAI			Sample Date	
			Sample Time	: 1827
SITE/SAMPLE LOCATION Site Name Allied signal- South Bend			THE TRANSPORT OF THE PROPERTY	
Personnel Present: Adam Gouda, Pe	ete Kaczor		Project No	.:9822.02
Activity Start: 1812	210 1100201	Activity E	ind:	
Weather: Clouder, 250		Activity E	:nu.	
Well Type and Location: 1.5	1 PVC STICK	- y D		
WATER LEVELWELL DATA			intrica de contribuir escribir de la contribuir de la con	
Well Depth: feet using	Solinst	Water Depth:	feet using	Control Control (1997) Proposition Control
	easuring device)	·	o of well casing)	g Solinst (measuring device
Historical Well Depth: feet	Protective (Casing Stickup:		Casing Well
(from ground surface)		(for above-groun		g Difference: feet
Floating Product Thickness:	feet using		Guom	
			(measuring device)	
Well Condition (see Note 1):	locked			
Measuring Device Decontamination Pro	cedure: L	iquinox-DI water		
Pł Meter ID:	Ambient Air:	ppm	Well Mouth	ppm
PURGING:PROCEDURES				
Height of Water () .041 gal/ft (1 in)	The second secon	adani 1960-967 dibidi biliku ida Milaki ku Bidda barin ma ina badisi dibi ida Marecia	
Column feet X () .16 gal/ft (2		X 3 cas	ing volumes = 4-6	gallons to purge
() .65 gal/ft (4				_•
(X) 009 7gal/ft	- T	n t		
Purge Method (see Note 2):	edicated blo	edder pump)	
Purge Vol. (gal)	1.5	3.0	11	
Time (Min.)	1318		<u>4.6</u>	
Temperature (C°)	12.1	1821	1825	_
pH (Units)	6-49		12.3	-
Conductivity at 25°C (mS/cm)	0,971	<u>6.38</u>	<u>6.85</u>	-
Total Volume Purged	5	0.497		-
Water Appearance (describe color, clarity odor.)		gallons		
SAMPLING PROCEDURES	MICHAEL MARKET CO.	poray, apa	Que de la companya della companya de	18 6-10
Sampling Procedure (see Note 2):	delica			Commence of the second
	C CEAL CA	ted bladder	br-y b	
Sample Water Appearance (color,	clarity, odor):	ane	H-1	
ANALYTICALPARAMETERS				water and the control of the first state of
	No. of Bottles		Preservative/	Field Cool
Analysis Method	Volume, Type	Bottle Lot	Volume	Filtered? to 4°C?
VOC 8260	2		HCL	Y (D) (V) N
				YNYN
				Y N Y N
				YNYN
				YNYN
OTHER OBSERVATIONS				
		NAME (Print)	Adam Gouda/Pe	ter Kaczor
		SIGNATURE:	THE STATE OF THE S	
		i	- (-	

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

HARDING LAWSON	ASSOCIATES		Sample No	: 5-9
GROUNDWATER SA	MPLE RECOR	ח	Sample Date	: 12/9/48
			Sample Time	1822
SITE/SAMPLE L'OCATION Site Name Allied signal- South Bend				A SHIP OF A STATE OF THE STATE
Personnel Present: Adam gouda, Pe	ete Kaczor		Project No.	.: 9822 .02
Activity Start: /804		Activity End:	1825	
Weather: Sun 35°			1307	
Well Type and Location:	annel (fich-up			
WAMERIESZEWELEPZAWA				
Well Depth: 31.10 feet using (m	Wate	er Depth: /8.0		g Solinst (measuring device)
Historical Well Depth: feet (from ground surface)	Protective Casing	Stickup:(for above-ground sui	_	Casing Well g Difference: feet
Floating Product Thickness:	feet using		•	
Well Condition (see Note 1):			(measuring device)	
Measuring Device Decontamination Plo	cedure: Liquinox	c-DI water		
PI Meter ID:	Ambient Air:	ppm	Well Mouth	: ppm
PURGING PROCEDURES Height of Water () .041 gal/ft (Company of the second
Column feet X () .16 gal/ft (2	•	3 casing v	volumes = 6.6	gallons to purge
2 0 € (4) .65 gal/ft (4	in)			_gallons to purge
	(in)			
Purge Method (see Note 2):	D. bail	<u> </u>		
Purge Vol. (gal)	2.0	4.0	6.0	
Time (Min.)	1810	1816	1819	-
Temperature (C°)	15.5	15.6	15.6	•
pH (Units)	6.90	6.91	6.84	-
Conductivity at 25°C (mS/cm)	1.39	1.44	1.42	-
Total Volume Purged	ga	llons	·—·	
Water Appearance (describe color, clarity odor.)		yellow transla	unt	
SAMPLINGPROCEDURES			TO MANUFACTURE OF THE PARTY OF	
Sampling Procedure (see Note 2):	D. 56.61			
Sample Water Appearance (color,		im as above	L	
ANALYTICAME PROPERTY		and the first section of the formation of the formation of the first section of the first sec		The state of the s
Analysis Method	No. of Bottles	-	Preservative/	Field Cool
Voc 8260	Volume, Type	Bottle Lot	Volume	Filtered? to 4°C?
-			HCL 1-1	Y 69. 10" N
				YNYN
		_		YNYN
				YNYN
OTHER OBSERVATIONS				
	NA	ME (Print)	Adam Gouda	
		·		
	Sig	SNATURE:	(3)	***************************************
Notes: (1) Described whether well we	s locked and the condition of	44.5		

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

HARDING LAWSON AS	SOCIATES	Sample No.: 5-15
GROUNDWATER SAME		Sample Date: (2/8 - 48
	LE RECORD	Sample Time: 1306
SITE/SAMPLE LOCATION:		
Site Name Allied signal- South Bend		Project No.: 9822.0 Z
Personnel Present: Adam gouda, Pete I	Kaczor	
Activity Start: 1244	Activity End	1:
Weather: 405 Sking Well Type and Location: 4th Graffy		
	. Steek up	
WATER LEVELWELL DATA		
	Water Depth: (from top o	f well casing) feet using (measuring device)
Historical Well Depth:feet	Protective Casing Stickup:	feet Protect. Casing Well
(from ground surface)	(for above-ground s	curface) Casing Difference: feet
Floating Product Thickness:	feet using	
Mall Openity of the second		(measuring device)
Well Condition (see Note 1):	- COCCO	
Measuring Device Decontamination Proced PI Meter ID:		
	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 casino	y volumes = 4-8 gallons to purge
7.44 (→) .65 gal/ft (4 in)		galloris to purge
()gal/ft (- '	
Purge Method (see Note 2):	- bedicold Stades porp.	- disposable bailer
Purge Vol. (gai)		
Time (Min.)	1.60 2.8	<u>4.8</u>
Temperature (C°)	1250 1254	1258
pH (Units)	13.9 13.8	
Conductivity at 25°C (mS/cm)	6.80 6.78 (.80 1.82	6.72
Total Volume Purged		<u> </u>
Water Appearance (describe color, clarity odor:)	1 0/1	
SAMPLING PROCEDURES	bown, 8/by, opaque	E. V. ANDREASSATTIONS
Sampling Procedure (see Note 2):	the purpos dispose	busines
Sample Water Appearance (all		
Sample Water Appearance (color, clari	The Market Control	brown
ANALYTICAL PARAMETERS AND ANALYTICAL PARAMET	the second secon	
	of Bottles	Preservative/ Field Cool
Voc 8260	lume, Type Bottle Lot	Volume Filtered? to 4°C?
		HCL 1-1 Y R Y N
		Y N Y N
		Y N Y N Y N Y N Y N
		Y N Y N Y N Y N
OTHER OBSERVATIONS		
	NAME (Bring)	Adv. O. A
	NAME (Print)	Adam Gouda
	SIGNATURE:	(A)

Described whether well was locked and the condition of the protective casing and concrete collar. (1)

Describe sequence of purging/sampling including equipment type and decontamination method. (2)

HARDING LAWSON ASSOCIATE	S	Sample No.: 25 5/G
GROUNDWATER SAMPLE RECO	חסת	Sample Date: 12/8/44
CROUNDWATER SAMPLE RECU	עאי	Sample Time: 1801
SITE/SAMPLE LOCATION		
Site Name Allied signal- South Bend		Project No.: 9822 .02
Personnel Present: Adam gouda, Pete Kaczor		
Activity Start: 1745	Activity End:	206
Weather: Sunny 45		
Well Type and Location: Sticky 4 gelverises	(
WATER-UEVELWEIE POATAL STEELEN STEELEN		
Well Depth: 21.5 feet using	Water Depth: / 9. Z 3	feet using
(from top of well casing) (measuring device)	(from top of well casin	g) (measuring devi
Historical Well Depth: feet Protective Ca	sing Stickup: feet	Protect. Casing Well
(from ground surface)	(for above-ground surface)	Casing Difference: fee
Floating Product Thickness: feet using		
1	(measurii	ng device)
Well Condition (see Note 1):		
V	uinox-DI water	
PI Meter ID: Ambient Air:	ppm	Well Mouth: ppr
PURGING PROGEDURES 1		
Height of Water () .041 gal/ft (1 in)		Hard to the trade of the second of the second of the second trade of the second of the
Column feet X () .16 gal/ft (2 in) X	casing volumes	= 4.47 gallons to purge
.65 gal/ft (4 in)	-	
() gaint (iii)	11 . 1. 15 1	1 -
Purge Method (see Note 2):	the purp dedicate	ed PUL beiler
Purge Vol. (gal)	3.0	4.42
Time (Min.)	- <u>1757</u> -	
Temperature (C°)		(787
	- <u>14.4</u> -	.4.3
Conductivity at 25°C (mS/cm)	_ <u> </u>	6.92
Total Volume Purged	1.86	1.82
14/-4	gallons	
SAMPLING PROCEDURES AND	of i	
Sampling Procedure (see Note 2):	Pedicted VVC	DOIGN
7,00	regiones ive	P0104
Sample Water Appearance (color, clarity, odor):	Clear	
ANALYTICALIFARAMETERS		
No. of Bottles	Presen	vative/ Field Cool
Analysis Method Volume, Type	Bottle Lot Volu	
Voc 8260 2		L 1-1 Y W N
		YNYN
		YNYN
		Y N Y N
		YNYN
OTHER OBSERVATIONS		
	NAME (Print) Ada	am Gouda
		Godda
	SIGNATURE:	-
	OIGITATURE.	

Described whether well was locked and the condition of the protective casing and concrete collar. (1)

Describe sequence of purging/sampling including equipment type and decontamination method. (2)

HARDING LAWSON AS	SOCIATES		Sample No.:	5-17	
GROUNDWATER SAME		n	Sample Date:	·	V
		J	Sample Time:		<u></u>
SITE/SAMPLE LOCATION STATE STA					and the state of
Personnel Present: Adam gouda, Pete K	/20201		Project No.:	9822.02	
Activity Start: 63 9	aczor	A stitute and			
Weather: Sun 40°		Activity End:	1715		
Well Type and Location: Sich up	4 gdeczed P	v(
WANTEREWIEWERIAW					- 100 mg
Well Depth: 30 feet using	Water	er Depth: 19.7%	feet using	5_/_	٠. ــ
	uring device)	(from top of v		- <u></u>	ring device)
Historical Well Depth:feet	Protective Casing			Casing Well	-
(from ground surface)		(for above-ground su		Difference:	feet
Floating Product Thickness:	feet using				
Well Condition (see Note 1):	. /)		(measuring device)		
Measuring Device Decontamination Procedu	ura. Liquinox	c-DI water			
	Ambient Air:	ppm ppm	Well Mouth:		
PURGING PROCEDURES		PPIII	VVOII IVIOUTI.		ppm
Height of Water () .041 gal/ft (1 in)					
Column feet X () .16 gal/ft (2 in)	, x	3 casing	volumes = 15. 3	gallone to pur	
// 17 (4 in)	7		- John Co	yanona to par	g u
() gaint (_ in)				
Purge Method (see Note 2):	bladder				
Purge Vol. (gal)	6.6	12.5	19.3		
Time (Min.)	1655	1700	1706	- · · · · · · · · · · · · · · · · · · ·	
Temperature (C°)	14.6	14.6	1/00		
pH (Units)	6.98	705	7.07		
Conductivity at 25°C (mS/cm)	.93	- 54	. 95		
Total Volume Purged	gall	llons		· · · · · · · · · · · · · · · · · · ·	
Water Appearance (describe color, clarity odor:)	clear Slight	t grey trunsh	unt		
SAMPEING PROCEDURES Sampling Procedure (see Note 2):					
oditipling Flocedule (see Note 2).	bladar po	mb —	**		
Sample Water Appearance (color, clarit	ty, odor):	one as abou	~		
ANALYTICALPARAMETERS					
	o. of Bottles	The state of the s	Preservative/	Adjust 1 . Mart and	Coot
		Bottle Lot	Volume	Filtered? to	o_4°C?
<u>Voc</u> <u>8260</u>			HCL 1-1		D N
				YNY	• ••
				YNY	• • •
				YNY	• • •
OTHER OBSERVATIONS					
· · · · · · · · · · · · · · · · · · ·	NAI	ME (Print)	Adam Gouda ,		
	""	— (inity —	Adam Gouda		
	sig	NATURE:	(0)		
	-	=			

(1)

Described whether well was locked and the condition of the protective casing and concrete collar.

Describe sequence of purging/sampling including equipment type and decontamination method. (2)

HARDING LAWSON ASS	OCIATES		Sample No	: 5-ZC)
GROUNDWATER SAN	MPLE RECORI	D	Sample Date		98
SUE/SAMPPERFOCATION CONTRACTOR	Province and the second		Sample Time		.
Site Name: Allodsignal	South Bend	A CONTRACTOR OF THE SERVICE OF THE S	Project No.		
Personnel Present: VMAST	Gouda		1 10,000 140.	: <u>9822.</u>	<u> </u>
Activity Start: (634		Activity End	1656		
Veather: 405, ove react	7 7				
Nell Type and Location: 4" ga	IV flush moun	+			
WATER LEVEE WEDE DAWN					
Vell Depth: 15.4 feet using 5 (from top of well casing) (m	p(いっぱー Wat easuring device)	er Depth: 15.4		Su(1)	ret
Bakanian Akki II m	·	(from top of	well casing)	(measur	ing devi
(from ground surface)	Protective Casing		-	Casing Well	
loating Product Thickness:	feet using	(for above-ground s	urrace) Casing	Difference:	fee(
	loot daing		(measuring device)		
Vell Condition (see Note 1): علا	needs lock		(moddamig dovice)		
leasuring Device Decontamination Pro	cedure:				
I Meter ID:	Ambient Air:	ppm	Well Mouth:		ppr
URGING PROCEDURES AND A		位是 以 是1000000000000000000000000000000000000			
eight of Water ().041 gal/ft(1 in)		रहार प्राप्त का एक सम्बद्ध स्था स्थापना स्थापना स्थापना स्थापना स्थापना स्थापना स्थापना स्थापना स्थापना स्थापन स्थापना	technic resistance for a	
olumn feet X () .16 gal/ft (2		3 casing	volumes = 5.6	galions to pur	ae
2, 86 (x) .65 gal/ft (4	4				J -
gal/ft ()gal/ft urge Method (see Note 2):	Control Standor	O)			
	100,0	my	······································		
urge Vol. (gal)	1.8	3.7	5/		
urge Vol. (gal) me (Min.)	1.8	3.7	5.6		
- · · · · · · · · · · · · · · · · · · ·	1638	1641	1644		
me (Min.)	(2.1	18.9	12.3		
me (Min.) emperature (C°)	1638	15.9	1644 12.3 7.05		
me (Min.) emperature (C°) H (Units) conductivity at 25°C (umhos/cm) otal Volume Purged	(638 (2.1 7.09 (.48	18.9	12.3		
me (Min.) emperature (C°) I (Units) conductivity at 25°C (umhos/cm) otal Volume Purged ater Appearance (describe color, clarity odor.)	1638 (2.1 7.09 (.48 ga	1641 18.9 2.09	1644 12.3 7.05		
me (Min.) emperature (C°) I (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged ater Appearance (describe color, clarity odor.)	(438 (2.1 7.09 (.48 ga Cleer ev	1641 18.9 2.09 1000 15 Like odo (1644 12.3 7.05		
me (Min.) emperature (C°) I (Units) conductivity at 25°C (umhos/cm) otal Volume Purged ater Appearance (describe color, clarity odor.)	638 (2.1 7.09 (.48 ga Cleer ex	1641 18.9 2.09 1000 15 Like odo (1644 12.3 7.05 1,49		
me (Min.) emperature (C°) H (Units) enductivity at 25°C (umhos/cm) etal Volume Purged eater Appearance (describe color, clarity edon.) AMPLING:PROCEDURES.	1638 (2.1 7.09 1.48 — ga — Cleer ee Addicatest b	1641 18.9 2.09 	1644 12.3 7.05 1,49		
me (Min.) emperature (C°) H (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged ater Appearance (describe color, clarity odor.) MPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, color,	1638 (2.1 7.09 (.48 ga Cleer ex dedicated b	1641 18.9 18.09 19 Like odor	1644 12.3 7.05 1,49		
me (Min.) emperature (C°) H (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged ater Appearance (describe color, clarity odor.) MPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, color,	1638 (2.1 7.09 (.48 	1641 18.9 18.09 19 Like odor	1644 12.3 7.05 1,49		
me (Min.) emperature (C°) H (Units) enductivity at 25°C (umhos/cm) etal Volume Purged eater Appearance (describe color, clarity edon.) AMPLING:PROCEDURES.	1638	1641 18.9 2.09 200 1.46 15 like odor		Field	Cool
me (Min.) emperature (C°) I (Units) Inductivity at 25°C (umhos/cm) etal Volume Purged ater Appearance (describe color, clarity odor:) MPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity color, clarity color)	1638 (2.1 7.09 (.48 	1641 18.9 18.09 19 Like odor	IGUY IZ.3 7.05 I, 49 Preservative/ Volume	Field Filtered? to	4°C?
me (Min.) emperature (C°) I (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged atter Appearance (describe color, clarity odor.) AMPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity color) ANALYTICAL PARAMETERS Analysis Method	1638 (2.1 7.09 (.48 ga Cleev ev Addicated bottles Clarity, odor):	1641 18.9 2.09 200 1.46 15 like odor		Field Filtered? to	94°C?
me (Min.) emperature (C°) I (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged atter Appearance (describe color, clarity odor.) AMPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity color) ANALYTICAL PARAMETERS Analysis Method	1638 (2.1 7.09 (.48 ga Cleev ev Addicated bottles Clarity, odor):	1641 18.9 2.09 200 1.46 15 like odor	IGUY IZ.3 7.05 I, 49 Preservative/ Volume	Field Filtered? to	4°C? N N
me (Min.) emperature (C°) d (Units) onductivity at 25°C (umhos/cm) otal Volume Purged ater Appearance (describe color, clarity odor.) MPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity color) Analysis Method	1638 (2.1 7.09 (.48 ga Cleev ev Addicated bottles Clarity, odor):	1641 18.9 2.09 200 1.46 15 like odor	IGUY IZ.3 7.05 I, 49 Preservative/ Volume	Field Filtered? to Y N Y N Y	04°C? N N N
me (Min.) emperature (C°) H (Units) Onductivity at 25°C (umhos/cm) Otal Volume Purged atter Appearance (describe color, clarity odor.) AMPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity odor.) Analysis Method 8 260	1638 (2.1 7.09 (.48 ga Cleev ev Addicated bottles Clarity, odor):	1641 18.9 2.09 200 1.46 15 like odor	IGUY IZ.3 7.05 I, 49 Preservative/ Volume	Field Filtered? to Y W Y Y N Y Y N Y	4°C? N N N N
me (Min.) emperature (C°) H (Units) Onductivity at 25°C (umhos/cm) Otal Volume Purged atter Appearance (describe color, clarity odor.) AMPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity odor.) Analysis Method 8 260 HER OBSERVATIONS	1638 (2.1 7.09 (.48 ga Cleev ev Addicated bottles Clarity, odor):	1641 18.9 2.09 200 1.46 15 like odo	Preservative/ Volume	Field Filtered? to Y N Y Y N Y Y N Y	04°C? N N N N
me (Min.) emperature (C°) If (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged ater Appearance (describe color, clarity odor.) AMPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity odor.) Analysis Method VOL 8760 HER OBSERVATIONS P 1:30	1638 (2.1 7.09 (.48 ga Cleev ev Addicated b Clarity, odor): No. of Bottles Volume, Type 40 ml (2)	1641 18.9 2.09 200 1.46 15 like odo	IGUY IZ.3 7.05 I, 49 Preservative/ Volume	Field Filtered? to Y N Y Y N Y Y N Y Y N Y	4°C? N N N N N
me (Min.) emperature (C°) H (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged ater Appearance (describe color, clarity odor.) MPLINGIPROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, color) Analysis Method VOLUME PARAMETER HER OBSERVATIONS 9 - 1.30 1 - 3.00	1638 (2.1 7.09 (.48 ga Cleev ev Addicated b Clarity, odor): No. of Bottles Volume, Type 40 ml (2)	Is 41 IS.9 Is.09 Sof 1.46 Adder	Preservative/ Volume	Field Filtered? to Y N Y Y N Y Y N Y Y N Y	4°C? N N N
me (Min.) emperature (C°) If (Units) conductivity at 25°C (umhos/cm) cotal Volume Purged ater Appearance (describe color, clarity odor.) AMPLING:PROCEDURES Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity odor.) Analysis Method VOL 8760 HER OBSERVATIONS P 1:30	1638 (2.1 7.09 (.48 ga Cleev ee Addicated bottles Cleev ee Addicated bottles No. of Bottles Volume, Type 40 ml (2)	Is 41 IS.9 Is.09 Sof 1.46 Adder	Preservative/ Volume	Field Filtered? to Y N Y Y N Y Y N Y Y N Y	4°C? N N N N N

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HARDING LAWSON ASS	OCIATES		Sample No.	: 5-21	
GROUNDWATER SAMP		n	Sample Date		198
			Sample Time		<u> </u>
SITE/SAMPLE LOCATION					
Site Name Allied signal- South Bend Personnel Present: Adam gouda, Pete Ka			Project No.	: 9822 .0て	P
Activity Start: 1445	CZOr				
Weather: 40: p. ganry		Activity End			
Well Type and Location:	nized flush				
WATERLEVEUWELLDAYA			LUCKE CHRONING BOARDENS OF BOOK BASSONS AND		
Well Depth: 23,4 feet using		er Depth:			
	ng device)	·	well casing) feet using		ring device)
Historical Well Depth: feet	Protective Casing				ing device)
(from ground surface)	1 Totodaye dasing	(for above-ground si		Casing Well Difference:	
Floating Product Thickness:	feet using		Casing	Dinerence: —	Teet
		·	(measuring device)		
Well Condition (see Note 1):	and a				
Measuring Device Decontamination Procedure	e: Liquino:	(-DI water			
Pi Meter ID:	mbient Air:	— ppm	Well Mouth:	· · · · · ·	ppm
PURGING PROCEDURES					
Height of Water () .041 gal/ft (1 in)		-		Property of the selection of	
Column feet X () .16 gal/ft (2 in)	X	casing	volumes = 13.2	gallons to pur	rge
(A) .65 gal/ft (4 in)			 ;	.•	\
Purge Method (see Note 2):	in) n 1: L) // //			į
. algo method (see Note 2).	JAN ICITES	Iledder p	n h		
Purge Vol. (gal)	u.u	00	177		
Time (Min.)			13.2	·	
Temperature (C°)	1502	1514		·	
pH (Units)	7.43	15.3 11.6 7.40	-		
Conductivity at 25°C (mS/cm)	1.48				
Total Volume Purged		<i>[.53</i>		 	
Water Appearance (describe color, clarity odor:)	94	10113			
SAMPLING PROCEDURES TO THE PROPERTY OF THE PRO					
Sampling Procedure (see Note 2):	Redica		carp.	and the second	
		Signo	μη.		
Sample Water Appearance (color, clarity,	odor): <u>clea</u>				
ANALYTICAL PARAMETERS	Povis property		TO SELECTION OF THE PROPERTY OF THE		
A 1 1	of Bottles	Viant 10	Preservative/	Field	Cool
	ne, Type	Bottle Lot	Volume	Filtered? to	o 4°C?
<u>Voc</u> <u>8260</u>			HCL 1-1	Y PO	O N
				Y N Y	/ N
				YNY	
			·	YNY	/ N -
OTHER OBSERVATIONS			· · · · · · · · · · · · · · · · · · ·	Y N Y	/ N
1-3:00	1	ME (5) ()			
V- 4:00	NA NA	ME (Print)	Adam Gouda		
J690F		N. A. T. J. C. T.	m	-	
	SIG	NATURE:		<u> </u>	

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	Sample No.: 5 - 2.7
_	
GROUNDWATER SAMPLE RECO	Sample Time: 16.10
SDESAMPLEFOCATION	
	414 Project No.: 9812-02
Personnel Present: Alan borda Peter hace	
Activity Start:	Activity End:
Weather: Class 70°	
	chup
WATERDEVERWEREDAVAN	
Well Depth: Z6.0Dfeet using (from top of well casing) (measuring device)	Water Depth: /5.62 feet using (measuring device)
	(
(from ground surface)	(for shove ground curiose)
Floating Product Thickness: feet using	(IN above-ground surface) Casing Difference:
	(measuring device)
Well Condition (see Note 1):	•
Measuring Device Decontamination Procedure:	
PI Meter ID: Ambient Air:	ppm Well Mouth:ppm
RURGINGPROCEDURES	
Height of Water () .041 gal/ft (1 in)	
Column feet X () .16 gal/ft (2 in)	casing volumes = 70.2 gallons to purge
(O4 .65 gal/ft (4 in)	
Purge Method (see Note 2):	h1 41 41c a
yeare	ted bladder pump
Purge Vol. (gal)	13.4 20.2
Time (Min.)	1600 1605
Temperature (C°)	12.1 //.8
pH (Units) 7.03	6.99 7.00
Conductivity at 25°C (umhos/cm)	1.37 1.76
Total Volume Purged	gallons
Water Appearance (describe color, clarity odor:)	
SAMPLINGPROCEDURES	
Sampling Procedure (see Note 2):	d bladder our
Sample Water Appearance (color, clarity, odor):	
ANNEAUGHER PROPERTY OF THE PRO	There is the second of the sec
No. of Bottles	Preservative/ Field Cool
Analysis Method Volume, Type VV 826s Z	Bottle Lot Volume Filtered? to 4°C?
000 0000	ACL 1-1 Y @ @ N
	Y N Y N Y N Y N
	Y N Y N
	Y N Y N
OTHER OBSERVATIONS	
P- 7:00	NAME (Print) Alam back
45 4:00	The state
P)I·40	SIGNATURE:
	The state of the s

Described whether well was locked and the condition of the protective casing and concrete collar. Notes: (1)

Describe sequence of purging/sampling including equipment type and decontamination method. (2)

HARDING LAWS	ON ASSOC	CIATES		Sample N	10.: S-Z3
GROUNDWAT			NDN	Sample Da	ate: 10/12/48 12/10/93
	CIL OAWIE	LL NECO	บกบ	Sample Tir	ne: /63a
SITE/SAMPLELOCATION		TENERS ALEYS			
Site Name: Allied Personnel Present:		in send 14	Ч	Project N	10.: 9822.02
	lan brake	Pete haced			
	100		Activity En	d: /635	
Well Type and Location:		sclucnyed	stid up		
WATERSEEVERWEREDA			STORE WARRANTED WAY	and the second section is a second se	
Well Depth: 28.2 fee	The second secon	A STATE OF THE STA	Water Depth:		
(from top of well casing)	·	ring device)		? 7 feet us	(measuring device)
Historical Well Depth:	feet	Protective C	asing Stickup:	<u>.</u>	t. Casing Well
(from groun	nd surface)		(for above-ground		ing Difference: feet
Floating Product Thickness	:	feet using	_		——————————————————————————————————————
144 M 🙃			0	(measuring device)	
Well Condition (see Note 1)		_ 9	act		
Measuring Device Deconta PI Meter ID:	mination Procedu				
		Ambient Air:	ppm	Well Mou	th:ppm
PURGING PROCEDURES Height of Water (AND AND AND ASSESSMENT OF THE PROPERTY.		ere son son en	AND THE RESERVE OF THE PERSON
	.041 gal/ft (1 in)		7		
	.16 gal/ft (2 in) 65 gal/ft (4 in)	×	casing	g volumes = /8-	gallons to purge
9.21	gal/ft (in)			
Purge Method (see Note 2):		Dedic	Hea blibder	~ ~ o	
Purge Vol. (gal)		6.0	12.0	12.8	
Time (Min.)		1619	1621	1676	
Temperature (C°)		13.2	17.5	/3./	
pH (Units)		7.16	7.17	7.12	
Conductivity at 25°C (umhos	s/cm)	117.	,702	.677	
Total Volume Purged			gallons		
Water Appearance (describe co		clear			
SAMPLING PROCEDURES Sampling Procedure (s	Note 2	ت روا می است			
Campling Procedure (see Note 2):	Hedir	ited blusher pi	'~P	
Sample Water Appear	ance (color, clarit	v. odor):			
ANALYTICALIPARAMIETE					
	No	of Bottles	2000 A	Preservative/	
	thod Vol	ume, Type	Bottle Lot	Volume	Field Cool Filtered? to 4°C?
<u> VCC 87</u>	60	2	-	HCL 1-1	Y (N) (Y) N
					YNYN
					Y N Y N
					Y N Y N »
OTUED ODDEDING					Y N Y N
OTHER OBSERVATIONS				and	
U-4:00			NAME (Print)		
20955				11.	/ /
/UTIV ·		₹.	SIGNATURE:	HACM	pode

Described whether well was locked and the condition of the protective casing and concrete collar. (1)

Describe sequence of purging/sampling including equipment type and decontamination method. (2)

HARDING LAWSON ASSOCIATE	S	Sample No.: 12	1-198 S24
GROUNDWATER SAMPLE RECO		Sample Date: 18	2-10-98
	, KU	Sample Time:	143
SITE/SAMPLE:LOCATION Site Name Allied signal- South Bend			
Personnel Present: Adam Gouda, Pete Kaczor		Project No.:	9822.02
Activity Start: 1733	Activity End		
Weather: dark, 25°	Activity End:		
Moll Time and a silver in the	went		
WATER LEVEL WELL DATA	Marin day of the same of the s	dichining son dinodisioning at Programme delice	
	Water Depth: 17.2(
(from top of well casing) (measuring device)	(from top of well casin	feet using	Solinst (measuring device)
Historical Well Depth:feet Protective Cal	• •	•	
(from ground surface)	(for above-ground surface)	Protect. Casi Casing Diff	
Floating Product Thickness:feet using	(.o. and o growing normally)	Casing Dir	rerence; rest
	(measur	ring device)	
Well Condition (see Note 1): OK lacks A	, .	g 22 ,	
	inox-DI water		
PI Meter ID: Ambient Air:	ppm	Well Mouth:	ppm
PURGING PROCEDURES	- Male will be an incommental than the second secon	lankli etc. Sijkajliklinijagakojas mis	water administration
Height of Water () .041 gal/ft (1 in)			
Column feet X () .18 gal/ft (2 in) X	3 casing volumes	s = <u> 1.15</u> gal	llane to nurse
() .65 gal/ft (4 in)		3 - <u> </u>	ions to buide
4.19 (χ) , 047 gal/ft (1.5 in)	(, () , ,		
Purge Method (see Note 2):	ted bladder pump	,	
	· · · · · · · · · · · · · · · · · · ·		
Purge Vol. (gal)		1.2	
Time (Min.) 1737	_ <u>1739</u> _	1741	
	<u> 12.2</u>	12.4	
pH (Units) 6.82	6.78	6.79	
Conductivity at 25°C (mS/cm) 2-6 2	270	2.71	
Total Volume Purged (-3	gallons		
Water Appearance (describe color, clarity odor.)			
		Part of the Part o	
Sampling Procedure (see Note 2):	a bladder punp		**************************************
ANALYTICAL PARAMETERS	يهيبك والمتراول فالمترار والمارا المتراوا المتراوا المتراوا المتراوا المتراوا		
No. of Bottles			Field Cool
Analysis Method Volume, Type VOC 8260 2			tered? to 4°C?
		CL Y	
		Y	• • • • • • • • • • • • • • • • • • • •
		Y	
		Y	NYN
OTHER OBSERVATIONS	T	·	14 1 1.
V - 330			
P-230	NAME (Print) Ac	dam Gouda/Peter K	(aczor
ST -25	SIGNATURE:		

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

HARDING LAWSON ASS	COCIATES		Samula Ma	: 5-25
			Sample No Sample Date	
GROUNDWATER SAI	MATE KECO	PRD	Sample Date	
SITESAMPLELOCATION	Maria La de Santos de La como			
Site Name: Allied Signet -	- South bend	14 14	Project No	
Personnel Present: Ala Gove		W		: <u>4872.68</u>
Activity Start: 1650		Activity E	nd: 1765	
Weather: _class 30			110.	
Well Type and Location:	OVC Stickey	flush more it		
WATER ENEMBERED AND A STATE OF		PROPERTY AND A STREET	verania anno di perina di samon	
Well Depth: 76.8 feet using	The state of the s	Water Depth: /6	45 feet usin	
(from top of well casing) (n	neasuring device)		of well casing)	(measuring device)
Historical Well Depth: - feet	Protective C	asing Stickup: —		
(from ground surface)		(for above-ground		Casing Well g Difference: — feet
Floating Product Thickness:	_ feet using		Casing	g Difference:feet
			(measuring device)	·
Well Condition (see Note 1):	grace	locked		
Measuring Device Decontamination Pro	cedure:			
PI Meter ID:	Ambient Air:	ppm	Well Mouth	ppm
PURGING PROCEDURES -				A STORES AND A STORE AND A
Height of Water () .041 gal/ft		State and Sale of the Assessment Party	tion Digitaling in in the comment of the first	
Column feet X () .16 gal/ft (2	2 in) x	casi	ng volumes = 2.9	gailons to purge
ነ ካ ዓ ረ ().65 gai/ft (4	lin)		211	_ agricus to buide
042 gal/ft	(1.5 in)			
Purge Method (see Note 2):	ledi	rotes Sludder	brob	
Purge Vol. (gal)		/ 43		
Time (Min.)	_095	1.90	7.85	
Temperature (C°)	13.0	<u> 1657</u>	1659 1	
pH (Units)		13.5	13.3	<u>-</u>
Conductivity at 25°C (umhos/cm)	<u> </u>	6.74	6.82	
Total Volume Purged	1.42	1.66	1.66	
Water Appearance (describe color, clarity odor:)		gallons		
SAMPLING PROCEDURES: Sampling Procedure (see Note 2):				
7 2).	пери	ited bladder	purp	
Sample Water Appearance (color,	clarity, odor): egg	-like odor, sus	0. 101	1
ANALYMOALERA AMERICA		11 12 20 WI 7 745	pended particula	<i>\$66</i>
the state of the s	No. of Bottles	全世代 医多种小 中国人们的最后的	क र प्रकेशकाल अवस्थित संबंधित है।	
Analysis Method	Volume, Type	Bottle Lot	Preservative/ Volume	Field Cool Filtered? to 4°C?
<u>vol</u> 8260	Z 40 m		HCL 1-1	Filtered? to 4°C? Y (A) (A) N
			1100 1-1	YNYN
				Y N Y N-
				YNYN
				Y N Y N -
OTHER OBSERVATIONS			11 /	Α
25 PG(NAME (Print)	Alan L	orda
P 2:00			- For the second	//
V 4:00		SIGNATURE:	- Aug	
			-(U)	

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

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HARDING LAWSON AS			Sample No.: Sample Date:	
GROUNDWATER SA	AMPLE RECUKI)	Sample Time:	10/2/44 12:10.
SITE/SAMPLE LOCATION				
Site Name: Allied Signal Personnel Present:			Project No.:	9877.67
Activity Start: 1710	alm bout retir	Activity End:	1723	
Weather: Cloud y		Tioning Line.	1103	
Well Type and Location: 1.5	" PUC flowt			
Wanesqueverweeler variety	A PARTY AND			States with the control of the contr
Well Depth: 27.9 feet using(from top of well casing)		er Depth: /5.8 (from top of w	7 feet using	Sobンナ (measuring device
Historical Well Depth: fe fe (from ground surface)	eet Protective Casing		eet Protect. C	asing Well
Floating Product Thickness:	feet using		Casing i	Difference:feet
		(measuring device)	
Well Condition (see Note 1):	gard			
Measuring Device Decontamination (PI Meter ID:				
	Ambient Air:	ppm	Well Mouth:	ppm
PURGINGERROCEDURES				State of the state
Height of Water () .041 gal Column feet X () 16 gal/f		<u> </u>		
Column feet X () .16 gal/fi 65 gal/fi () .65 gal/fi (casing v	olumes = <u>7. 7</u> g	gallons to purge
() .05 gain	al/ft (1.5 in)			
Purge Method (see Note 2):	Pediat	ed blilder	Ou Ly	
Purge Vol. (gal)	,73	1.46	7.2	_
Γime (Min.)	1713	1717	1719	
Temperature (C°)	11.9	12.5	12.4	
pH (Units)	7.09	6.92	6.97	
Conductivity at 25°C (umhos/cm)	1.13	1.11	1112	
Total Volume Purged	gal	lons		
Vater Appearance (describe color, clarity od				
Sampling Procedure (see Note 2			MANAGEMENT OF STREET	Rage - F
		re bleddy p	Julp	
Sample Motor Assessed	or, clarity, odor):			
Sample Water Appearance (cold			· · · · · · · · · · · · · · · · · · ·	
	Total Comments and the second	A L. Control Section S.	the state of the s	disconnection of the second of the second
MMMARCAEIRAKAMETERES.	No. of Bottles	of the control of the factors are	Preservative/	
Analysis Method	Volume, Type	Bottle Lot	Preservative/	Field Cool
MMMARCAEIRAKAMETERES.	No. or bottles		Preservative/ Volume	Field Cool Filtered? to 4°C?
Analysis Method	Volume, Type		Preservative/ Volume HCL \-I	Field Cool Filtered? to 4°C?
Analysis Method	Volume, Type		Preservative/ Volume #CL \-	Field Cool Filtered? to 4°C? Y &
Analysis Method	Volume, Type	Bottle Lot	Preservative/ Volume HCL \-	Field Cool Filtered? to 4°C? Y
Analysis Method Voc 9260	Volume, Type		Preservative/ Volume HCL \-	Field Cool Filtered? to 4°C? Y &
Analysis Method	Volume, Type	Bottle Lot	Preservative/ Volume HCL \-	Field Cool Filtered? to 4°C? Y M O N Y N Y N Y N Y N Y N Y N Y N Y N

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

HARDING LAWSON ASSOCIATES	Sample No.:	20
GROUNDWATER SAMPLE RECORD	Sample Date:	12/8/98
	Sample Time:	1831
SITE/SAMPLE LOCATIONS AND	HARRAMAN CONTRACTOR	
Site Name Allied signal- South Bend	Project No.: 9	822.02
Personnel Present: Adam gouda, Pete Kaczor	_	
Activity Start: 1428 Activity End:		
Weather: Sunn 45' Well Type and Location: [].mat Challet all the interest 5" Challet		
	y PUC	
WATERLEVELWEELDANA		
Well Depth: 19 feet using Water Depth: 18,47	feet using	Solinod
(from top of well casing) (measuring device) (from top of well casing)		(measuring device)
Historical Well Depth: feet		_
(from ground surface) (for above-ground surface)		oifference: feet
Floating Product Thickness: feet using		
	suring device)	
Well Condition (see Note 1):		
Measuring Device Decontamination Procedure: Liquinox-DI water PI Meter ID: Ambient Air: 100 Procedure: 100 Pr		
ppm	Well Mouth:	ppm
PURGING PROCEDURES		
Height of Water () .041 gal/ft (1 in)	- 4.4	
A / RE colle /4 in	mes = <u>46.87</u> g	allons to purge
() .65 gal/ft (4 in)		
1 (/1// yairi (1:2 in)		
Filide Wejudu (288 MUIS A). 770 A		
Purge Method (see Note 2):		
	111 67	
Purge Vol. (gal)	46.87	
Purge Vol. (gal) Time (Min.) 1450 1518	1542	
Purge Vol. (gal) Time (Min.) Temperature (C°) 15.62 30.10 1450 1518 13.2,	1542	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) 15.62 30.10 1450 1518 13.7 6.76 6.76 6.95	542 12.60 6.99	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Tetal Volume Purged	1542	
Purge Vol. (gal) 15.62 30.10 Time (Min.) 1450 1518 Temperature (C°) 15.12 13.2 pH (Units) 6.16 0.95 Conductivity at 25°C (mS/cm) 1.34 1.32 Total Volume Purged gallons	1542 12.6 6.99 1.31	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor:) 15.62 30.10 1518 13.2 13.2 13.2 1.32 1.32 gallons	1542 12.6 6.99 1.31	
Purge Vol. (gal) 5.62 30.10 Time (Min.) 1450 1518 Temperature (C°) +=-12.1 13.2, pH (Units) 6.16 0.95 Conductivity at 25°C (mS/cm) 1.34 1.32 Total Volume Purged gallons Water Appearance (describe color, clarity odor;) Qeal SU34+ eggy SAMPLING PROCEDURES Quality Su34+ eggy	1542 12.6 6.99 1.31	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor:) 15.62 30.10 1518 13.2 13.2 13.2 1.32 1.32 gallons	1542 12.6 6.99 1.31	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor;) Sampling Procedure (see Note 2): \$\frac{15.62}{1950} \frac{30.10}{1518} \frac{13.2}{13.2} \\ \$\frac{1.37}{1.37} \frac{1.37}{1.37} \\ \$\frac{1.37}{200} \frac{1.37}{200} \frac{1.37}{2	1542 12.6 6.99 1.31	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor.) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor):	1547 12.6 6.99 1.31 alor	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor.) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor):	1547 12.6 6.99 1.31 ador	
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor;) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Application No. of Bottles Pre	/547 2.6 6.99 1.31 Ador	Field Cool
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor:) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): No. of Bottles Analysis Method Volume, Type Bottle Lot	1547 2.66 6.99 1.31 Alor servative/ olume F	filtered? to 4°C?
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor:) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): No. of Bottles Analysis Method Volume, Type Bottle Lot	1547 12.6 6.99 1.31 ador ador servative/ folume F	Filtered? to 4°C?
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor:) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): No. of Bottles Analysis Method Volume, Type Bottle Lot	/547 /2.6 6.99 1.31 Aor servative/ /olume F	Filtered? to 4°C? Y N Y N Y
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor:) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): No. of Bottles Analysis Method Volume, Type Bottle Lot	1547 2.60 6.99 1.31 Alor Servative/ Volume F	Filtered? to 4°C? Y N Y N Y N Y N
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor:) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): No. of Bottles Analysis Method Volume, Type Bottle Lot	1547 2.60 6.99 1.31 Ador Servative/ Volume F	Filtered? to 4°C? Y N Y N Y N Y N Y N Y N Y N Y N
Purge Vol. (gal) Time (Min.) Temperature (C°) PH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor.) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): No. of Bottles Pre Analysis Method Volume, Type Bottle Lot Voc 8260 2	1547 2.60 6.99 1.31 Ador Servative/ Volume F	Filtered? to 4°C? Y N Y N Y N Y N Y N Y N Y N Y N
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor;) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Analysis Method Volume, Type Bottle Lot Voc 8260 2 OTHER OBSERVATIONS J - 7:00	1547 12.60 6.99 1.31 ador ador servative/ folume F	Filtered? to 4°C? Y N Y N Y N Y N Y N Y N Y N Y N
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor;) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Analysis Method Volume, Type Bottle Lot Voc 8260 2 OTHER OBSERVATIONS J - 7:00	1547 2.60 6.99 1.31 Ador Servative/ Volume F	Filtered? to 4°C? Y N Y N Y N Y N Y N Y N Y N Y N
Purge Vol. (gal) Time (Min.) Temperature (C°) pH (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Water Appearance (describe color, clarity odor.) Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): Sample Water Appearance (color, clarity, odor): ANALYTICALIPARAMETERS No. of Bottles Pre Analysis Method Volume, Type Bottle Lot Voc 8260 2 OTHER OBSERVATIONS 7:500	1547 12.60 6.99 1.31 ador ador servative/ folume F	Filtered? to 4°C? Y N Y N Y N Y N Y N Y N Y N Y N

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

HARDING LAWSON ASSOCIATES	Sample No.: 4D
GROUNDWATER SAMPLE RECORD	Sample Date: 12/4/44 (PE)
	Sample Time: No Sample
SITE/SAMPLE LOCATIONS Site Name Allied signal- South Bend	
Personnel Present: Adam gouda, Pete Kaczor	Project No.: 9822 .0.2
Activity Start: Activity End:	
Weather: Sugar 40°	
Well Type and Location: 1.5" PVC Mannole / Joseph of Boych	
WATERINETINE	
Well Depth: 162.70 feet using 20,5 Water Depth:	feet using
(from top of well casing) (measuring device) (from top of well	
Historical Well Depth: feet Protective Casing Stickup: feet	eet Protect. Casing Well
(from ground surface) (for above-ground surface)	i i o i o do i i g v v c ii
Floating Product Thickness: feet using	
	measuring device)
Well Condition (see Note 1): Good locked	_
Measuring Device Decontamination Procedure: Liquinox-DI water	
PI Meter ID: 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 vo	olumes = 47.52 gallons to purge
() .65 gal/ft (4 in)	Jumes = 775 gallons to purge
\ \\(\frac{\frac{1}{\frac{\frac{1}{\fr	
Purge Method (see Note 2): D. dalder pump	
Purge Vol. (gal) / 5.84 30.00 Time (Min.)	47.52
Temperature (C°)	
pH (Units)	
Conductivity at 25°C (mS/cm)	
Total Malares D.	
Vater Appearance (describe color, clarity odor:) gallons •	
SAMPLINGIPROCEDURES TO WAR TO THE TOTAL TO THE TOTAL TOTAL TO THE TOTAL	
· · · · · · · · · · · · · · · · · · ·	
Sampling Procedure (see Note 2):	
Sample Water Appearance (color, clarity, odor):	
	Preservative/ Field Cool
Analysis Method Volume, Type Bottle Lot	Volume Filtered? to 4°C?
Voc 8260 2	HCL 1-1 Y (1) (2) N =
	Y N Y N
	Y N Y N 🕫
	Y N Y N =
	Y N Y N≫
OTHER OBSERVATIONS	
unable to sample - water trickling NAME (Print)	Adam Gouda
out of pump	
SIGNATURE:	
	

Described whether well was locked and the condition of the protective casing and concrete collar. (1)

Describe sequence of purging/sampling including equipment type and decontamination method.

HARDING LAWSON ASS	OCIATES			
GROUNDWATER CAN	DUALES		Sample	
GROUNDWATER SAM	IPLE RECO	RD	Sample [10/10/4
SILESAMPLE FOCATION OF THE SILESAMPLE FOCATION O			Sample T	
Site Name: Allow Signer 5.13.	74 LV		SECTION	
Personnel Present:		~	Project	No.: 99 [2.02
Activity Start: 1370	780	Activity E	End:	
Weather: chad 7 750		- Activity C		
Well Type and Location: 1.5" PV				
WANTERSTENDENCE FOR STANKING OF				POST-CONTENT CONTENT C
Well Depth: 192. Z feet using	-	Water Depth: 2	7.59 feet u	
	easuring device)		p of well casing)	(measuring device
Historical Well Depth: feet	Protective C	asing Stickup:		_
(from ground surface)		(for above-ground		ct. Casing Well sing Difference: feet
Floating Product Thickness:	feet using		, 54	mig Difference.
Well Co			(measuring device)	
Well Condition (see Note 1):	ove		- •	
Measuring Device Decontamination Proc	edure:			
PI Meter ID:	Ambient Air:	ppm	Well Mor	uth: ppm
PURGING PROCEDURES NO.			Salar da Baratan de La Caracteria.	
Height of Water () .041 gal/ft (1	•		Section of the sectio	Marie fit is experiment. The fit is to
Column feet X () .18 gal/ft (2 i		cas	ing volumes = $\frac{97.4}{2}$	p gallons to purge
() .65 gal/ft (4 i			·	
Purge Method (see Note 2):	1.5 (n)	1		
	· Hedid	ted bladber	dand	
Purge Vol. (gal)	15.69	31.0		
Time (Min.)	1354		_ 47.0	
Temperature (C°)	13.1			
pH (Units)	7.1	<u> 10.8</u> 7.23	10.6	
Conductivity at 25°C (umhos/cm)	1.31	1.31	_ <u>7.37</u>	
Total Volume Purged			74	
Water Appearance (describe color, clarity odor:)	Clear	_gallons <u>Lagy of of</u>		
SAMPLINGPROCEDURES	PARTITION OF THE PARTIT		In the second second second second	
Sampling Procedure (see Note 2):	_ Oed. ?	the same of the real of the contract the second of the contract the second of the contract the second of the contract the		
		- June	10 m	
Sample Water Appearance (color, cl				
ANALYTICALIBRICANE LERBIN	2. 对对的 多点 法 \$P\$ 意识 (1)	nse way a now harmed a	ne la challactura de la sasse de conse	
	No. of Bottles	THE STATE OF THE S	Preservative/	Field Cool
Analysis Method	√olume, Type	Bottle Lot	Volume	Field Cool Filtered? <u>to</u> 4°C?
VOL 9760			4CL 1-1	A ON N
				Y N Y N.
				YNYN
				YNYN
OTHER ODDERWARIONS				YNYN
OTHER OBSERVATIONS			1 1	
		NAME (Print)	Aden	boucle
			-a1	
•	- '.	SIGNATURE:		

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

HARDING LAWSON ASSOC	IATES	Sample No.: 70
GROUNDWATER SAMPLE R		Sample Date: 12/8/94
		Sample Time: 1311
SITE/SAMPLE LOCATION		
Site Name Allied signal- South Bend Personnel Present: Adam gouda, Pete Kaczor		Project No.: 9822.02
3		
Activity Start: 11:20 Weather: Support (15)	Activity End:	1320
Well Type and Location: Stick -UV		
WATER LEVELWELL DATA		
Well Depth: 95.1 feet using (measuring device)	Water Depth:/ 8. 9	7 feet using Schast.
	(casing) (measuring device)
Historical Well Depth: feet Prote	ective Casing Stickup:fee	
(from ground surface)	(for above-ground surfac	ce) Casing Difference: — feet
Floating Product Thickness: feet us	ing	
Matell Commission (see Made 4)	(me	asuring device)
Well Condition (see Note 1):		
Measuring Device Decontamination Procedure: PI Meter ID:	Liquinox-DI water	
Ambient		Well Mouth:ppm
PURGING PROCEDURES		
Height of Water () .041 gal/ft (1 in)		
Column feet X () .16 gal/ft (2 in)	x 3 casing volu	imes = 36.71 gallons to purge
() .65 gal/ft (4 in)		
, , , , , , , , , , , , , , , , , , , ,		
Purge Method (see Note 2): B. put	mp	
Purge Vol. (gal)	.76 24.0	
		36.78
		1312
	12.9	
<u> </u>	90 6.98	96
Total Volume Purged	16 1.45	[-73
Water Appearance (describe color, clarity odor:)	gallons	
SAMPLING PROCEDURES 200 CONTROL OF THE SAMPLING PROCEDURE	Pusty Rad/Killon	
		W. Bulling St. Company of the Compan
Sampling Frocedure (see Note 2):	leader por	
Sample Water Appearance (color, clarity, odor):		
	CUGY	
ANALYTICAL PARAMETERS No. of Bottle		
•	• •	eservative/ Field Cool
Analysis Method Volume, Typ Voc 8260 2	e Bottle Lot	Volume Filtered? to 4°C?
		HCL 1-1 Y (R) O N
		Y N Y N
		Y N Y N Y N Y N Y N
		Y N Y N Y N Y N Y N Y N
OTHER OBSERVATIONS		1 17 1 17
- 3 octob		
- 3 odod	NAME (Print)	Adam Gouda
	1	1
st-32pst	SIGNATURE:	(\mathcal{S})

(1)

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

HARDING LAWSON A	SSOCIATE	ES		Sample No.:	8D		
GROUNDWATER SAM	VIPLE REC	ORD		Sample Date:			
			S	Sample Time: _	140		
SITE/SAMPLE L'OCATION Site Name Allied signal-South Bend				A PROPERTY OF THE PROPERTY OF			
Personnel Present: Adam gouda, Per	te Kaczor			Project No.: 9	3822 · O	2	
Activity Start: 320	te Naczoi						
Weather:		Act	tivity End: 1420				
Well Type and Location:	up Z"Pro	<u></u>				·	
WATER LEVELWELL DATA			Makasa arang dan menggan pangs		Sharing Mark Constants	Selved room 1	71 - 11
144-11-5	4. 14	Water Depth:	1914				
(from top of well casing) (me	easuring device)	(fi	rom top of well casing)	_ feet using	<u>م کر</u> mea	asuring	devic
Historical Well Depth:feet (from ground surface)	Protective C	asing Stickup:	-ground surface)	Protect. Ca			f==4
Floating Product Thickness:	feet using		ground surface)	Casing D	iπerence	3: ——	feet –
Well Condition (see Note 1):	m		(measuring	device)			
Measuring Device Decontamination Prog	edure. Lic	uinox-DI water					
PI Meter ID:	Ambient Air:	·	om	Well Mouth:			
PURGING PROCEDURES		······································		vveii ivioutn:	foto, siikalda oo ribanin		_ ppm
Height of Water ().041 gal/ft (1						gen to the	1
Column feet X (🕦 .16 gal/ft (2 i	•	ζ,	casing volumes =	19.73 a	allons to	DUIGE	
() .65 gal/ft (4 i	in)		3	9	u	paigo	
Y () gavit (
Purge Method (see Note 2):	Heder Poup						
Purge Vol. (gal)		12.8		A 79			
Time (Min.)	1333			9.77			
Temperature (C°)	199		<u> </u>	410			
pH (Units)	7.00			3.9			
Conductivity at 25°C (mS/cm)	1.70	<u> </u>		7.02			
Fotal Volume Purged	1,10		, 9	1.66			
Nater Appearance (describe color, clarity odor.)		gallons					
SAMPLING PROCEDURES	(/164	slight transl					
Sampling Procedure (see Note 2):	B. P.	T			al marc	(4.5) (4.5)	V (F
Sample Water Appearance (color, color, color	larity, odor):	sch as	150re				
NA WIGAHPARAMETERS -				artsanderford sugle		ari i	
	No. of Bottles		Preservat	ive/	Field	Co	ool
	Volume, Type	Bottle Lot	Volume	e F	iltered?	to 4	
Voc 8260	2		HCL		Y OD	0	N
					Y N	Y	N-
					Y N	Υ	N
					Y N Y N	Y	N
THER OBSERVATIONS		T			Y N	Y	N
- 3:00		NAME (DO		_			
- Z:45		NAME (Print)	Adan	Gouda			
VI - 48		SIGNATURE:	Sto	5			
	<u>-</u>			<u>, </u>			

Described whether well was locked and the condition of the protective casing and concrete collar. (1)

Describe sequence of purging/sampling including equipment type and decontamination method. (2)

HARDING LAWSON A	SSOCIATES	Coluch	Sample No	.: D-5	•
GROUNDWATER SAM	IPLE RECOR	D DUP MW	- 10点 Sample Date	3: (Z/10/	
SITE SAMPLE LOCATION Site Name Allied signal- South Bend					
Personnel Present: Adam gouda, Pet	e Kaczor		Project No	.: 9822.07	<u> </u>
Activity Start: 640		Activity En	q.		
Weather: Dark cold 25					
Well Type and Location: 4" qala	erzeel Stick-up)	· · · · · · · · · · · · · · · · · · ·	_	
WANTER LEWINGER DAWNS AND THE					William Control
Well Depth: (G6. 4 feet using (from top of well casing) (me	Waasuring device)	ter Depth: (from top	feet usin	· / Ull	inst isuring device)
Historical Well Depth: feet (from ground surface)	Protective Casin	g Stickup: (for above-ground		Casing Wel	ı
Floating Product Thickness:	feet using				
Well Condition (see Note 1):	aroul		(measuring device)		
Measuring Device Decontamination Prop	edure: Liquino	x-DI water			···
PI Meter ID:	Ambient Air:	ppm	Well Mouth	:	ppm
PURGING PROCEDURES: Height of Water () .041 gal/ft (1	the second secon				
Height of Water () .041 gal/ft (1 Column feet X () .16 gal/ft (2 i		? casin			
171.19 (4) :18 gal/ft (4)	•	casin	g volumes = 333	gallons to	purge
• () gavit (
Purge Method (see Note 2):	Dedicated 56	der puns			
Purge Vol. (gal)	_111.7	222	333	-	
Time (Min.)	844	1119	1300	-	
Temperature (C°)	13.3	12.6	12.5		
pH (Units)	6.70	7.44	7.42		
Conductivity at 25°C (mS/cm)	<u> </u>	2418	,412_		
Total Volume Purged		allons			
Water Appearance (describe color, clarity odor:)	_Clear				
Sampling Procedure (see Note 2):	Deducte	& Studder	oump		78 m
Sample Water Appearance (color, cl	arity, odor):				
ANALYTICAL PARAMETERS SALES	No. of Bottles		Preservative/	Field	· · · · · · · · · · · · · · · · · · ·
	Volume, Type	Bottle Lot	Volume	Filtered?	Cool to_4°C?
Voc 8260	2		HCL 1-1	Y (N)	
				YN	YN
				Y N	Y N *
				Y N	YN
OTHER OBSERVATIONS				Y N	Y N
_	İ.,				
V-3:00	ĮN/	AME (Print)	Adam Gouda		
p- 3.00 ps- 40	SI	GNATURE:	- Supple		
Notes: (1) Described whether well was	Indicate and the second				

(1)

Described whether well was locked and the condition of the protective casing and concrete collar.

Describe sequence of purging/sampling including equipment type and decontamination method.

eneral/GW-SmpRd.xis P:\Clerica\Forms\General\GW-SmPRd.xis

HARDING LAWS	ON ASSOCIATI	ES	Sample No.:	D-7
GROUNDWATER			Sample Date:	
			Sample Time:	10:57
SITE/SAMPLE LOCATION Site Name Allied signal- South B				
	lend uda, Pete Kaczor		Project No.:	9822.12
Activity Start: 7506	Ida, Pele Naczoi	A shiriba Est		
Weather: Clouds 4 400		Activity End	d:	
Well Type and Location:	191			
WATER LEVELWELL DAITA		ATTO LIFE OF ALABOMIE (1) 19 12 12 12 12 12 12 14 14 15 15 15 15 15 15 15 15 15 15 15 15 15		
Well Depth: 78.40 feet using		Water Dooth:	feet using	
(from top of well casing)	(measuring device)		feet using feet using	(measuring device)
-		Casing Stickup:		·
(from ground surfa	-	casing Stickup:(for above-ground s		Casing Well Difference: — feet
Floating Product Thickness:	O feet using	<u> </u>	,u.i.a.c., J.c.i.i.g	Dillerence. — 100.
-		-	(measuring device)	
Well Condition (see Note 1):	WOU		•	
Measuring Device Decontamination		quinox-DI water		
PI Meter ID:	Ambient Air:	ppm	Well Mouth:	— ppm
PURGING PROCEDURES				
	gal/ft (1 in)			
.		x 3 casing	y volumes = /2/2/2/	gallons to purge
61.6 (V) .65 g			, voiding	gallons to purgo
	gal/ft (in)		V	
Purge Method (see Note 2):	Hadde.	por		
D Vol. (==0)				
Purge Vol. (gal)	40gel	_ 80yo1	120 40/	
Time (Min.)	09:16		1054	-
Temperature (C°)	12.4		12.19	
pH (Units)	6.34	7.10	7.35	
Conductivity at 25°C (mS/cm)	.565	, ५२५	.521	
Total Volume Purged		gallons		
Water Appearance (describe color, clari		,		
SAMPLING PROCEDURES		The production		
Sampling Procedure (see No	ote 2): Bladd	er turp.		
Sample Water Appearance (color clarity odor):			
		Me 60 Chore		
ANALYTICAL PARAMETERS :::				
Analysis Method	No. of Bottles Volume, Type	Datio i ai	Preservative/	Field Cool
Voc 8260	volume, Type 2	Bottle Lot	Volume HCL 1-1	Filtered? to 4°C?
			MUL 1-1	Y 69 CY N
				YNYN
				YNYN
				YNYN
OTHER OBSERVATIONS				
= 3 octoch		NAME (Print)	Adam Gouda	
= 30dod		TACHER IT HIS	Audii Guuda	
sI= 35		SIGNATURE:	$\nearrow \mathcal{U} \setminus$	
) LE 33		OIGITATORE.		

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

(2)

HARDING LAWSON ASSOCIA	ATES Sample No.: E-3
GROUNDWATER SAMPLE R	
	Sample Time:
SITE/SAMPLE LOCATION Site Name Allied signal- South Bend	
Personnel Present: Adam gouda, Pete Kaczor	Project No.: 9822 . ▷ Z
Activity Start:	A attach are
Weather: Sum 45°	Activity End: 1,20
Well Type and Location: Nunthe Pacus	1 604//
WATER LEVEL WELL DATA TO THE PARTY OF THE PA	
Well Depth: feet using	Water Depth: ZZ. 48 feet using C/ ·
(from top of well casing) (measuring device)	
Historical Well Depth: feet Protect	ctive Casing Stickup: feet Protect. Casing Well
(from ground surface)	(for above-ground surface) Casing Difference: feet
Floating Product Thickness: Ofeet using	
•	(measuring device)
Well Condition (see Note 1):	0°7
Measuring Device Decontamination Procedure:	Liquinox-DI water
PI Meter ID: — Ambient A	Air: ppm Well Mouth: ppm
BURGINGIPROGEDURES	
Height of Water () .041 gal/ft (1 in)	the state of the s
Column feet X () .16 gal/ft (2 in)	X casing volumes = 5. O gallons to purge
() .65 gal/ft (4 in)	
()gal/ft (in)	
Purge Method (see Note 2):	on spirot pure Syellons.
Purge Vol. (gal) 5	
Time (Min.)	
Tomporature (C ⁰)	
	<u> </u>
Conductivity at 25°C (mS/cm)	<u> </u>
Total Volume Purged Water Appearance (describe color, clarity odor:)	gallons
	Sche C) below
SAMPLING PROCEDURES Sampling Procedure (see Note 2):	
Sampling Procedure (see Note 2):	on spiget
Sample Water Appearance (color, clarity, odor):	I what he is a second
	With his sheen, Ham eggy odor
ANALYTICAL RARAMETERS THE ANALYTICAL RANGE OF BOTTON	The state of the s
No. of Bottles Analysis Method Volume, Type	Tield Cour
Analysis Method Volume, Type Voc 8260 2	
	YNYN
	Y N Y N
OTHER OBSERVATIONS	
8.5 6PM	NAME (D. 1.1)
8.3 81	NAME (Print) Adam Gouda
·	SIGNATURE:

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

HARDING LAWSON	ASSOCIATI	ES	Sample No.:	ZWD16
GROUNDWATER SA			Sample Date:	
		Dup take	Sample Time:	1101
SITE/SAMPLE LOCATION LAND				
Site Name Allied signal- South Bend		The state of the s	Project No.:	9822.0Z
Personnel Present: Adam gouda,	Pete Kaczor			
Activity Start: //o0		Activity End:		
Weather:				
Well Type and Location:	the Recom	well		
WATERNESYEEMEN POATA				
Well Depth: feet using		Water Depth: / 8.	9/ feet using	Solinst
(from top of well casing)	(measuring device)	(from top of		(measuring device
Historical Well Depth:fee	et Protective C	asing Stickup: 🛌	feet Protect. 0	Casing Well
(from ground surface)		(for above-ground su		Difference: _ feet
Floating Product Thickness:	feet using	COLINIT	ŭ	
	,		(measuring device)	
Vell Condition (see Note 1):	OK, pu	لانول		
Measuring Device Decontamination P	rocedure: Lic	quinox-OI water		
PI Meter ID:	Ambient Air:	ppm	Well Mouth:	ppr
Urging Procedures		William Orthography and		
leight of Water ().041 gal/i		artini di disandian ilian di karata a Maria Conserva di Bilifficia de La Come Alexand	A CONTRACTOR OF THE PROPERTY O	A designation of the state of t
Column feet X (*) .16 gal/ft	(2 in)	casing	volumes = 5.0	gallons to purge
() .65 gal/ft				ganoris to purge
() gal	/ft (in)	_		
Purge Method (see Note 2):	tvin on	spinot for Squl	(some	
		70 7	10	
· ' ' '	5.0			
ime (Min.)	5.0 1802			
ime (Min.)				
ime (Min.) emperature (C°)				
ime (Min.) emperature (C°) H (Units)	13.4 6.45			
ime (Min.) emperature (C°) H (Units) conductivity at 25°C (mS/cm)	13.4 6.45 1.30	gallons		
ime (Min.) emperature (C°) H (Units) onductivity at 25°C (mS/cm) otal Volume Purged	(60 Z 13.4 6.45 1.30	gallons		
Purge Vol. (gal) Time (Min.) Temperature (C°) H (Units) Conductivity at 25°C (mS/cm) Total Volume Purged Vater Appearance (describe color, clarity odo	(60 Z 13.4 6.45 (.30 5.0	gallons		
ime (Min.) cemperature (C°) H (Units) conductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING (PROCEDURES Sampling Procedure (see Note 2	(60 Z 13.4 6.45 (.30 5.0			
ime (Min.) femperature (C°) H (Units) conductivity at 25°C (mS/cm) total Volume Purged Vater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2	(80 Z 13.4 6.45 (.30 5.0		590// 0	(rcin)
ime (Min.) emperature (C°) H (Units) onductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING (PROCEDURES Sampling Procedure (see Note 2	13.4 6.45 1.30 5.0	ON Spiget for	Sgoller D	
ime (Min.) cemperature (C°) H (Units) conductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 This Island Volume Sample Water Appearance (color)	(60 Z 13.4 6.45 1.30 5.0 2.1 3: Funco		590//00	
ime (Min.) femperature (C°) H (Units) Conductivity at 25°C (mS/cm) otal Volume Purged Vater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 This Island Volume Vater Appearance (color)	(60 Z 13.4 6.45 1.30 5.0 2.1 3: Funco	ON Spiget for		/c.n
ime (Min.) cemperature (C°) H (Units) conductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 This Island Volume Sample Water Appearance (color)	13.4 6.45 1.30 5.0 5.0 1.30 5.0 1.30 5.0 1.30 1.30	on spigot for	Preservative/	Field Cool
ime (Min.) emperature (C°) H (Units) onductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Liter Volume Purged Sample Water Appearance (color)	(60 Z 13.4 6.45 (.30 5.0 5.0 r, clarity, odor):	ON Spiget for	Preservative/ Volume	Field Cool Filtered? 194°C?
ime (Min.) emperature (C°) H (Units) onductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Little Volume Volume Purged Sample Water Appearance (color) NALYTICAL PARAMETERS Analysis Method	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	on spigot for	Preservative/	Field Cool Filtered?
ime (Min.) femperature (C°) H (Units) conductivity at 25°C (mS/cm) otal Volume Purged Vater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Little Volume Volume Volume Purged Sample Water Appearance (color) NALYTICAL PARAMETERS Analysis Method	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	on spigot for	Preservative/ Volume	Field Cool Filtered? 194°C? Y N Y N
ime (Min.) cemperature (C°) H (Units) conductivity at 25°C (mS/cm) cotal Volume Purged later Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Little Volume Volume Purged Sample Water Appearance (color) NALYTICAL PARAMETERS Analysis Method	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	on spigot for	Preservative/ Volume	Field Cool Filtered? Y N Y N Y N Y N Y N Y N Y N Y N Y N Y
ime (Min.) emperature (C°) H (Units) onductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Little Volume Volume Purged Sample Water Appearance (color) NALYTICAL PARAMETERS Analysis Method	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	on spigot for	Preservative/ Volume	Field Cool Filtered? Y N Y N Y N Y N Y N Y N Y N Y N Y N Y
ime (Min.) emperature (C°) H (Units) onductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	on spigot for	Preservative/ Volume	Field Cool Filtered? Y N Y N Y N Y N Y N Y N Y N Y N Y N Y
ime (Min.) emperature (C°) H (Units) onductivity at 25°C (mS/cm) otal Volume Purged later Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Sill Volume Sample Water Appearance (color) ALYTICAL PARAMETERS Analysis Method Voc 8260	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	Bottle Lot	Preservative/ Volume HCL 1-1	Field Cool Filtered? Y N Y N Y N Y N Y N Y N Y N Y N Y N Y
ime (Min.) emperature (C°) H (Units) conductivity at 25°C (mS/cm) otal Volume Purged /ater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Little Vol Sample Water Appearance (color NALYTICAL PARAMETERS Analysis Method Voc 8260	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	on spigot for	Preservative/ Volume	Field Cool Filtered? Y N Y N Y N Y N Y N Y N Y N Y N Y N Y
ime (Min.) femperature (C°) H (Units) conductivity at 25°C (mS/cm) otal Volume Purged Vater Appearance (describe color, clarity odd AMPLING PROCEDURES Sampling Procedure (see Note 2 The Silly Volume Sample Water Appearance (color) NALYTICAL PARAMETERS Analysis Method Voc 8260	13.9 6.45 1.30 5.0 5.0 r, clarity, odor):	Bottle Lot	Preservative/ Volume HCL 1-1	Field Cool Filtered? Y N Y N Y N Y N Y N Y N Y N Y N Y N Y

⁽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 ASSO	DCIATES	Sample No.: MW-101
GROUNDWATER SAMPLI	E RECORD	Sample Date: 12/9/58
CITEIO MINISTERIA CONTINUE SE CONTRACTOR DE CONTRACTOR DE CONTINUE SE CONTRACTOR DE CONTINUE SE CONTRACTOR DE CONTRACTOR DE CONTINUE SE CONTRACTOR DE CONTINUE SE CONTRACTOR DE CONTRACTOR DE CONTINUE SE CONTRACTOR DE CONTRACTOR	MR COMM TOTAL KANDALIVANIA SA PRIVAKI NA SIII JAMINANI MARKA MARKA	Sample Time:
SITE/SAMPLE LOCATION Site Name Allied signal- South Bend		Project No. 2000
Personnel Present: Adam gouda, Pete Kacz	or	Project No.: 9822 .0 Z
Activity Start:	Activity Er	od:
Weather:	Activity E	IU.
Well Type and Location:		
WATER LEVELWELLIDATA		
Well Depth: feet using	Water Depth:	feet using
(from top of well casing) (measuring		of well casing) (measuring devic
Historical Well Depth: feet	Protective Casing Stickup:	(···-===
(from ground surface)	(for above-ground	
= 1 =	eet using	Casing Difference: feet
		(measuring device)
Well Condition (see Note 1):		(
Measuring Device Decontamination Procedure:	Liquinox-DI water	
	bient Air: ppm	Well Mouth: ppm
PURGING PROCEDURES		Well Mouth:ppm
Height of Water () .041 gal/ft (1 in)	は、これのこれは、おからは、これでは、これには、これは、これには、いまないこと	2017年1月1日中央共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国共和国共
Column feet X () .16 gal/ft (2 in)	X casii	
() .65 gal/ft (4 in)	^Casii	ng volumes = gallons to purge
() gal/ft (in	1	
Purge Method (see Note 2):		
Purge Vol. (gal)		
Time (Min.)		
Temperature (C°)		
pH (Units)		
Conductivity at 25°C (mS/cm)		
Total Volume Purged		
Water Appearance (describe color, clarity odor:)	gallons	
SAMPLING PROCEDURES		
Sampling Procedure (see Note 2):		
Sample Water Appearance (color, clarity, c	edor):	
NALYATEAL PARAMETERS		Trades St. Color of Manager St.
	Bottles	Preservative/ Field Cool
Voc 8260	e, Type Bottle Lot 2	Volume Filtered? to 4°C?
0200		HCL 1-1 Y N
		Y N Y N
		Y N Y N
		Y N Y N Y N Y N Y N Y N
THER ORDERVATIONS		1 N 1 N
OTHER OBSERVATIONS		
(1) and Ph. 1811-	NAME (Print)	Adam Gouda
Dupot RWB16		$\sim \lambda$
	SIGNATURE:	/ / / /

- (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 LAWSO	ON ASSOCIAT	ES	Sample No.	EVERY2
GROUNDWATER	SAMPLE REC	ORD	Sample Date:	12/9/98
			Sample Time:	1125
SITE/SAMPLE LOCATION Site Name Allied signal- South B				
	end uda, Pete Kaczor		Project No.:	9822,0て
	Ida, Pele Naczoi			
Weather: Son 46°		Activity E	ind: (()0	_
Well Type and Logation:	Ω			
WATER LEVELWELL DATA		「T. An ing the Third And State Control of the State Control on the Sta	man la serve attori è mand de la sala in 1985 a è e e e e e e e e e e e e e e e e e e	
Well Depth: feet using	And the second of the second o	Water Depth:		
(from top of well casing)	(measuring device)		feet using of well casing)	-001433
distorical Well Depth:	,	Casing Stickup:	5.	(measuring device
(from ground surfa	_ ice)	(for above-groun		Casing Well
loating Product Thickness:	0. 49 feet using	C / C. L	d surface) Casing	Difference: feet
Tradition of	Of 7 leet dailing _	266.234	(measuring device)	
Vell Condition (see Note 1):	Sh pulm	1047m	(mododining dovide)	
Measuring Device Decontamination	on Procedure:	quinox-DI water	· · · · · · · · · · · · · · · · · · ·	
PI Meter ID:	Ambient Air:	ppm	Well Mouth:	
URGING PROCEDURES TO SERVICE OF THE PROPERTY O			vveii ivioutii.	ppr
	gal/ft (1 in)			
		_		
,,,,,,,		X cas	ing volumes = 5.0	gallons to purge
() .65 g	al/ft (4 in)			
()	gal/ft (in)			.
Purge Method (see Note 2):	tun a	n spigot p	Jugs 5.040/ .	into bucket
Purge Vol. (gal)		• • • • • • • • • • • • • • • • • • • •	<i>V</i>	
'ime (Min.)	5.0			
· · ·	1/22			
emperature (C°)	14.2			
H (Units)	6.91			
Conductivity at 25°C (mS/cm)	1.87			•
otal Volume Purged		gallons		· · · · · · · · · · · · · · · · · · ·
/ater Appearance (describe color, clari	ty odor:)	n, grey, egg	yodor	
AMPLING PROCEDURES				FD-1-204533480
Sampling Procedure (see No	ote 2):	on spinot af	Le oue	AT THE REPORT OF THE PERSON OF
			e pory-	
Sample Water Appearance (sche es	ston	
NALYTICAL PARAMETERS L				
	No. of Bottles		Preservative/	Field Cool
Analysis Method	Volume, Type	Bottle Lot	Volume	Filtered? to 4°C?
Voc <u>8260</u>	2		HCL 1-1	Y OF W
				Y N Y N
				Y N Y N
				Y N Y N
				Y N Y N
THER OBSERVATIONS	······································			
1-1-044		NAME (Print)	Adam G ∮ uda	
106PM		,	- Adam Guda	
		SIGNATURE:	\mathcal{A}	
	••	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 Sample No.: チルーユ Sample Date: (2 - \$ - 9 & **GROUNDWATER SAMPLE RECORD** Sample Time: 1745 SITE/SAMPLE: LOCATION HOLD CONTROL OF THE SAMPLE LOCATION HOLD CON Site Name Allied signal- South Bend Project No.: 9822 .07 Personnel Present: Adam gouda, Pete Kaczor **Activity Start:** Activity End: 1750 Weather: 6" extraction well Well Type and Location: WATER: LEVEL WELL DATA STATE OF THE STATE OF Well Depth: feet using Solinst Water Depth: feet using (from top of well casing) (measuring device) (from top of well casing) (measuring device) Historical Well Depth: 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: Ambient Air: ppm Well Mouth: ppm PURGING PROCEDURES: 100 PM PROCE Height of Water) .041 gal/ft (1 in) Column feet) .16 gal/ft (2 in) casing volumes = gallons to purge) .65 gal/ft (4 in) gal/ft (__ in 24" diameter meahole. Purge Method (see Note 2): drain 3 yallony 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 TO THE THE TENTH OF THE Sampling Procedure (see Note 2): Sample Water Appearance (color, clarity, odor): ANALYTICAL PARAMETERS TO THE PA No. of Bottles Preservative/ Field Cool **Analysis** Volume, Type Method **Bottle Lot** Volume Filtered? to 4°C? Voc 8260 HCL 1-1 (N N N N N N OTHER OBSERVATIONS NAME (Print) Adam Gouda 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 AS	SOCIATI	ES	\$	Sample No.: _£	w-2
GROUNDWATER SAME	PLE REC	ORD	Sa	ample Date:	18 48
			Sa	imple Time: 70	50
SITE/SAMPLE LOCATION Site Name Allied signal- South Bend		SERVO FIN	ille al sales com cass	PER AND THE	
Personnel Present: Adam gouda, Pete k	′00701			Project No.: 98	22 . 1 Z
Activity Start: 10 30	ACZOI				
Weather: Summy 45°		Act	ivity End: 1040	· · · · · · · · · · · · · · · · · · ·	
Moll Type and Leading (1)	nhole	 			
WATERILEVELWEELDATA				en in de la companya	deni radi da sa
Well Depth: feet using		Water Depth:	/7 U 7		
	rring device)		om top of well casing)	feet using	(measuring device
Historical Well Depth: feet	Protective C	Casing Stickup:	feet	Protect Con	• • • • • • • • • • • • • • • • • • • •
(from ground surface)			-ground surface)	Protect. Casi Casing Diff	-
Floating Product Thickness:	feet using		,	Outsing Dill	——————————————————————————————————————
			(measuring d	evice)	
Well Condition (see Note 1):	gase				
Measuring Device Decontamination Proces		quinox-DI water		*	
PI Meter ID:	Ambient Air:	pp	om v	Vell Mouth:	ppm
PURGING PROCEDURES	The state of the s				
Height of Water () .041 gal/ft (1 in)	•			,	
Column feet X () .16 gal/ft (2 in)	>	X	casing volumes =	Dag Lgall	ons to purge
() .65 gal/ft (4 in) () gal/ft (_	in				
Purge Method (see Note 2):	ale out	: 1 7UM	loneter aca	4.1.	
sport drois	Cas/	a or a	TOTAL MEN	400, 01	rer
Purge Vol. (gal)	5gel	······································			
Time (Min.)	10:35	,		-	
Temperature (C°)	12.1			***	
pH (Units)	6.71				
Conductivity at 25°C (mS/cm)	1.07				
Total Volume Purged	5.0	gallons			
Water Appearance (describe color, clarity odor:)		501	ex as below		
SAMPLING PROCEDURES			THE RESIDENCE OF THE PERSON OF		NEWS TO THE RESERVE T
Sampling Procedure (see Note 2):	spicet	purye		and the second second section in	<u> </u>
Sample Water Appearance (color, clarit		' 0	1		
	· · · · · · · · · · · · · · · · · · ·	+ runs lount	light gay		
ANALYTICAL PARAMETERS	والتواري والمراجع والمراجع				374033
A	of Bottles	5-41-1	Preservati		Field Cool
Voc 8260	ume, Type 2	Bottle Lot	Volume		ered? to 4°C?
			HCL 1		N
				Y	N Y N N Y N
				;	NYN
			······································	Y	NYN
OTHER OBSERVATIONS					
		NAME (Print)	Adam e	Gouda	
			- Additi		
		SIGNATURE:	Life	\	
	- '				

Described whether well was locked and the condition of the protective casing and concrete collar. Describe sequence of purging/sampling including equipment type and decontamination method. (2) P:\Clerical\Forms\General\GW-SmpRd.xis

(1)

HARDING LAWSON ASSOCIATE	:S	Sample No.: EW-3
GROUNDWATER SAMPLE RECO		Sample Date: 12/8/44
SITE/SAMPLEILOGATION		Sample Time: 1755
Site Name Allied signal- South Bend		Project No.: 9822 92
Personnel Present: Adam gouda, Pete Kaczor		- 10journam <u>0000 - 9 C</u>
Activity Start: 1749	Activity End: 18か	o
Weather: Juney 40°		
Well Type and Location: Manhole 6" steel 1	fl.mat.	
WANTERSTEENWEILEDANA		
	Water Depth:	feet using Solinst
(from top of well casing) (measuring device)	(from top of well casi	
	asing Stickup: feet	Protect. Casing Well
(from ground surface)	(for above-ground surface)	Casing Difference: feet
Floating Product Thickness: feet using		
	(measu	ring device)
Well Condition (see Note 1):		
	uinox-DI water	
PI Meter ID: Ambient Air:	ppm	Well Mouth: ppm
Britaine Strategic Control of the Co		
Height of Water () .041 gal/ft (1 in)		And the second s
Column feet X () .16 gal/ft (2 in) X	casing volume	es = 5 gallons to purge
() .65 gal/ft (4 in)		
()gal/ft (in)	1 11 -	. 1
Purge Method (see Note 2): Oun Sigot	+ drain sgellons	then surple
- U		-
Purge Vol. (gal) 1753 5	<i>₽</i>	
Time (Min.) 1753 14.7 (<u> </u>	
Temperature (C°)		
pH (Units) 6-75		
Conductivity at 25°C (mS/cm) 1-51		
Total Volume Purged Water Appearance (describe sales status at all all all all all all all all all	gallons	
Water Appearance (describe color, clarity odor:)		
	THE REAL PROPERTY OF THE PROPE	
Sampling Procedure (see Note 2): Open 5p	hight to surple	
Sample Water Appearance (color, clarity, odor):	· · · · · · · · · · · · · · · · · · ·	
	uar	
ANALYATICA EPARAMENTERS MANAGEMENTARIA CONTRACTOR OF THE CONTRACTO		
No. of Bottles Analysis Method Volume, Type		ervative/ Field Cool
		olume Filtered? to 4°C?
Voc 8260 2		ICL 1-1 Y (1) N
		Y N Y N Y N Y N Y N Y N
		Y N Y N Y N Y N Y N Y N
		Y N Y N
OTHER OBSERVATIONS	7	
J-Z 9 pm	l	1
1 - 21	NAME (Print) Ad	dam Golida
	·	
•	SIGNATURE:	

⁽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.

		ASSOCIAT		Sample		MW-		
GROUND	WATER SA	AMPLE REC	ORD	Sample [12-9		9
				Sample T	ime:	07	<u>30</u>	
Site Name Allied	signal- South Bend	《数数数数型数数数数					9	
Personnel Presen			<u> </u>	Project	No.: <u>982</u>	2		
Activity Start:	Adam godda,	rete Naczoi						
Veather:			Activity E	nd:				
Well Type and Loc	cation:							
NATER LEVELM	VEL DATA L			Processor de la composition des conflictes de la constitución de la conflicte	California de la compania de la comp	A STATE OF THE STA	programme type	
Vell Depth:				the conservation of the constraint of the second state of the conservation of the cons		其明報 。	3 4.	
(from top of we	·	(measuring device)	Water Depth:	feet u	sing	/		4
listorical Well Dep		- '		-		(mea	-	aevi
•	oth: fee from ground surface)	Protective	Casing Stickup:		ect. Casin			
loating Product T	•		(for above-ground	d surface) Ca	sing Diffe	erence:		fe e
loading Product 1	mickness:	feet using						
/ell Condition (se	e Note 11:			(measuring device)				
	Decontamination P	rocedure: 1	iguinay Di water					_
Meter ID:			iquinox-DI water					
		Ambient Air: _	ppm	Well Mo				_ppi
URGINGEPROCE			洲 的人,后的一种意义	A STATE OF THE STA	S. S. S.		., .,	- T-T
eight of Water	() .041 gal/	• •						
olumn feet	X () .16 gal/ft	·	X casi	ng volumes =	gallo	ons to p	ourge	
	() .65 gal/ft	• •					_	
••		/ft (in)						
urge Method (see	Note 2):	····						
urge Vol. (gal)								
ime (Min.)								
emperature (C°)								
1 (Units)								
onductivity at 25°	•	•						
otal Volume Purge			gallons		_	•		
ater Appearance	(describe color, clarity odd	or;)						
MRHINGIPROC	EDURES#							c.duin
	cedure (see Note 2		tilled water in	to bailer, th	47-			Τ.
to sum	ple conta	iners		to Later / VI	4.(]	6.14	<u> </u>	· K
Sample Wate	r Appearance (colo	r, clarity, odor):	lear					
IALYTICAL PAR	AMETERS	A STANSON ASSESSMENT		HIS CONTROL OF A CONTROL				
		No. of Bottles		Preservative/	Fi	eid	Co	ool
Analysis	Method	Volume, Type	Bottle Lot	Volume		red?		°C?
Voc	8260	2		HCL 1-1	Υ	N	Υ .	N
					Ý	N	Ÿ	N
					Ý	N	Ÿ	N
					Y	N	Ý	N
					Ý	N	Ÿ	N
HER OBSERVA	TIONS							
PHIn	stul ba	4	MAME (D-I-A)					
المام	4	•	NAME (Print)	Adam Gouda				
1 chiston	ما ابعمل	1.						
y stein un	JT -01 D4	•	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.

ANALYTICAL RESULTS - DECEMBER 1998

- 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 - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	7-25 12/12/98 Primary	86-10 12/12/98 Primary	86-15 12/12/98 Primary	9-33 12/12/98 Primary	MW-10 12/13/98 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			< 5.0	< 5.0	< 5.0	< 5.0	64
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	10	68	<5.0	31
cis-1,2-Dichloroethene		70	< 5.0	[81]	40	<5.0	[700]
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	<5.0 <5.0
trans-1,3-Dichloropropene			< 5.0	< 5.0	<5.0	<5.0 <5.0	< 5.0 < 5.0
Ethyl benzene		700	< 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	< 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 < 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

Page: 2A

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		7-25	86-10	86-15	9-33	MW-10
	DATE		12/12/98	12/12/98	12/12/98	12/12/98	12/13/98
to a	RESULT TYPE	US-PMCL	Primary	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	< 5.0	[210]
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene		5	< 5.0	[79]	[390]	< 5.0	[500]
[richlorofluoromethane			< 10	< 10	< 10	< 10	< 10
/inyl Choride		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
(ylene (Total)		10000	< 10	< 10	< 10	< 10	<10
/inyl Acetate			< 50	< 50	< 50	< 50	< 50
2-Hexanone			< 50	< 50	< 50	< 50	< 50
1-Methyl-2-pentanone			< 50	< 50	< 50	< 50	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,2-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,3-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
I,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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		•		•			
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-12 12/13/98 Primary	MW-13 12/13/98 Primary	MW-2 12/13/98 Primary	MW-2 12/13/98 Duplicate	MW-4 12/14/98 Primary
Acrolein			< 100	< 100	< 500	< 500	< 100
Acrylonitrile			< 100	< 100	< 500	< 500	< 100
Benzene		5	< 5.0	< 5.0	< 25	< 25	< 5.0
Bromoform		100	< 5.0	< 5.0	< 25	< 25	< 5.0
Bromomethane	•		< 10	< 10	< 50	< 50	< 10
Carbon tetrachloride		5	< 5.0	< 5.0	< 25	< 25	< 5.0
Chlorobenzene		100	< 5.0	< 5.0	< 25	< 25	< 5.0
Chlorodibromomethane		100	< 5.0	< 5.0	< 25	< 25	< 5.0
Chloroethane			< 10	< 10	< 50	< 50	< 10
2-Chloroethyl Vinyl Ether			< 10	< 10	< 50	< 50	< 10
Chloroform		100	< 5.0	< 5.0	< 25	< 25	< 5.0
Chloromethane			< 10	< 10	< 50	< 50	< 10
Dichlorobromomethane		100	< 5.0	< 5.0	< 25	< 25	< 5.0
Dichlorodifluoromethane			< 10	<10	< 50	< 50	< 10
,1-Dichloroethane			< 5.0	< 5.0	240	250	< 5.0
,2-Dichloroethane		5	< 5.0	<5.0	[32]	[33]	< 5.0 < 5.0
,1-Dichloroethene		7	< 5.0	< 5.0	[28] J	[38]	< 5.0 < 5.0
rans-1,2-Dichloroethene		100	7.7	<5.0	38	39	< 5.0 < 5.0
is-1,2-Dichloroethene		70	[88]	< 5.0	[3000]	132001	
,2-Dichloropropane		5	< 5.0	<5.0	< 25	< 25	< 5.0
is-1,3-Dichloropropene			< 5.0	< 5.0	< 25	< 25	< 5.0
ans-1,3-Dichloropropene			< 5.0	<5.0	< 25		< 5.0
thyl benzene		700	< 5.0	< 5.0 < 5.0	< 25	< 25	< 5.0
Methylene chloride		5	< 5.0	< 5.0 < 5.0		< 25	< 5.0
,1,2,2-Tetrachloroethane		<u> </u>	< 5.0 < 5.0		[38] JB	[49]	< 5.0
etrachloroethene		5		< 5.0	< 25	< 25	< 5.0
Values represent total concentrations u	unlace peterd. < - Net d	5	< 5.0	< 5.0	< 25	< 25	< 5.0

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

[] = Greater than Action Level

Page: 2B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		MW-12	MW-13	MW-2	MW-2	MW-4
	DATE		12/13/98	12/13/98	12/13/98	12/13/98	12/14/98
.	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Duplicate	Primary
Toluene		1000	< 5.0	< 5.0	< 25	< 25	< 5.0
1,1,1-Trichloroethane		200	< 5.0	< 5.0	[700] J	< 25	< 5.0
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 25	< 25	< 5.0
Trichloroethene		5	[35]	< 5.0	[40]	[44]	[15]
Trichlorofluoromethane			< 10	< 10	< 50	< 50	< 10
Vinyl Choride		2	< 10	< 10	[100]	[110]	< 10
Acetone			< 100	< 100	< 500	< 500	< 100
2-Butanone (MEK)			< 100	< 100	< 500	< 500	< 100
Styrene		100	< 5.0	< 5.0	< 25	< 25	< 5.0
Xylene (Total)		10000	< 10	< 10	< 50	< 50	< 10
Vinyl Acetate			< 50	< 50	< 250	< 250	< 50
2-Hexanone			< 50	< 50	< 250	< 250	< 50
4-Methyl-2-pentanone			< 50	< 50	< 250	< 250	< 50
Carbon disulfide			< 5.0	< 5.0	< 25	< 25	< 5.0
1,2-Dichlorobenzene		600	< 5.0	< 5.0	< 25	< 25	< 5.0
1,3-Dichlorobenzene		600	< 5.0	< 5.0	< 25	< 25	< 5.0
1,4-Dichlorobenzene		75	< 5.0	< 5.0	< 25	< 25	< 5.0

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

Page: 1C

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/I)	SITE		MW-5	MW-7	MW-9	S15	S16
	DATE		12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
· •	RESULT TYPE	US-PMCL	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			< 5.0	14	< 5.0	13	< 5.0
1,2-Dichloroethane		5	< 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
trans-1,2-Dichloroethene		100	< 5.0	< 5.0	< 5.0	5.3	26
cis-1,2-Dichloroethene		70	12	[340]	< 5.0	16	54
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	< 5.0 < 5.0
trans-1,3-Dichloropropene			< 5.0	<5.0	< 5.0	<5.0	< 5.0 < 5.0
Ethyl benzene		700	< 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	
1,1,2,2-Tetrachloroethane		_	< 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0 < 5.0	[15]
Tetrachloroethene		5	[6.7]	< 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

Page: 2C

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

					·		
CONSTITUENT (Units in ug/l)	SITE DATE		MW-5 12/14/98	MW-7 12/14/98	MW-9 12/14/98	\$15 12/14/98	\$16 12/14/98
•	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary
Toluene		1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane		200	10	< 5.0	< 5.0	< 5.0	20
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene		5	[28]	< 5.0	< 5.0	< 5.0	[420]
Trichlorofluoromethane			< 10	< 10	< 10	< 10	< 10
Vinyl Choride		2	[11]	[130]	< 10	1291	< 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

Page: 1D

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S17 12/14/98 Primary	S20 12/14/98 Primary	S21 12/14/98 Primary	S22 12/14/98 Primary	S23 12/14/98 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-Dichloroethane			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,2-Dichloroethane		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,1-Dichloroethene		7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
rans-1,2-Dichloroethene		100	< 5.0	< 5.0	13	86	< 5.0
is-1,2-Dichloroethene		70	< 5.0	< 5.0	22	59	< 5.0
,2-Dichloropropane		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
is-1,3-Dichloropropene			< 5.0	< 5.0	< 5.0	<5.0	< 5.0
ans-1,3-Dichloropropene			< 5.0	< 5.0	<5.0	< 5.0	< 5.0
thyl benzene		700	< 5.0	< 5.0	< 5.0	< 5.0 < 5.0	< 5.0 < 5.0
lethylene chloride		5	< 5.0	< 5.0	< 5.0 < 5.0	<5.0 <5.0	
,1,2,2-Tetrachloroethane		-	< 5.0	< 5.0	< 5.0 < 5.0	< 5.0 < 5.0	< 5.0
etrachloroethene		5	< 5.0	< 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

Page: 2D

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S 17	\$20	S21	\$22	S23
	DATE		12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
•	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary
Toluene		1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane		200	22	< 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	[18]	< 5.0	[25]	< 5.0	[9.8]
Trichlorofluoromethane			< 10	< 10	< 10	< 10	< 10
Vinyl Choride		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

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Page: 1E

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	S24	\$25	S27	S3	S4A
	DATE	12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
•	RESULT TYPE US-PMCL	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		< 5.0	< 5.0	50	< 5.0	33
1,2-Dichloroethane	5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene	7	< 5.0	< 5.0	[9.9]	< 5.0	< 5.0
trans-1,2-Dichloroethene	100	[150]	< 5.0	16	< 5.0	6.8
cis-1,2-Dichloroethene	70	[100]	5.2	29	< 5.0	[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
Ethyl benzene	700	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Methylene chloride	5	< 5.0	< 5.0	<5.0	< 5.0	[11]
1,1,2,2-Tetrachioroethane		< 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

II = Greater than Action Level

Page: 2E

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S24	S25	S27	\$3	S4A
	DATE		12/14/98	12/14/98	12/14/98	12/14/98	12/14/98
·	RESULT TYPE	US-PMCL	Primary	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	< 5.0	< 5.0
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Trichloroethene		5	[10]	< 5.0	[32]	< 5.0	< 5.0
Trichlorofluoromethane			< 10	< 10	< 10	< 10	< 10
Jinyl Choride		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
(ylene (Total)		10000	< 10	< 10	< 10	< 10	< 10
/inyl Acetate			< 50	< 50	< 50	< 50	< 50
2-Hexanone			< 50	< 50	< 50	< 50	< 50
1-Methyl-2-pentanone			< 50	< 50	< 50	< 50	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,2-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,3-Dichtorobenzene		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

Page: 1F

Analytical Summary - VOCs In Groundwater **Shallow Monitoring Wells** Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S9	
	DATE		12/14/98	
•	RESULT TYPE	US-PMCL	Primary	
crolein	A		< 100	
Acrylonitrile			< 100	
Benzene		5	< 5.0	
Bromoform		100	< 5.0	
Bromomethane			< 10	
arbon tetrachloride		5	< 5.0	
hlorobenzene		100	< 5.0	
hlorodibromomethane		100	< 5.0	
Chloroethane			< 10	
Chloroethyl Vinyl Ether			< 10	
hloroform		100	< 5.0	
Chloromethane			< 10	
ichlorobromomethane		100	< 5.0	
chlorodifluoromethane			< 10	
,1-Dichloroethane			< 5.0	
,2-Dichloroethane		5	[240]	
,1-Dichloroethene		7	< 5.0	
ans-1,2-Dichloroethene		100	< 5.0	
s-1,2-Dichloroethene		70	[92]	
,2-Dichloropropane		5	< 5.0	
s-1,3-Dichloropropene			< 5.0	
rans-1,3-Dichloropropene			< 5.0	
thyl benzene		700	< 5.0	
lethylene chloride		5	[6.8] BJ	
,1,2,2-Tetrachloroethane			< 5.0	
etrachloroethene		5	< 5.0	

[] = Greater than Action Level

Page: 2F

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S9	
	DATE		12/14/98	
•	RESULT TYPE	US-PMCL	Primary	
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 Choride		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

INTERMEDIATE MONITORING WELLS

Analytical Summary - VOCs In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

MANAGEMENT OF THE STATE OF THE			South Bend, Ind	iana_		
	•					
CONSTITUENT (Units in ug/l)	ŞIŢE		7 <u>D</u>	8D		·
Proposition of the proposition o	DATE		12/12/98	12/12/98		
	RESULT TYPE	US-PMCL	Primary	Primary		
					<u>and after the second of the s</u>	40.5
Acrolein Acrylonitrile			< 100	< 100		
· ···			< 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	· 100	
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	32		
cis-1,2-Dichloroethene		70	26	[220]	•	
1,2-Dichloropropane		5	< 5.0	< 5.0		
cis-1,3-Dichloropropene		J	< 5.0	< 5.0	and the second of the second o	
trans-1,3-Dichloropropene			< 5.0 < 5.0	< 5.0 < 5.0		
Ethyl benzene		700	< 5.0 < 5.0			
Methylene chloride				< 5.0		
1,1,2,2-Tetrachloroethane		5	< 5.0	(7.2) B	•	
Tetrachloroethene		-	< 5.0	< 5.0		
Values represent total concentrations u		5	< 5.0	< 5.0		<u> </u>

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

() = Greater than Action Level

Analytical Summary - VOCs In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

ritaria. Albana 1		•			
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	7D 12/12/98 Primary	8D 12/12/98 Primary	
Toluene		1000	< 5.0	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	< 5.0	
1,1,2-Trichloroethane		5	< 5.0	<5.0	
Trichloroethene		5	[5.8]	< 5.0	
Trichlorofluoromethane			< 10	< 10	
Vinyl Choride		2	< 10	< 10	,
Acetone			< 100	< 100	
2-Butanone (MEK)			< 100	< 100	
Styrene		100	< 5.0	< 5.0	
Xylene (Total)		10000	<10	< 10	
Vinyl Acetate			< 50	< 50	
2-Hexanone	·		< 50	< 50	
4-Methyl-2-pentanone			< 50	< 50	
Carbon disulfide			< 5.0	< 5.0	
1,2-Dichlorobenzene		600	< 5.0	< 5.0	
1,3-Dichlorobenzene		600	< 5.0	< 5.0	
1,4-Dichlorobenzene		75	< 5.0	< 5.0	

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 - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

SITE DATE		2D				
			5D	D5	. D5	D7
		12/12/98	12/13/98	12/12/98	12/12/98	12/13/98
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Duplicate	Primary
		< 100	< 100	< 100	< 100	< 100
		< 100	< 100	< 100	< 100	< 100
	5	< 5.0	< 5.0	< 5.0	< 5.0	<5.0
	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
		< 10	< 10	< 10		< 10
	5	< 5.0	< 5.0	< 5.0		< 5.0
	100	< 5.0	< 5.0	< 5.0		< 5.0
	100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
		< 10	< 10	< 10		<10
		<10	< 10	< 10		< 10
	100	< 5.0	< 5.0	<5.0		<5.0
		< 10	< 10			< 10
	100	< 5.0	< 5.0			< 5.0
		< 10				< 10
		< 5.0				
	5					< 5.0
	7					1231
	100					< 5.0
	70					< 5.0
	5					< 5.0
				•		< 5.0
						< 5.0
	700			•		< 5.0
						< 5.0
	-	•				< 5.0
	E			÷ .		< 5.0
-	ess noted <= Not de	100 5 100 100 100 100 5 7 100 70 5 700 5	5 <5.0	5 <5.0	\$100 \$100 \$100 \$100 \$5 \$5.0 \$5.0 \$5.0 \$5.0 \$100 \$5.0 \$5.0 \$5.0 \$5.0 \$100 \$10 \$10 \$10 \$5.0 \$100 \$5.0 \$5.0 \$5.0 \$5.0 \$100 \$5.0 \$5.0 \$5.0 \$5.0 \$100 \$10 \$10 \$10 \$10 \$100 \$5.0 \$5.0 \$5.0 \$5.0 \$100 \$5.0 \$5.0 \$5.0 \$5.0 \$100 \$10 \$10 \$10 \$10 \$100 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0 \$5.0<	<100

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

[] = Greater than Action Level

Page: 2A

Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		2D	5D	D5	D5	D7
	DATE		12/12/98	12/13/98 Primary	12/12/98	12/12/98 Duplicate	12/13/98
٠	RESULT TYPE	US-PMCL	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	< 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
Frichlorofluoromethane			< 10	< 10	< 10	< 10	< 10
Vinyl Choride		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
(ylene (Total)		10000	< 10	< 10	< 10	< 10	< 10
/inyl Acetate			< 50	< 50	< 50	< 50	< 50
2-Hexanone			< 50	< 50	< 50	< 50	< 50
1-Methyl-2-pentanone			< 50	< 50	< 50	< 50	< 50
Carbon disulfide			< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,2-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,3-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
,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

NAPHTHA RECOVERY WELLS

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

South Bend, Indiana										
SITE DATE		E3 12/13/98	RWB16 12/14/98	RWB16 12/14/98	RWB22 12/14/98					
RESULT TYPE	US-PMCL	Primary	Primary	Duplicate	Primary					
		< 100	< 100	< 100	<100					
		< 100	< 100	< 100	< 100					
	5	< 5.0	[71]	[70]	< 5.0					
	100	< 5.0	< 5.0	< 5.0	< 5.0					
		< 10	< 10	< 10	<10					
	5	< 5.0	< 5.0	< 5.0	< 5.0					
	100	< 5.0	< 5.0	< 5.0	< 5.0					
	100	< 5.0	< 5.0		<5.0					
		< 10	11	**	<10					
		< 10			<10					
	100	< 5.0	•		<5.0					
		<10			<10					
	100	< 5.0	•	• • • • • • • •	<5.0					
					<10					
					5.2					
	5				<5.0					
	7				<5.0					
	100				<5.0					
	70				18					
					< 5.0					
				1 + 4 min + 4 min + 1 min + 2	<5.0					
					<5.0					
	700				•					
					< 5.0					
	-				< 5.0					
										
	DATE RESULT TYPE	DATE RESULT TYPE 5 100 5 100 100 100 5 7	SITE DATE DATE RESULT TYPE US-PMCL	SITE 12/13/98 12/14/98 RESULT TYPE US-PMCL Primary Primary \$\begin{array}{c c c c c c c c c c c c c c c c c c c	SITE E3 RWB16 RWB16 RESULT TYPE US-PMCL Primary Primary Duplicate					

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

[] = Greater than Action Level

Page: 2A

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	E3 12/13/98 Primary	RWB16 12/14/98 Primary	RWB16 12/14/98 Duplicate	RWB22 12/14/98 Primary	
Toluene		1000	< 5.0	< 5.0	<5.0	< 5.0	And the second second
1,1,1-Trichloroethane		200	< 5.0	< 5.0	< 5.0	< 5.0	
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 5.0	< 5.0	
Trichloroethene		5	< 5.0	< 5.0	< 5.0	< 5.0	
Trichlorofluoromethane			< 10	< 10	< 10	< 10	
Vinyl Choride		2	< 10	< 10	<10	< 10	
Acetone		•	< 100	< 100	< 100	< 100	
2-Butanone (MEK)			< 100	< 100	< 100	< 100	
Styrene		100	< 5.0	< 5.0	< 5.0	< 5.0	
Xylene (Total)		10000	< 10	< 10	< 10	< 10	e the track
Vinyl Acetate	•		< 50	< 50	<50	< 50	Ÿ
2-Hexanone			< 50	< 50	< 50	< 50	
4-Methyl-2-pentanone			< 50	< 50	< 50	< 50	
Carbon disulfide			< 5.0	<5.0	<5.0	< 5.0	
1,2-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	•
1,3-Dichlorobenzene		600	< 5.0	< 5.0	< 5.0	< 5.0	
1,4-Dichlorobenzene		75	< 5.0	< 5.0	<5.0	< 5.0	

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 - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		•		•			
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	EW-1 12/13/98 Primary	EW-2 12/13/98 Primary	EW-3 12/13/98 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			
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			26	43	<5.0		
1,2-Dichloroethane		5	[6.3]	< 5.0	<5.0		
1,1-Dichloroethene		7	5.8	5.8	<5.0		
rans-1,2-Dichloroethene		100	69	28			
cis-1,2-Dichloroethene		70	[240]	[180]	94 43		
1;2-Dichloropropane		5	< 5.0	< 5.0	<5:0 ² · · · · · · · · · · · · · · · · · · ·		
cis-1,3-Dichloropropene	• •		< 5.0	< 5.0	<5.0		
rans-1,3-Dichloropropene			< 5.0	< 5.0	<5.0		
Ithyl benzene		700	< 5.0	< 5.0 < 5.0	<5.0		
Methylene chloride		5	[5.9] B	< 5.0			
I,1,2,2-Tetrachloroethane		. .	< 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

Page: 2A

Analytical Summary - VOCs In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	EW-1 12/13/98 Primary	EW-2 12/13/98 Primary	EW-3 12/13/98 Primary
Editor (Control of Control of Con	<u>ie die die die die die die die die die d</u>	<u> </u>			
Toluene		1000	< 5.0	< 5.0	< 5.0
1,1,1-Trichloroethane		200	<5.0	33	< 5.0
1,1,2-Trichloroethane		5	< 5.0	< 5.0	< 5.0
Trichloroethene		5	[180]	[68]	[34]
Trichlorofluoromethane			< 10	< 10	<10
Vinyl Choride		2	[27]	< 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

SHALLOW MONITORING WELLS

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	7-25 03/18/97 Primary	7-25 06/03/97 Primary	7-25 07/18/97 Primary	7-25 09/25/97 Primary	7-25 12/08/97 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-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	< 5	<5	<5	< 5.0	< 5.0	
Methylene chloride		5	<5	< 5	<5	< 5.0	<5.0	
Tetrachloroethene		. 5	<5	< 5	5 . 1	<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	
Vinyt Chöride		2	<10	<2	(1.2)	< 10	< 10	
Acetone			< 100	< 100	< 100	• •		
Xylene (Total)		10000	<10	<5	15. 1 - 16.	< 100	< 100	
Carbon disulfide		,	< 5	<5 <5		< 10	< 10	
			\ 3	ζ 5	< 5	< 5.0	< 5.0	

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed () = Less than Reporting Limit

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Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	7-25 06/09/98 Primary	7-25 12/12/98 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	< 5.0	< 5.0		
Vinyl Choride		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 Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Total Phenois			< 10	< 10	and the second s	<u> </u>
	RESULT TYPE	US-PMCL	Primary	Primary		
CONSTITUENT (Unit	s in ug/l) SITE DATE	·.	7-25 03/18/97	7-25 09/25/97		
		* ***				

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 - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Research to the second				그 기계		
CONSTITUENT (Units in ug/l)	SITE		7-25	7-25		a romani ili ili valori ili ili
	DATE		03/18/97	09/25/97		
	RESULT TYPE	US-PMCL	Primary	Primary	<u> </u>	
Cyanide		200	< 5	< 5		
Chromium, Dissolved (Filtered)				< 5	•	
Lead, Dissolved (Filtered)				< 2.0		~
Nickel, Dissolved (Filtered)				< 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

SOURCE:	7-25					tes u
				HOTES		HOTES:
DATE	SAMPLE		KOL			
SAMPLED	NO.	LAD	HETHOD			OUR INTERPRETATIONS OF THESE DATA
1/07/86	31	AQUA	1			ARE LIMITED TO OUR MRITTEN REPORT
6/05/87		ACUA	 		No VOC Detected	NO - NOT DETECTED AT DETECTION
9/00/07		AQUA	 		No VOC Detected	LIMIT SPECIFIED BY LABORATURY. SEE LAB REPORT.
1/13/00	-	ADUA	 		Na VOC Detected	
2/00/88	5	AUUA			No VOC Detected	NPL - NO U.S EPA PUBLISHED LEVEL
5/10/00	5	AUUA			No VOC Detected	P - PROPOSED
9/22/88	5	AOUA			de YOC Detected	VOC DECIMEN AND A TOTAL
2/09/88	13	ACUA			lo VOC Detected fo VOC Detected	YOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIORITY POLLUTANT
3/31/92	55	ADUA	8240			I VULATILE WIGANIC COMPONENCE CON
9/02/02	43	AUUA	0240		la VOC Detected In VOC Detected	EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.
					e see baigetall	and the off.
					• •	•
					<i>:</i>	
•						
		-				
						PARAMETER
						o - Data
						Sampled
					•	
					•	
						SHALLOW MONITOR WELLS GROUNDHATER DUALITY ANALYSIS
						ORGANIC COMPOUNDS
						·

						ALLIEDSIGNAL THC.
						CHOITEDVIT NATAWORLDED
						SOUTH BEND, INDIANA
						•
					·	. S. J. M. BONSHINGER, C. BARROW, J. Co.
					,	itid degson
					1	QSSOCIQIOS Environmental and Geotechnical Services

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	86-10 03/18/97 Primary	86-10 06/05/97 Primary	86-10 09/25/97 Primary	86-10 12/09/97 Primary	86-10 06/11/98 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-Dichloroethene		7	<5	< 5	< 5.0 E	< 5.0	< 5.0
trans-1,2-Dichloroethene		100	9.6	12	12 J	12	9.1
cis-1,2-Dichloroethene		70	1761	[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 Choride		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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		:				
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	86-10 12/12/98 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-Dichloroethene		7	<5.0			
trans-1,2-Dichloroethene		100	10			
cis-1,2-Dichloroethene		70	[81]			
Methylene chloride		5	< 5.0			
Tetrachloroethene		5	<5.0			
Toluene		1000	< 5.0			
1,1,1-Trichloroethane		200	<5.0			
Trichloroethene		5	[79]			
Vinyl Choride		2	<10			
Acetone		2				
Xylenė (Total)		10000	< 100			
Carbon disulfide		10000	<10			
za. zan disumue			< 5.0			

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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Total Phenols				< 10	< 10	<10	
		RESULT TYPE	US-PMCL	Primary	Primary	Primary	1.
CONSTITUENT	(Units in ug/l)	DATE		86-10 03/18/97	86-10 09/25/97	86-10 06/11/98	252 A V
CONSTITUENT	(Units in us/I)	SITE	•,	96 10	90.40		

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 - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

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 12 MAR 96	04 04		
GROUP	PARAMETER NAME	UNITS	AMOUNT Q	04 JUN 96 Amount Q	04 SEP 96 Amount q	10 DEC 96 Amount q
A.VOA	_ BENZENE					
******	-, CHLORGETHANE	UG/L	5.0 บ	5.0 ບ	5.0 ບ	5.0 u
	CHLOROFORM	UG/L	10 U	10 U	10 U	
		UG/L	5.0 U	5.0 U	5.0 ປ	10 U
	, 1,1-DICHLOROETHANE	UG/L	5.0 ບ	2.5 J	4.9	5.0 U
	- 1,2-DICHLOROETHANE	UG/L	5.0 ປ	5.0 U	5.0 บ	5.0 U
. •	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 ບ	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	16	9.2	7.00	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	77	75	7.5 78	12
	METHYLENE CHLORIDE	UG/L	5.0 U			88
	~ 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 บ
	- 1,1,1-TRICHLOROETHANE	UG/L	10	5.0 ບ	5.0 ບ	5.0 บ
	- TRICHLOROETHENE	UG/L	120	6.4	22	7.2
	- VINYL CHLORIDE	UG/L	. –	94	120	100
	ACETONE	•	10 U	10 U	10 U	10 U
	XYLENE (TOTAL)	UG/L	100 U	100 ປ	100 ປ	100 U
	CARBON DISULFIDE	UG/L	10 U	10 U	10 ປ	10 U
	CARDON DISOLITEE	UG/L	5.0 U	5.0 บ	5.0 U	65
TOTAL VOC	s:	NC\F	223	187.1	232.4	272.2
E.METALS	CHROMIUM	410.41	.			
	LEAD	UG/L	5 U	-	13	-
	NICKEL	UG/L	2.8	•	2.7	-
	RICKLE	UG/L	11 J	-	5.4 J	•
H.MISC	CYANIDE, TOTAL	UG/L	5 U	•	.	
	PHENOLS	UG/L	10 Ŭ	_	5 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 86-10 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 08 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	08 JUN 95 Q THOUNT	19 SEP 95 . Amount q	05 DEC 95 Amount Q
A.VOA	BENZENE CHLOROETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE METHYLENE CHLORIDE TETRACHLOROETHENE TOLUENE 1,1,1-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE ACETONE XYLENE (TOTAL)	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5 U 10 U 5 U 5 U 5 U 18 90 5 U - 5 U - 5 U 141 100 U 100 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 78 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U	5.0 U 10 U 3.3 J 5.0 U 2.1 J 15 95 5.0 U 5.0 U 5.0 U 3.6 J 95 2.2 J	5.0 U 10 U 2.1 J 5.0 U 5.0 U 11 75 5.0 U 5.0 U 5.0 U 4.0 J 100 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 16 81 5.0 U 5.0 U 5.0 U 5.0 U
TOTAL VOCS:		UG/L	249	129	10 U	10 U	10 U
E.METALS	LEAD	UG/L	-	-	216.2	192.1 1.4	150
E.METALS (DIS.)	NICKEL (DISSOLVED)	NG/F	• •	2.0 U 20 U		-	-
H.MISC	CYANIDE, TOTAL PHENOLS	UG/L UG/ L	:	5 U 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:	86-16			1, 1-DI- CILORO- ETHANE	C13-1, 2- D1C/CO/D- E1/ENE	IRANS-1, 2 DECILORD- ETIENE	1, 1, 1-1A1 CILDRO-	IRL- CIRONO-	ATHAT			81	OTES:
DATE	SAMPLE		HCL				EliME	ETIEIE	CITOUIDE	SUN	HOTES	l	OUR INTERPRETATIONS OF THESE DATA
SAMPLED	110.	LAB	HETHOD	IPL	P-70	P-100	500	5	_ 2			^	NE LINITED TO OUR MITTEN REPORTS.
08/02/86			TAC TIRAL	UG/L	ne\r		LIG/L	(応/し	UG/L	IRG/L		L	O - NOT DETECTED AT DETECTION
10/10/05		AGUA	 	10	0	85.4	140	308	110	393		"	LIMIT SPECIFIED BY
02/24/89		AUUA		5.7	10	130	99.7	440	140	679			LABORATURY. SEE LAB REPORT.
05/08/89	-:	AUUA			100	!	10	340	19.0	501		N	PL - NO U.S EPA PUBLISHED LEVEL
09/07/89	;		624		67.3	35.3	10	380	110	403		i i	
15/15/89		AGUA	8240		75.1	35.1	15.5	530	15.3	313		P	- PROPOSEO
05/58/30	15	YOUY	8240	10	92.4	40.6	10	440	15.5	597			OC RESULTS ARE A SIMPLARY OF A
06/01/90		AOUA	0540	10	150	61.0	10	270	55.1	504		}	CHS SCAN FOR PRIORITY POLLUTANT
08/53/90		AOUA	8240	<u> </u>	81.7	48.3	14)	360	140	490			OLATILE ORGANIC COMPOUNDS FOR FACH LOCATION AND SAMPLING DATE.
		AOUA	8240		55.2	30.8	140	350	110 .	436			SEE LAB REPORT.
10/29/90		AOUA	8240	<u>''0</u>	07.4	39.7	10.4	327	110	465			
03/01/91		AGUA	8240	21.2	60.9	48.2	6.0	330	110	412		·]	
05/31/91		ADUA	D240	140	85.2	78.6	16.9	342.5	110	253			
08/10/91	16	ADUA	6240		42.4	21.5	9.56	595	110	3/9		1	
11/13/91	10	AQUA	0240		57.3	28.1	15.4	5/0	140	3/1		ŀ	
01/23/92		ACRIA	8240	5.0	53.7	24.0	14.5	243	140	341			
01/23/92		AQUA	8240	6.1	53.9	24.7	13.5	248	110	346			
04/01/92	- 56	AQUA	8240	14)	47.1	10.0	15.1	246	110	321			1
00/21/92	5	AOUA	8240	170	64.1	20.1	45.7	272	160	402			
11/02/92	35	AOUA	8540	9.3	61.9	10.5	61.0	191	110	345			PARAMETER
02/03/93	53	AONA	8240	10	90.2	21.0	17.9	224	14()	154		i i	o - Date
03/12/93		AOUA	8240	10	91.0	24.0	15.0	552	1:0	353			Sampled
15/05/83	15	AQUA	8240	110	76.4	15.0	_10	143	110	235			1 1
02/18/94		AQUA	8240	5.7	115	32.6	29.1	255	140	437		}	1 1
03/08/94	-23		0540		39.7	23.7	(M)	105		163		i	————
09/15/94		AOUA	8540	110	78.8		27.1	130	140	211		[
	10	AQUA	6240	0,7	. 00.1	10.6	62.7	171	140		l	l [_	
													SHALLOW MONITOR WELLS GROUNDHATER QUALITY ANALYSIS ORDANIC COMPOUNDS
									1			-	ALLIEDSIGNAL INC. GROUNDWATER INVESTIGATIONS SOUTH BEND, INDIANA
						, I							TO OPOSONI COSSOCIOTOS AVIrenmental and Gestachnical Services

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		86-15	86-15	86-15	86-15	86-15
·	DATE		03/18/97	06/05/97	06/05/97	09/25/97	12/09/97
•	RESULT TYPE	US-PMCL	Primary	Primary	Duplicate	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-Dichloroethane			< 5	< 5	< 5	< 5.0	< 5.0
,2-Dichloroethane		5	< 5	< 5	< 5	< 5.0	< 5.0
,1-Dichloroethene		7	< 5	< 5	<5	< 5.0	< 5.0
rans-1,2-Dichloroethene		100	60	58	53	48	50
is-1,2-Dichloroethene		70	35	38	33	32 .	33
Methylene chloride		5	< 5	< 5	< 5	<5.0	< 5.0
etrachloroethene		5	< 5	< 5	<5	<5.0	< 5.0
oluene		1000	< 5	< 5	<5	<5.0	< 5.0
,1,1-Trichloroethane		200	< 5	< 5	< 5	<5:0	< 5.0
richloroethene		5	[330]	[330]	[290]	[260]	[290]
/inyl Choride		2	< 10	< 2	< 2	<10	< 10
cetone			< 100	< 100	< 100	< 100	< 100
ylene (Total)		10000	<10	< 5	<5	< 10	< 100
arbon 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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	86-15 06/11/98 Primary	86-15 12/12/98 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	86	68	
cis-1,2-Dichloroethene		70	57	40	
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	[350]	[390]	
Vinyl Choride		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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	· · · · · · · · · · · · · · · · · · ·				
CONSTITUENT (Units in ug/l)	SITE	86-15	86-15	86-15	
	DATE	03/18/97	09/25/97	06/11/98	
	RESULT TYPE US-PMCL	Primary	Primary	Primary	
Total Phenols		<10	< 10	<10	<u> </u>

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		86-15 03/18/97	86-1 <u>5</u> 09/25/97	86-15 06/11/98
**************************************	RESULT TYPE	US-PMCL	Primary	Primary	Primary
Cyanide	-	200	< 5	<5	<5
Chromium, Dissolved (Filtered)				< 5	
Lead, Dissolved (Filtered)			•••	< 2.0	
Nickel, Dissolved (Filtered)				< 20	
Chromium, Total		100	< 5		
Lead, Total		15	6.4		
Nickel, Total		100	< 20		

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

SAMPLE ID 86-15

GROUP	PARAMETER NAME	UNITS	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 CHLOROETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE METHYLENE CHLORIDE TETRACHLOROETHENE TOLUENE 1,1,1-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE ACETONE XYLENE (TOTAL)	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	25 U 50 U 25 U 25 U 25 U 47 61 25 U 25 U 25 U 43 625 138	13 U 25 U 13 U 13 U 13 U 13 U 13 U 13 U 13 U 13	25 U 3.2 J 25 U 25 U 3.4 J 18 J 99 4.0 J 25 U 25 U 7.2 J 290 44 J 500 U 50 U	25 U 50 U 25 U 25 U 25 U 25 U 45 59 25 U 25 U 25 U 25 U 26.5 J 440	25 U 50 U 25 U 25 U 25 U 38 37 25 U 25 U 25 U 25 U 25 U 25 U
TOTAL VOCS:		- UG/L	914	795		50 U	50 Ū
E.HETALS	LEAD	UG/L	-		468.8	550.5 3.8	385
E.METALS (DIS.)	NICKEL (DISSOLVED)	UG/L UG/L	•	2.3 22	- -	-	-
H.MISC	CYANIDE, TOTAL PHENOLS	UG/L UG/L	-	5 บ 10 บ	-	5 บ 10 บ	:

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.

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SOURCE:	86-15			1, 1-01- CILORD- ETIUNE	CIS-1, 2- DICHE CHO- ETHERE	TRANS-1, 2 OTCILORD- ETIENE	1, 1, 1-TRI CIE DIG- ETILAIE	TRE- CIL UIO- ETIEIE	ALMAT CHECKIEDE	SUM	23104	-	NOTES: OUR INTERPRETATIONS OF THESE DATA
DATE	SAMPLE		HCL	IPL	P-70	P-100	500	5	2		 -		ARE LIMITED TO DUM WITTEN REPORTS.
SAMPLED	140.	LAB	HETHOD	UG/L	ug/L	UG/L	UG/L	₩.	ug/L	UG/L			
08//02/86	4	AQUA		140	10	40.1	64.9	1620	HO	173)			IND - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY
10/10/85	13	AOUA		10	120	33.7	30.0	1580		1352			LABONATURY. SEE LAB REPORT.
02/24/09	54	YOUY		10	110	9.2	9.1	400	ND	418	··		NPL - NO U.S EPA PUBLISHED LEVEL
05/08/69	9	ADUA	524	10	10.2	33.5	7.6	600	IW	659			
09/07/69	5	ACULA	8240	10	20.8	36.0	141	470	HO	521			P - PROPOSEO
15/12/89	14	AUUA	8240	NO.	15.5	20.5	10.6	440	110	48)			VOC RESIATS ARE A SIMBLARY OF A
05/59/30	6	AUDA	8540	140	16.5	32.7	11.0	520	trO	581			GCHS SCAN FOR PRIORITY POLLUTANT
06/01/90	5	ACUA	8240	10	6.7	11.8	10.8	330	140	419			VOLATILE ORGANIC COMPOUNDS FOR EACH LUCATION AND SAMPLING DATE.
08/23/90	51	ACUA	8240	140	140	6.1	7.6	370	6110	384			SEE LAB REPORT.
10/29/90	53	AUOA	8240	140	0.6	10.8	11.2	404	110	4)5			
03/01/91	13	AUUA	8240	6.1	7.9	13 9	10.1	355	180	360			1
03/31/91	5	AUUA	B 240	10	14)	39.1	V. 3	449.6	143	490			1
00/30/91	13	AUQA	65 40	10	8.4	13.0	0.0	353	140	354			
, 11/13/91		AUUA	8240	143	12.5	14.2	7.4	381	110	415			
11/13/91	9	ADUA	8240	140	10.4	15.2	7.1	345	140	370			i
01/23/92	6	AOUA	8240	5.6	12.1	21.3	11.5	320	140	401			<u> </u>
04/01/92	25	ADUA	8240	10	11.9	21.1	7.5	404	но	445	<u> </u>		1
08/31/85	4	AQUA	0240	Ю	20.9	16.2	0.8	546	11.1	605		Ì	PANAMETER
11/02/92	34	AQUA	8240	10	20.6	34.1	7.6	408	110	476			
11/02/92	35	AOUA	85 40	10	26.7	33.4	8.3	376	100				o - Date
02/05/93	55	AUUA	8240	10	33.1	36.2	7.0	440	140	316			Sampled
05/12/93	19	ACUA	8240	10	20.7	34.1	5.6	364	110	434	·		
05/12/93	50	AUDA	8240 8240	7.3	33.9	40.9	7.6	373	100			Ì	
12/02/93	20	AUGA	B2 40	10	76.1	33.9	14)	891	1-10	1051			
02/10/04	'3	ALRIA	0240	140	31.1	31.1	10	374	(tt)	440			
05/05/94	-:-	ADUA	8240	10	31.0	37.6	160	370	140	440	1	<u> </u>	
05/06/94	55	AUUA	8240	10	37.2	36.3	10	344	t(D	418]	SHALLOW HONITON WELLS
09/13/94	1.,,	ADUA	0240	10	94.5	62.0	10	975	109	801		j	GROUNDWATER QUALTTY ANALYSTS ORGANIC COMPOUNDS
													ALLIEDSIGNAL INC. GROUNDWATER INVESTIGATIONS SOUTH BEND. INDIANA
						; 1							Cavironmental and Geotechnical Services

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Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				e de la companya del companya de la companya del companya de la co				
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	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	< 5	< 5	< 5.0	< 5.0	<5.0 <5.0	
cis-1,2-Dichloraethene		70	< 5	<5	< 5.0	< 5.0	<5.0 <5.0	
Methylene chloride		5	< 5	< 5	<5.0	< 5.0		
Tetrachloroethene		5	< 5	< 5	<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		
Trichloroethene		5	< 5	<5	<5.0		< 5.0	
Viñyl Choride		2	<10	< 2	<10	< 5.0	< 5.0	
Acetone			< 100			< 10	<10	
Xylene (Total)		10000		< 100	<100	< 100	<100	
Carbon disulfide		10000	< 10	< 5	< 10	< 10	< 10	
			< 5	< 5	< 5.0	< 5.0	< 5.0	

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		9-33	
· 유리를 불구했습니다. 그리고 있는 기록하는 다.	DATE		9-33 12/12/98	
r Haritan (n. 1800)	RESULT TYPE	US-PMCL	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-Dichloroethene		7	< 5.0	
trans-1,2-Dichloroethene		100	< 5.0	
cis-1,2-Dichloroethene		70	< 5.0	
Methylene chloride		5	< 5.0	
Tetrachloroethene		5	< 5.0	 •
Toluene		1000	< 5.0	
1,1,1-Trichloröethane		200	< 5.0	
Trichloroethene		5	< 5.0	
Vinyl Choride		2	<10	
Acetone			< 100	
Xylene (Total)		10000	< 10	
Carbon disulfide			< 5.0	

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		• .		• 1 • 1			
CONSTITUENT (Units in ug/l)	SITE DATE		9-33 03/19/97	9-33 09/26/97	9-33 09/26/97	9-33 06/10/98	
	RESULT TYPE	US-PMCL	Primary	Primary	Duplicate	Primary	
Total Phenois			10	<10	< 10	<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		9-33 03/19/97	9-33 09/26/97	9-33 09/26/97	9-33	
•						06/10/98	
	RESULT TYPE	US-PMCL	Primary	Primary	Duplicate	Primary	
Cyanide		200	< 5	< 5	< 5	< 5	
Chromium, Dissolved (Filtered)				< 5	< 5	•••	
Lead, Dissolved (Filtered)				< 2.0	< 2.0		
Nickel, Dissolved (Filtered)				< 20	< 20		
Chromium, Total		100	< 5		•••		
Lead, Total		15	< 2			•••	
Nickel, Total		100	< 20			*	

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

> SAMPLE ID 9-33

GROUP	PARAMETER NAME	UNITS	DATE 13 MA AMOUN		04 jun 96 Amount q	OS :	SEP 96 JNT Q	10 DEC 96 Amount o	
A.VOA	0543545				***************************************			Moon! A	 -
n. vun	BENZENE	UG/L		5.0 บ	5.0				
	CHLOROETHANE	UG/L		10 U	5.0 U		5.0 U	5.0 ช	
	CHLOROFORM	UG/L			10 บ		10 U	10 U	
	1,1-DICHLOROETHANE	UG/L		5.0 U	5.0 U		5.0 บ	5.0 U	
	1,2-DICHLOROETHANE	•		5.0 U	5.0 บ		5.0 U		
	1,1-DICHLOROETHENE	NC/F		5.0 บ	5.0 ປ		5.0 U	5.0 u	
•	TRANS-1,2-DICHLOROETHENE	UG/Ł		5.0 U	5.0 ບ		5.0 U	5.0 U	
	CIS-1,2-DICHLOROETHENE	UG/L		5.0 U	5.0 U			5.0 บ	
	METUNIEUS ON COLOR	UG/L		5.0 U	5.0 บ		5.0 U	5.0 ບ	
	METHYLENE CHLORIDE	UG/L		5.0 U			5.0 U	5.0 บ	
	TETRACHLOROETHENE	UG/L		5.0 U	5.0 u		5.0 บ	5.0 ປ	
	TOLUENE	UG/L		5.0 U	5.0 U		5.0 ປ	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 บ	5.0 U	
	VINYL CHLORIDE	UG/L			5.0 ບ		5.0 U	5.0 U	
	ACETONE	-		10 U	10 ບ		10 U	10 U	
	XYLENE (TOTAL)	UG/L		100 U	100 ປ		100 U		
	CARBON DISULFIDE	UG/L		10 ປ	10 U		10 U	100 U	
		UG/L		5.0 บ	5.0 U		5.0 U	10 U	
TOTAL VOCS:							J.0 0	5.0 U	
		UG/L	0		0	0		•	
E.METALS	CHROMIUM					U		0	
		UG/L		5 U	-		F 0		
	LEAD	UG/L	1.0	3	_		5.0 U	•	
	NICKEL	UG/L	•	20 U	-	1.3	J	-	
		-• =			-		20 U	-	
H.MISC	CYANIDE, TOTAL	UG/L		5 υ					
	PHENOLS	UG/L			•		5 U	-	
		04/1		10 ປ	•	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

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

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

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 ERN QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE:	9-33					1
İ				I		MUTES:
				MOTES		
DATE	SAMPLE		HOL			OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
SAMPLED	NO.	LAB	HETHOO			i i
01/08/87	11	AUUA	1		Ne VOC Detected	NO - NOT DETECTED AT DETECTION
06/05/87	3	AUUA			No VOC Detected	LIHIT SPECIFIED BY LABORATURY. SEE LAB REPORT.
09/03/07	3	AUUA			No YOC Detected	
01/13/88	3	AUUA			No VOC Detected :	NPL - NO U.S EPA PUBLISHED LEVEL
02/10/80	31	ADUA			No YOC Detected	P - PROPOSEO
05/19/00	3	YOUY			Na YOC Detected	VOC RESILTS ARE A SIMOLARY OF A
09/22/88	3	YOUY			Ne YOC Detected	GCHS SCAN FOR PRIGATTY POLLUTANT
12/09/88	15	ADUA			Ne VOC Detected	VOLATILE ORGANIC COMPOUNDS FOR
05/22/49	4	ACUA			No YOC Detected	EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.
08/10/89	35	AUUA	624		No YOC Detected	1
09/67/89	4	AUUA	8240		Ne VOC Detected	NO RESULT FOR 10/92 SAMPLING
12/17/09	33	AUIDA	D249		Ne VIIC Detected	EPISODE DUE TO LAB ENVION.
05/50/90	5	ALION	8240		No YCC Detected	
05/04/90	33	ADUA	0240		Ne YOC Detected	
05/04/90	34	ADUA	8240		Ne VOC Detected	
08/25/80	5	AUUA	8240		Na YOC Detected	
10/27/90	3	AUUA	8240		Ne YOC Detected	İ
02/20/91	11	ACUA	8240		Ne YOC Detected	•
05/01/91	24	AUUA	8249		No YOC Detected	PARAMETER
08/29/91	11	AUDA	8240		No VOC Detected	o - Data
11/12/91	5	AOUA	0248		No YDC Datested	Sampled
01/23/92	15	AUUA	0240		No YOC Detected	
04/01/92	32	ADUA	0240		Ne YOC Detected	
08/55/85	- 11	AUUA	8240		Ne YOC Detected	
02/04/93	-	AUUA	8240		Ne VOC Detected	
02/10/93	1	AUDA	8240		No VOC Detected	
05/11/93	15	AQUA	9240		Ne YOC Detected	SHALLON HONITOR WELLS
05/11/93	13	AQUA	B240		No YOC Detected	GROUNDWATER QUALITY ANALYSIS
12/02/93	19	ADUA	0240		No VOC Detected No VOC Detected	ORGANIC COMPOUNDS
02/17/94	7	AGUA	8240		No VOC Detected	
05/05/94	12	ADUA	0240		No VOC Detected	
				 -		ALL TERRITORIES THE
05/03/94	13	AOUA	@240 ********		Ne voc Detected	ALLIEDSIGNAL INC.
69/14/94	.,	AOUA	6240		He VOC Datected	GROUNDMATER INVESTIGATIONS
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Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		••					
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-1 03/18/97 Primary	MW-1 06/05/97 Primary	MW-1 09/26/97 Primary	MW-1 12/10/97 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-Dichloroethane			<5	< 5	<5.0	< 5.0	
1,2-Dichloroethane		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 Choride		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	
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Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

			South Benu, Ind	iai ia	

CONSTITUENT (Units in ug/l)	SITE		MW-1	MW-1	
	DATE		03/18/97	09/26/97	` .
	RESULT TYPE	US-PMCL	Primary	Primary	
Total Phenols			< 10	< 10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		MW-1	MW-1				
DATE		03/18/97	09/26/97			•	* ;
RESULT TYPE	US-PMCL	Primary	Primary				
- "	200	< 5	< 5				
		•••	•••				
	100	30 J					
	15	[19] J					
	100	[140]	•••				
	RESULT TYPE	DATE RESULT TYPE US-PMCL 200 100 15	DATE 03/18/97 RESULT TYPE US-PMCL Primary 200 <5	DATE 03/18/97 09/26/97 RESULT TYPE US-PMCL Primary Primary 200 <5 <5	DATE 03/18/97 09/26/97 RESULT TYPE US-PMCL Primary Primary 200 <5 <5 100 30 J 15 19 J	DATE 03/18/97 09/26/97 RESULT TYPE US-PMCL Primary Primary 200 <5 <5	DATE 03/18/97 09/26/97 RESULT TYPE US-PMCL Primary Primary 200 <5 <5

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

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-2 03/18/97 Primary	MW-2 06/05/97 Primary	MW-2 09/26/97 Primary	MW-2 12/09/97 Primary	MW-2 06/12/98 Primary
Benzene		5	<130	< 5	< 25	< 10	< 20
Chloroethene		2	< 250	< 2	[70]	[83]	1931
Chloroform		100	< 130	< 5	< 25	< 10	< 20
1,1-Dichloroethane			< 130	260	190	110	220
1,2-Dichloroethane		5	< 130	< 5	[49]	< 10	< 20
1,1-Dichloroethene		7	< 130	< 5	< 25	< 10	< 20
trans-1,2-Dichloroethene		100	< 130	< 5	< 25	14	27
ss-1,2-Dichloroethene		70	[2400]	[3500]	[2600]	[950]	[2100]
Methylene chloride		5	< 130	< 5	< 25	< 10	< 20
l'etrachloroethene		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 Choride		2	< 250	< 2	[70]	[83]	[93]
Acetone	•		< 2500	< 100	< 500	< 200	<400
Kylene (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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-2 12/13/98 Primary	MW-2 12/13/98 Duplicate		
Benzene	·	5	< 25	< 25		
Chloroethene		2	[100]	[110]		
Chloroform		100	< 25	< 25		
1,1-Dichloroethane			240	250		
1,2-Dichloroethane		5	[32]	[33]		
1,1-Dichloroethene		7	[28] J	[38]		
trans-1,2-Dichloroethene		100	38	39		
cis-1,2-Dichloroethene		70	[3000]	[3200]	•	
Methylene chloride		5	[38] JB	[49]		
Tetrachloroethene		5	< 25	< 25		
Toluene		1000	< 25	< 25		
1,1,1-Trichloroethane		200	[700] J	< 25		
Trichloroethene		5	[40]	[44]		
Vinyl Choride		2	[100]	[110]		
Acetone			< 500	< 500		
Xylene (Total)		10000	< 50	< 50		
Carbon disulfide			< 25	< 25		

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

Analytical Summary - Phenols In Groundwater **Shallow Monitoring Wells Quarterly Monitoring Program - 12/98** AlliedSignal Industrial Complex South Bend, Indiana

Total Phenols	RESULT TYPE	US-PMCL	Primary < 10	Primary 10	Primary
	797 8		03/18/97	09/26/97	06/12/98
CONSTITUENT (Units in ug/l)	SITE		MW-2	MW-2	MW-2

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

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Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	•		•		•		
CONSTITUENT (Units in ug/l)	SITE		MW-2	MW-2	MW-2		
	DATE		03/18/97	09/26/97	06/12/98	en en en en en en en en en en en en en e	
	RESULT TYPE	US-PMCL	Primary	Primary	Primary		
Cyanide		200	< 5	< 5	<5		
Chromium, Dissolved					7.8		
Lead, Dissolved			***		< 2.0		
Nickel, Dissolved	•				< 20		
Chromium, Total		100	< 5				
Lead, Total		15	12	***			
Nickel, Total		100	< 20				
.							

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-3 03/18/97 Primary	MW-3 03/18/97 Duplicate	MW-3 06/05/97 Primary	MW-3 09/26/97 Primary	MW-3 12/10/97 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-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	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 Choride		2	< 10	< 10	< 2	<10	<10
Acetone			< 100	< 100	< 100	< 100	< 100
Xylenė (Total)		10000	< 10	< 10	< 5	<10	<10
Carbon disulfide			< 5	< 5	<5	< 5.0	< 5.0
				-			₹0.0

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 Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				·
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-3 12/10/97 Duplicate	
		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · ·	<u> </u>
Benzene		5	< 5.0	
Chloroethene Chloroform		2 100	< 10 < 5.0	
		100		
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 Choride		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 Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

			·		·		
CONSTITUENT	(Units in ug/I)	SITE DATE		MW-3 03/18/97	MW-3 03/18/97	MW-3 09/26/97	
		RESULT TYPE	US-PMCL	Primary	Duplicate	Primary	
Total Phenols				< 10	< 10	<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		MW-4 03/18/97	MW-4 06/04/97	MW-4 09/26/97	MW-4 12/10/97	MW-4 06/12/98
and the second s	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-Dichloroethane			< 5	< 5	5.6	6.5	7.8
,2-Dichloroethane		5	< 5	< 5	< 5.0	< 5.0	< 5.0
,1-Dichloroethene		7	< 5	< 5	< 5.0	< 5.0	< 5.0
rans-1,2-Dichloroethene		100	< 5	< 5	< 5.0	< 5.0	< 5.0
is-1,2-Dichloroethene		70	11	5.4	10	5.2	6.9
Nethylene chloride		5	< 5	< 5	< 5.0	< 5.0	< 5.0
etrachloroethene		5	< 5	< 5	< 5.0	< 5.0	< 5.0
oluene		1000	< 5	< 5	< 5.0	< 5.0	< 5.0
,1,1-Trichloroethane		200	< 5	< 5	< 5.0	< 5.0	< 5.0
richloroethene		5	[13]	[17]	[20]	[21]	17.01
/inyl Choride		2	< 10	< 2	< 10	< 10	< 10
cetone			< 100	< 100	< 100	< 100	< 100
(ylene (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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITÜENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-4 12/14/98 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-Dichloroethene		7	< 5.0	
trans-1,2-Dichloroethene		100	< 5.0	
cis-1,2-Dichloroethene		70	< 5.0	
Methylene chloride		5	< 5.0	
Tetrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	
Trichloroethene		5	[15]	
Vinyl Choride		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 Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE ৩৪৪৬	MW-4	MW-4	MW-4
	DATE	03/18/97	09/26/97	06/12/98
inger Single •	RESULT TYPE US PMCL	Primary	Primary	Primary
Total Phenols		< 10	< 10	<10

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l) SITI DAT RES		MW-5 03/18/97 Primary	MW-5 06/05/97 Primary	MW-5 09/26/97 Primary	MW-5 12/10/97 Primary	MW-5 06/12/98 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-Dichloroethane		< 5	< 5	< 5.0	< 5.0	< 5.0
,2-Dichloroethane	5	< 5	< 5	< 5.0	< 5.0	< 5.0
,1-Dichloroethene	7	< 5	< 5	< 5.0	< 5.0	< 5.0
rans-1,2-Dichloroethene	100	< 5	< 5	< 5.0	< 5.0	< 5.0
is-1,2-Dichloroethene	. 70	9.8	11	11	.11	7.4
Nethylene chloride	5	< 5	< 5	< 5.0	<5.0	< 5.0
etrachloroethene	5	[5.8]	[8.4]	[13]	10.01	[6.8]
oluene	1000	< 5	< 5	<5.0	< 5.0	< 5.0
,1,1-Trichloroethane	200	9	11	16	33	8.9
richloroethene	5	[24]	[28]	[42]	[18]	[24]
/inyl Choride	2	[13]	[12]	[13]	<10	< 10
acetone		< 100	< 100	< 100	< 100	< 100
γlene (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

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Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	en tr	,		V 14.	
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-5 03/18/97 Primary	MW-5 09/26/97 Primary	MW-5 06/12/98 Primary
Total Phenols			< 10	<10	<10

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		·						
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-7 03/18/97 Primary	MW-7 06/05/97 Primary	MW-7 09/25/97 Primary	MW-7 12/09/97 Primary	MW-7 06/12/98 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	
Viny! Choride		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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

SITE		MW-7	
DATE		12/14/98	
RESULT TYPE	US-PMCL	Primary	
	5	<5.0	
	2	[130]	
	100	< 5.0	
		14	
	5	< 5.0	
	7	< 5.0	
	100	< 5.0	
	70	[340]	
	5	< 5.0	
	5	<5.0	
	1000	< 5.0	
	200	< 5.0	
	5	< 5.0	
	2	[130]	
		< 100	
	10000	<10	
	SITE DATE RESULT TYPE	DATE RESULT TYPE US-PMCL 5 2 100 5 7 100 70 5 5 1000 200 5 2	DATE RESULT TYPE US-PMCL Primary 5

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

[] = Greater than Action Level

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		MW-7	MW-7	MW-7	
Resident Color of the Color of	DATE		03/18/97	09/25/97	06/12/98	-
• · · · · · · · · · · · · · · · · · · ·	RESULT TYPE	US-PMCL	Primary	Primary	Primary	
Cyanide	<u></u>	200	< 5	< 5	< 5	
hromium, Dissolved				•••	5.9	
ead, Dissolved					< 2.0	
lickel, Dissolved				•••	< 20	
Chromium, Total		100	75			
ead, Total		15	[85]		***	
ickel, Total		100	[110]	•••	•••	

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	• • • •					
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-Dichloroethane			330	440		
1,2-Dichloroethane		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	g Asia sa	
Toluene		1000	< 5	< 5		•
1,1,1-Trichloroethane		200	7.6	< 5		
Trichloroethene		5	[78]	[140]		
Vinyl Choride		2	[14]	< 2		
Acetone			< 100	< 100		
Xylene (Total)		10000	< 10	< 5		
Carbon disulfide			< 5	< 5		

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[] = Greater than Action Level

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Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		•	
CONSTITUENT (Units in ug/l)	SITE	MW-8	
	DATE	03/18/97	
. •	RESULT TYPE US-PMCL	Primary	
Total Phenols		3100	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

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[] = Greater than Action Level

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		South Bend, Indi	a11a	- 		
			••			
SITE		MW-9	MW-9 06/03/97	MW-9	MW-9 12/08/97	MW-9 06/11/98
RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Primary
	5	< 5	< 5	< 5.0	< 5.0	< 5.0
	2	< 10	< 2	< 10	< 10	< 10
	100	< 5	< 5	< 5.0	< 5.0	< 5.0
		< 5	< 5	< 5.0	< 5.0	< 5.0
	5	< 5	< 5	< 5.0	< 5.0	< 5.0
	7	< 5	< 5	< 5.0	< 5.0	< 5.0
	100	< 5	< 5	< 5.0	< 5.0	< 5.0
	70	< 5	< 5	< 5.0	< 5.0	< 5.0
	5	< 5	< 5	< 5.0	< 5.0	< 5.0
	5	< 5	< 5	< 5.0	< 5.0	< 5.0
	1000	< 5	< 5	< 5.0	< 5.0	< 5.0
	200	< 5	< 5	< 5.0	< 5.0	<5.0
	5	< 5	< 5	< 5.0	< 5.0	[6.2]
	2	< 10	< 2	< 10	< 10	< 10
		< 100	< 100	< 100	< 100	< 100
	10000	< 10	<5	< 10	< 10	< 10
		< 5	< 5	< 5.0	< 5.0	< 5.0
	SITE	DATE RESULT TYPE US-PMCL 5 2 100 5 7 100 70 5 5 1000 200 5 2	SITE 03/18/97 RESULT TYPE US-PMCL Primary 5	MW-9 MW-9 DATE D3/18/97 D6/03/97 Primary Primary	SITE MW-9 MW-9 MW-9 DATE 03/18/97 06/03/97 09/25/97 RESULT TYPE US-PMCL Primary Primary Primary 5 <5	SITE MW-9 ####################################

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Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		MW-9 09/18/98	MW-9	Harris Agentina (1997) Agentina (1997)	
	• •	US-PMCL	Primary	12/14/98 Primary		
<u> </u>	RESULT TYPE		·			
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	< 5.0	< 5.0		
Vinyl Choride		2	<10	<10		
Acetone			< 100	<100		
Xylene (Total)		10000	< 10	<10		
Carbon disulfide			< 5.0	<5.0		

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Page: 1A

CONSTITUENT (Units in ug/l)	SITE DATE	MW-9 03/18/97	MW-9 09/25/97	MW-9 06/11/98
	RESULT TYPE US-PMCL	Primary	Primary	Primary
Total Phenois		80	20	<10

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		MW-9	MW-9	MW-9	· A
	DATE		03/18/97	09/25/97	06/11/98	
· .•.	RESULT TYPE	US-PMCL	Primary	Primary	Primary	
/anide		200	9	30	<5	
nromium, Dissolved					7.2	
ad, Dissolved				•	< 2.0	
ckel, Dissolved					20	
nromium, Total		100	82			
ad, Total		15	[48]			
kel, Total		100	[100]	*		

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		MW-10		
	DATE		06/11/98	12/13/98	·
· 1	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			12	64	
1,2-Dichloroethane		5	< 5.0	< 5.0	
1,1-Dichloroethene		7	<5.0	< 5.0	
trans-1,2-Dichloroethene		100	< 5.0	31	
cis-1,2-Dichloroethene		70	[91]	[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 Choride		2	< 10	< 10	
Acetone			< 100	< 100	
Xylene (Ţotaļ)		10000	< 10	<10	
Carbon disulfide			< 5.0	< 5.0	

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[] = Greater than Action Level

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				* **	
CONSTITUENT	(Units in ug/l)	SITE		MW-10	
	,	DATE		06/11/98	
•		RESULT TYPE	US-PMCL	Primary	
		RESULT TYPE	US-PMCL	Primary	
otal Phenois				< 10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-11 06/11/98 Primary	· :	
Benzene		5	<5.0		
Chloroethene		2	<10		
Chloroform		100	< 5.0		
1,1-Dichloroethane			36		
1,2-Dichloroethane		5	< 5.0		
1,1-Dichloroethene		7	< 5.0		
trans-1,2-Dichloroethene		100	< 5.0		•
cis-1,2-Dichloroethene		70	[90]		
Methylene chloride		5	< 5.0		
Tetrachloroethene		5	< 5.0		
Toluene		1000	< 5.0		
1,1,1-Trichloroethane		200	18		
Trichloroethene		5	[8.7]		
Vinyl Choride		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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE US-PI	MW-11 06/11/98 MCL Primary	11.
Total Phenols		10	
e*			
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Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-12 06/12/98 Primary	MW-12 12/13/98 Primary	
Benzene		5	< 5.0	< 5.0	
Chloroethene		2	< 10	< 10	
Chloroform		100	< 5.0	< 5.0	
1,1-Dichloroethane			14	< 5.0	
1,2-Dichloroethane		5	< 5.0	< 5.0	
1,1-Dichloroethene		7	< 5.0	< 5.0	
trans-1,2-Dichloroethene		100	16	7.7	
cis-1,2-Dichloroethene		70	[690]	[88]	
Methylene chloride		5	< 5.0	< 5.0	
Tetrachloroethene		5	< 5.0	< 5.0	
Toluene		1000	< 5.0	< 5.0	
1,1,1-Trichloroethane	÷	200	16	< 5.0	
Trichloroethene		5	[180]	[35]	
Vinyl Choride		2	< 10	< 10	
Acetone			< 100	< 100	
Xylene (Total)		10000	< 10	< 10	
Carbon disulfide			< 5.0	<5.0 ^	

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[] = Greater than Action Level

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/I)	SITE DATE RESULT TYPE	US-PMCL	MW-13 06/10/98 Primary	MW-13 12/13/98 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	< 5.0	< 5.0	•
Vinyl Choride		2	< 10	<10	
Acetone			< 100	< 100	
Xylene (Total)		10000	< 10	<10	
Carbon disulfide			< 5.0	< 5.0	

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Page: 1A

CONSTITUENT (Units in ug/l)	SITE	MW-12 06/12/98	
A	RESULT TYPE US PMCL	Primary	
Total Phenols		< 10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	CITE		MAN 10	
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-12 06/12/98 Primary	
Cyanide		200	< 5	
Chromium, Dissolved			< 5	
Lead, Dissolved			< 2.0	
Nickel, Dissolved			< 20	
Chromium, Total		100		
Lead, Total		15		
Nickel, Total		100		

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	• •		• .			
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	MW-13 06/10/98 Primary	MW-13 12/13/98 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	< 5.0	< 5.0		
Vinyl Choride		2	< 10	< 10	ta de la companya de la companya de la companya de la companya de la companya de la companya de la companya de	•.
Acetone			< 100	< 100		
Xylene (Total)		10000	< 10	< 10		
Carbon disulfide			< 5.0	< 5.0		

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana Page: 1A

CONSTITUENT (Units in ug/l)	SITE	MW-13	
*	DATE	06/10/98	
	RESULT TYPE US-PMCL	Primary	
Total Phenois		<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	ŜITE		MW-13	
	SITE DATE RESULT TYPE	US-PMCL	06/10/98 Primary	American American
Cyanide	<u> </u>	200	< 5	the same of the sa
Chromium, Dissolved			<5	
Lead, Dissolved			< 2.0	
Nickel, Dissolved			< 20	
Chromium, Total		100		
Lead, Total		15		
Nickel, Total		100		

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S 3	0.0	·
	DATE			\$3	
	RESULT TYPE	US-PMCL	06/11/98 Primary	12/14/98	
•		- 	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	< 5.0	< 5.0	
Vinyl Choride		2	< 10	<10	
Acetone			< 100	< 100	
Xylene (Total)		10000	< 10	< 10	
Carbon disulfide			< 5.0	<5.0	

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

•		· •	
CONSTITUENT (Units in ug/l)	SITE	\$3	
	DAŢE	06/11/98	
	RESULT TYPE US-PMCL	Primary	
Total Phenois		<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	ŞITE		S3	
:	DATE		06/11/98	
	RESULT TYPE	US-PMCL	Primary	
Cyanide		200	< 5	
Chromium, Dissolved			< 5	
Lead, Dissolved			< 2.0	
Nickel, Dissolved			< 20	
Chromium, Total		100	•••	
Lead, Total		15		
Nickel, Total		100	•••	

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				=======	*******	*******	VOLATILE	ORGANIC	COMPOUNDS	; :*******	*******	*******		1	OTHER ORGANIC	COMPOUNDS	3		*!
				1,1-D1- CHLORO-	1,2-01- CHLORO-	1,1-D1- CHLORO-	DI-	TRI- CHLORO-	TRI-	1,2 DI-	i I		!	 CIS-1,2-	l BIS	1	 	 	MOTES:
				•		•		1				1	TOLUENE	ETHENE	·[(Z-ETHYLHEXYL) PHTHALATE 	:	į		OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
WELL NO. (DATE	SAMPLE A	I LAB		 	06/L 	06/L 		UG/L	UG/L	UG/L	UG/L 	UG/L	 ne\r	UG/L	j 	i 	 	ND = NOT DETECTED. SEE LAB REPORT FOR
\$-3	11/05/86	9	AQUA	KD	MD	MD		**************************************	 ND	********* ! #D	======== ND	, ******** !	! *********	 	! ************************************	 	 *******	:========	VOC RESULTS ARE A SUMMARY OF A GCMS SCAN
1	 06/05/87	 4	AQUA		l ND			·····	ļ					 	2.6] 	FOR PRIORITY POLLUTANT VOLATILE ORGANIC
· · ·	09/03/87		AOUA	ļ	į			#D	ND		ND	•			[]	 	 	 	DATE. SEE LAB REPORT.
į	i		ļ	ND	[ND	MD 	 	40 	ND	ND	MD	ND.	ND		ı				1
i	01/14/88 		•	ND 	KD 		ND 	ND		МО	ND	MD	ן מא	MD	i			[[1 1
	02/08/88		•	KD 	MD	MD	ND	ND	ND	MD	ND	ND		MD	i	 	•••••	 	! !
†! 	05/18/88		AQUA	ND	МD	но	МЭ	ΚО	ND	ио ј	ND	MD	 MD	AID	 				
į	į		i] 	 	 	 	 	········· [·
•	09/23/88		AGUA	 KD	 KD	 140		 ND	j	 ND	 ND 1	•	•				! 	 	
] 	۱ا ا	 	 	 	 	<u> </u>					•			CN 	 		ا اا	 •-•	***************************************
Į.	······································	• • • • • • • • • • • • • • • • • • • •	•••••	i							اا ا	l	 	 			i		TABLE 5
į.	····-i	اًا	 		 	 	!	1	 	 	ا اا	l		· 	i	1	i	i	GROUNDWATER QUALITY ANALYSIS
ŀ			 	 	 			l	i	.i	i	i	i		!			 	ORGANIC COMPOUNDS PAGE 21 OF 43
 -		ا ا	 	 1			i	i	i	i	į	į		1	1	······[·	······/	اا ا	MONITOR WELLS
 - 		i 	 	j	j	i				······		······]	······ · -	1	·····i	i	i	jا ا	GROUNDMATER INVESTIGATIONS ALLIED CORPORATION SOUTH BEND, INDIANA
ŀ	·····j:	·j	j		····				············	·¦.	 -	·	····		·		i	i	PROJECT # ALCHPX SBIN 012
ŀ	····	!		······	······	········	···········	· .		·	l		j.	i	·····i	<u>i</u>			T A GLEASON ASSOCIATES
**********	; **********		 	·	·		·	l											Environmental and Geotechnical Services

S3MCPHW 07-Oct-88 SPECIFIC [coxpuc-] TEMP [ANTIMONY]ARSENIC|BERYLLIUM|CADMIUM|CHROMIUM| COPPER | LEAD |MERCURY| MICKEL |SELENIUM| SILVER |THALLIUM| ZINC |CYANIDE|PHENOLS| OUR INTERPRETATIONS OF INMHOSYCNI SO I C I DENT I DENT I DENT I DENT I DENT I DENT I DENT I DENT I DENT I DENT I DENT I DENT I DENT I | WELL NO. | SAMPLE # | DATE | LAB | < = LESS THAN METAL SAMPLES COLLECTED <6 | 415 |<0.010 |<0.010 | SINCE 6/05/87 WERE THROUGH .45 MICRON FILTER 4 [09/03/87] AQUA | 1500 | 7.43 | ······ 12 |<0.005 |<0.010 | BLANK SPACE INDICATES 26 [01/15/88] AOUA [2100] 6.86 [10 | <0.02 | 0.04 | 4 [5/18/88 | AGUA | 2300 | 7.33 | 4 | 109/23/88 AQUA | 1395 | 7.05 | 14.5 | <30 J GROUNDWATER QUALITY ANALYSIS METALS, CYANIDE AND PHENOLS PAGE 13 OF 28 MONITOR WELLS GROUNDWATER INVESTIGATIONS ALLIED CORPORATION SOUTH BEND, INDIANA T A GLEASON ASSOCIATES Environmental and Geotechnical Services

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	•						
CONSTITUENT (Units in ug/l)	SITE DATE		S4A 03/21/97	S4A 06/03/97	S4A 09/23/97	S4A 12/09/97	S4A 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			14	31	24	23	33
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	5.2
cis-1,2-Dichloroethene		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 Choride		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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Training and and			South Beno, Indiana	
		. ·		
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S4A 12/14/98 Primary	
Benzene		5	< 5.0	
Chloroethene		2	< 10	
Chloroform		100	< 5.0	
1,1-Dichloroethane			33	
1,2-Dichloroethane		5	< 5.0	
1,1-Dichloroethene		7	< 5.0	
trans-1,2-Dichloroethene		100	6.8	
cis-1,2-Dichloroethene		70	[260]	
Methylene chloride		5	[11]	
Tetrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	
Trichloroethene		5	< 5.0	
Vinyl Choride		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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S4A 03/21/97 Primary	S4A 09/23/97 Primary	
Total Phenois	·		10	10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S4A	S4A	
	DATE		03/21/97	09/23/97	
	RESULT TYPE	US-PMCL	Primary	Primary	
Cyanide		200	<5	<5	
Chromium, Dissolved					
Lead, Dissolved					
Nickel, Dissolved					
Chromium, Total		100	16		
Lead, Total		15	[26]		
Nickel, Total		100	< 20	•	

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

> SAMPLE ID S-4A

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 12 Mar 96 Amount q	04 JUN 96 AMOUNT Q	04 SEP 96 Amount Q	10 DEC 96 AMOUNT Q
A.VQA	BENZENE					
		UG/L	25 u	5.0 ບ		
	CHLOROETHANE	UG/L	50 U	10 U	5.0 U	5.0 U
	CHLOROFORM	UG/L	25 U		10 U	10 U
	1,1-DICHLOROETHANE	UG/L	23	5.0 U	5.0 บ	5.0 U
	1,2-DICHLOROETHANE	UG/L		25	16	5.0 ປ
	1,1-DICHLORGETHENE		25 U	5.0 บ	5.0 ບ	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	25 U	5.2	5.0 U	
	CIS-1,2-DICHLORGETHENE	UG/L	14 1	5.2	5.0 U	5.0 U
	METHYLENE CHLORIDE	UG/L	310	250	150	6.2
	ACTUITEME CULTAKINE	UG/L	25 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 ປ
	1,1,1-TRICHLOROETHANE	UG/L	25 U		5.0 บ	5.0 U
	TRICHLOROETHENE	UG/L	10 1	5.0 U	5.0 U	5.0 ປ
	VINYL CHLORIDE	UG/L	50 U	7.9	5.0 ม	5.6
	ACETONE .	UG/L		10 U	10 U	10 U
	XYLENE (TOTAL)	UG/L	500 U	100 U	100 U	100 U
	CARBON DISULFIDE	-	50 U	10 ປ	10 U	10 U
		UG/L	25 U	5.0 ບ	5.0 U	7.5
TOTAL VOCS:						***
		UG/L	357	293.3	166	249.3
E.METALS	CHROMIUM					247.3
	LEAD	UG/L	5 U	•	43	
		UG/L	2.0 U	-	53	-
	NICKEL	UG/L	20 U	-	81	-
U MICC	6 W4W455		·		01	-
H.MISC	CYANIDE, TOTAL	UG/L	5 U	_	-	
•	PHENOLS	UG/L	10 U		5 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-4A DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	O7 DEC 94 AMOUNT Q	14 MAR 95 AMOUNT Q	O7 JUN 95 Q THOUMA	19 SEP 95 Amount Q	05 DEC 95 Amount Q
A.VOA	BENZENE	440.44	_				
	CHLOROETHANE	UG/L	5 u	5.0 ປ	2.2	10 u	
	1,1-DICHLOROETHANE	UG/L	10 U	10 U	10 U		25 U
		UG/L	62	43	11	20 U 34	50 U
	1,2-DICHLOROETHANE	UG/L	5 U	5.0 ປ	້. 5.0 ປ		15
*	1,1-DICHLOROETHENE	UG/L	9.1	12		_ 10 U	25 U
•	TRANS-1,2-DICHLOROETHENE	UG/L	40	12 21	5.0 บ	7.5 J	25 U
	CIS-1,2-DICHLOROETHENE	UG/L	200	200	2.5 J	10	25 U
	METHYLENE CHLORIDE	UG/L	5 U		75	32 0	160
	TETRACHLOROETHENE	UG/L		5.0 U	5.0 U	10 U	25 U
	TOLUENE		•	5.0 บ	5.0 ນ	10 U	25 U
	1,1,1-TRICHLOROETHANE	UG/L	<u>5</u> U	5.0 U	3.0 J	10 U	
	TRICHLOROETHENE	UG/L	5 U	5.0 บ	5.0 U	10 U	25 U
	VINYL CHLORIDE	UG/L	6.5	7	5.0 U	11	25 U
		UG/L	10 U	10 U	10 U		25 U
	ACETONE	UG/L	100 U	100 U	100 U	20 U	50 U
	XYLENE (TOTAL)	UG/L	10 U	10 U		200 U	500 บ
				10 0	2.9 J	20 U	50 U
TOTAL VOCS:		UG/L	317.6	283	96.6	382.5	
E.NETALS	LEAD	UG/L				302.3	175
1		OU/L	-	•	-	13	-
E.HETALS (DIS.)	LEAD (DISSOLVED)	UG/L					
	NICKEL (DISSOLVED)		•	2.0 U	•	•	
		UG/L	•	20 U	-	-	_
H.MISC	CYANIDE, TOTAL	UG/L	_	ar			
;	PHENOLS	UG/L	-	25 U	-	5 U	•
		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			1, 1-01- CILORO- ETITANE	ETIME 1, 2-01-	1, 1-01- CILORO- ETIENE	CIS-1, 2- DICILOND- Elimene	IRANS-1, 2 OTCHLOND- ETHENE	1, 1, 1-101 CILDOD- ETIME	LITTED- THI-	Atual			NOTES:
DATE	SAMPLE		HQL	HPL	5		P-70			Ellelle	CILCHIDE	SLM	KOTES	OUR INTERPRETATIONS OF THESE DATA
SAMPLED	110.	LAB	HE THOO	UG/L	UG/L	no/r	UG/L	P-100	100VF	5	5			ARE LIMITED TO DUN WALTTEN REPORTS
06/05/87	55	AQUA	 	1100	10	200	¦	{====		uc/L	LIG/L	ug/L		IND - INT DETECTED AT DETECTION
9/04/07	27	AOUA		1100	100	80.0	820	110	500	120	110	2550	A	LIMIT SPECIFIED BY
1/14/88	25	AQUA		1600	10	180	1800	170	110	17.0	790	4157		LABORATURY. SEE LAB REPORT.
2/08/88	5	AQUA		1500	110	165	1770	115	011	10	700	4392		NPL - NO U.S EPA PUBLISHED LEVEL
3/19/66	7	AQUA		1700	10	165	2800	10		10	437	4495		P - PRDPOSED
5/19/88	8	AUUA		1640	10	200	2750	10	- 110		373	2105		
9/22/00	7	AOUA		1810	7.0	292	940	154	11.0	40.0	1570	4953		VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIDACTLY POLLUTANT
9/22/08	8	AUUA		1050	7.3	201	920	155	10.0	39.0	1650	4852		VOLATILE ORGANIC COMPOUNDS FOR
12/10/00	56	AUUA		970	110	114	1500	133	140	23.7	611	3476		EACH LOCATION AND SAMPLING DATE.
2/27/09	43	AQUA		700	10	110	1400	150	0.7	17.2		2656		SEE LAB REPUNT.
04/10/89	37	ADUA	524	660	10	120	1080	120	140	140	(11)	2050		A - AS OF 06/25/87 WELL S-4 WAS
6/10/49	36	ACUA	624	650	10	110	1040	190	140	(4)	(41)	1960		REPLACED DY WELL 5-4A.
9/09/69	25	AUUA	0240	200	140	120	540	1:00	34	19.1	69.5	1053		į
2/13/49	27	ACUA	0240	680	Ю	151	760	100	34.1	32.5	41	2079		
3/02/90		AQUA	8240	670	(10)	92.1	1000	210	27	19	21.4	2046		
6/03/90	53	AQUA	8240	430	110	84.0	640	100	20.0	19.1	20.9	1395		1
08/24/90	55	ADUA	8240	231	10	9.0	500	60.2	9.5	16.6	(B)	826		
10/20/90	14	YOUY	D240	408	10	86.2	677	178	16.8	25 9	110	1392		
03/05/91	25	AGUA	0240	176	5.7	39.7	311	50.0	6.2	16.0	12.7	625		PARAHÉTER
16/20/90	28	ACELIA	0240	550	140	41.2	14)	14)	9.3	26.6	141	311		o - Date
08/31/91	30	AQUA	0240	140	10	53.0	105	46.6	11.3	34.1	10.3	4/8		Sampled
11/13/91	21	AOUA	8240	155	110	45.2	179	47.2	8.6	36.9	140	473		j l l
11/13/91	55	AQUA	8240	131	140	41.5	171	40.6	0.6	37.0	140	432		!!!!
01/23/92	57	ADUA	B240	345 .	110	\$1.0	197	46.3	140	39.8	140	677		<u> </u>
01/25/92	36	ACUA	D240	355	10	40.9	180	45.7	140	34.6	id)	631		
00/22/92	24	AQUA	8240	171	10	45.4	238	72.4	6.7	25.1 26.0	140	409		
10/31/92		AUUA	8340	103		37.2		46 6		16)	140	3/5		SHALLOW HOUTTON WELLS
10/31/92	 	AQUA	8249	94.1	<u> </u>	32.2	149	37.1	110	15.3	(4)	320		GROUNDHATER QUALITY ANALYSIS
02/84/93	10	AQUA	8240	108	10	37.6	215	46.7	140	21.0	- 10	430		ORGANIC CONPUNDS
05/11/93	100	AQUA	8240	90.5	10	27.0	161	32.8	110	13.7	110	325	l 	1
08/31/93	15	AUQA	8240	65.4	10	17.7	125	20.6	(40)	20.6	101	252	- -	•
12/03/93	28	AGUA	8240	69.7	10	33.2	234	26.4		29.4	141	435	<u> </u>	ALLIEOSIGNAL INC.
12/03/93	29	AGNA	8240	63.2	10	55.6	223	27.7	10	29.7	110)	419	l	GROUNDINATER THIVESTEGATIONS
02/10/94	10	ALIDA	8240	66.0	10	17.3	201	22.7	140	16 8		325		SOUTH BEID, HOLANA
03/03/94		AUJA	8240	77.7	100	17.9	174	31.0	140	9.9	- 103	311	l	- Secretary Singlesia
03/03/94	31	AUUA	8240	·	10	19.9	230	37.7	140	10.8	14)	415	<u> </u>	
-2/13/34		1	1	96,7	<u> </u>	1	J	-l	I—"—	I: <u>-:-</u> -	_l	l	l	1 0 00000
						•			•					tagleason;
						1								C330CC183 Environmental and Gentachnical Service

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		s9 03/19/97	S9	S9	S9	S9 06/11/98
				06/04/97	09/25/97	12/11/97	
	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-Dichloroethane			< 5	< 5	< 5.0	< 5.0	< 5.0
,2-Dichloroethane		5	[220]	12501	[190]	[240]	[170]
,1-Dichloroethene		7	< 5	< 5	< 5.0	< 5.0	< 5.0
ans-1,2-Dichloroethene		100	5.8	< 5	5.8	< 5.0	7.3
is-1,2-Dichloroethene		70	45	54	54	62	61
lethylene chloride		5	< 5	< 5	< 5.0	< 5.0	< 5.0
etrachloroethene		5	<5	< 5	< 5.0	< 5.0	< 5.0
oluene		1000	< 5	< 5	< 5.0	< 5.0	< 5.0
,1,1-Trichloroethane		200	<5	< 5	< 5.0	<5.0	< 5.0
richloroethene		5	< 5	< 5	< 5.0	< 5.0	< 5.0
inyl Choride		2	< 10	< 2	< 10	< 10	<10
cetone			< 100	< 100	< 100	< 100	< 100
ylene (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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

tuan ila suit				•
CONSTITUENT (Units in ug/l)	SITE		S9	
	DATE		12/14/98	
•	RESULT TYPE	US-PMCL	Primary	
Benzene		5	<5.0	
Chloroethene		2	< 10	
Chloroform		100	< 5.0	
1,1-Dichloroethane			< 5.0	
1,2-Dichloroethane		5	[240]	
1,1-Dichloroethene		7	<5.0	
trans-1,2-Dichloroethene		100	< 5.0	
cis-1,2-Dichloroethene		70	[92]	
Methylene chloride		5	[6.8] BJ	
Tetrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	
Trichloroethene		5	< 5.0	
Vinyl Choride		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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	•					•	
CONSTITUENT	(Units in ug/l)	SITE		S9	S9	S9	
		DATE		03/19/97	09/25/97	06/11/98	
		RESULT TYPE	US-PMCL	Primary	Primary	Primary	
Total Phenols				< 10	< 10	<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S9	S 9	S9
	DATE		03/19/97	09/25/97	06/11/98
	RESULT TYPE	US-PMCL	Primary	Primary	Primary
Cyanide		200	9	10	<5
Chromium, Dissolved					8.9
Lead, Dissolved				•	< 2.0
Nickel, Dissolved					< 20
Chromium, Total		100	< 5		
Lead, Total		15	3		
Nickel, Total		100	< 20	*	

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

SAMPLE ID S-9 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 12 HAR 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 บ	5.0 ມ	
	CHLOROETHANE	UG/L	20 U	10 U	10 U	5.0 u
	CHLOROFORM	UG/L	10 ບ	5.0 u		_10 ປ
	1,1-DICHLOROETHANE	UG/L	10 Ú	5.0 U	5.0 บ	5.0 บ
	1,2-DICHLOROETHANE	UG/L	250	230	5.0 U	5.0 ປ
	1,1-DICHLOROETHENE	UG/L	10 U	5.0 u	240	270
	TRANS-1,2-DICHLOROETHENE	UG/L	4.8		5.0 U	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	26	3.4 J 26	5.0 U	3.1 J
	METHYLENE CHLORIDE	UG/L	10 U		24	42
	TETRACHLOROETHENE	UG/L	10 U	5.0 U	5.0 ບ	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 ປ	5.0 ປ
	TRICHLOROETHENE	UG/L		5.0 u	5.0 บ	5.0 บ
	VINYL CHLORIDE	UG/L	10 U	5.0 U	5.0 บ	5.0 U
	ACETONE		20 U	10 U	10 U	10 U
	XYLENE (TOTAL)	UG/L	200 U	100 U	100 U	100 U
	CARBON DISULFIDE	UG/L	20 U	10 U	10 U	10 ປ
	- Madil 213051105	UG/L	10 ປ	5.0 U	5.0 U	4.8
TOTAL VOCS:		UG/L	300 0			•
•		UU/L	280.8	259.4	264	319.9
E.METALS	CHRONIUM	UG/L	5 u			
:	LEAD	UG/L		•	7.2	-
	NICKEL		2.0 U	-	2.0 U	-
		UG/L	20 U	-	6.9	•
H.MISC	CYANIDE, TOTAL	UG/L	E 11			
** ***	PHENOLS		5 U	-	5 บ	•
	· ·	UG/L	10 U	-	10 ບ	-

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

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

> SAMPLE ID S-9 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 07 DEC 94 AHOUNT Q	14 MAR 95 AMOÚNT 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		
•	CHLOROETHANE	UG/L	20 U	20 U	5.0 บ	10 U	10 U
	1,1-DICHLOROETHANE	UG/L	10 U		10 U	20 U	20 ປ
	1,2-DICHLOROETHANE	UG/L	363	10 U 330	5.0 U	10 U	10 U
	1,1-DICHLOROETHENE	UG/L			170	210	250
	TRANS-1,2-DICHLOROETHENE	UG/L	10 U	10 U	5.0 บ	10 U	10 U
	CIS-1,2-DICHLOROETHENE		10 U	10 U	2.2	10 U	10 U
	METHYLENE CHLORIDE	UG/L	21	26	14	22	23
		UG/L	10 U	10 U	5.0 บ	10 U	10 U
	TETRACHLOROETHENE	UG/L	•	10 ມ	5.0 ປ	10 U	
	TOLUENE	UG/L	10 ປ	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 ປ	10 U	5.0 U	10 U	10 U
	VINYL CHLORIDE	UG/L	20 U	20 U	10 U		10 U
	ACETONE	UG/L	200 U	200 U	100 U	9.1 J	20 U
	XYLENE (TOTAL)	UG/L	20 U	20 U		200 U	200 U
		,-			10 U	20 U	20 U
TOTAL VOCS:		UG/L	384	356	186.2	241.1	
				-	100.2	241.1	273
E.METALS	LEAD	UG/L	•	•		3.0.0	
•						2.0 U	•
E.HETALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 ປ			
· ·	HICKEL (DISSOLVED)	UG/L	•		-	-	-
		OQ, L	_	20 U	•	-	•
H.MISC	CYANIDE, TOTAL	UG/L	_	.			
3 10 2	PRENOLS		-	5 U	-	5 U	•
		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.

600-000									et et
SOURCE:	S-9			1, 2-01-	C13-1, 2-	1RMG-1, 2		1	
ł				CILORO-	01036060-	OICHLORD-		l	HOTES:
DATE	Cum 5			ETHANE	EILENE	EIIENE	SUM	HOTES	
SMOLED	SAMPLE		HCL	3	P-70	P-100			QUA INTERPRETATIONS OF THESE DATA
	140.	LAB	KETHOO	UG/L	100/1	UGAL	UG/L		ARE LIMITED TO OUR MAITTEN REPORTS
10/01/85	15	ADUA		81.3	140	2.2	84	i	NO - NOT DETECTED AT DETECTION
11/05/05	4	AOUA		29	10	2.3	31		LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.
12/10/69	50	ADUA		510	15	10	225		.
12/10/05	30	ADUA		43.3	Ю	140	43		: NPL - NO U.S EPA PUBLISHED LEVEL
05/03/07	15	AQUA		313	140	53	336		P - PROPOSED
09/03/07		YOUY	 	450	17	NO	477		l '
01/13/88		AUUA		170	13	NO	163		VOC RESULTS ARE A SUMMARY OF A GCMS SCAN FOR PRIGRITY POLLUTANT
		AQUA		610	43	140	853		VOLATILE ORGANIC COMPOUNDS FOR
02/08/68		ADUA		440	MO	140	440		EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.
05/10/88		AOUA		140	47.6	10	488		ore the nervit,
09/23/88		AOUA		240	140	10	240		
12/05/89	4	AOUA		13.3	140	100	13		
02/23/89	-13	AOUA		9.2	140	10	9		
06/10/09	33	AOUA	624	6.7	10	10	,-		
09/08/89	15	AQUA	8240	Ma VOC De	tected				
12/13/89	20	ACUA	8249	40.3	100	10	40		
05/51/80	_ 4	AOUA	8540	40.0	140	10	40		
06/01/90	•	ACUA	0240	34.2	10	10	34		
08/25/80	4	AUUA	8240	No VOC De	tected				PARAMETER
10/27/90	•	ADUA	6240	No VOC De	tected				
05/59/91		AQUA	8240	7.6	Ю	10	8		0 - Date
05/31/91	<u> </u>	ADUA	9240	16.3	IND.	10	16		Seepled
08/29/91		ADLIA	0240	11.7	Ю	110	15		
11/14/91	733	AGUA	8540	15.0	110	10	13		
01/22/92		AOUA	8240	42.0	140	110	43		
03/30/92	15	AOUA	8240	68.0	10	140	65		
00/22/02	50	AOUA	0240	127	5.4	180	132		
10/31/92	27	ADUA	8540	155	7.9	10	163		SHALLON HONTTON WELLS
02/03/93	- 3	YOUA	9540	221	13.9	10	235		GROUNDWATER QUALITY ANALYSIS
05/12/93	59	TOUL	8240	553	11.9	10	235		ORGANIC COMPOUNDS
09/02/93	34	YOUY	8240	550	16.0	10	237		
15/05/83		VOTY	8240	324	25.7	5.1	355		
02/17/91	9	AQUA	8240	239	10.9	140	278		ALL TEDSTIGNAL THE.
05/05/94		AUUA	0240	215	15.6	10	231		GROUNDWATER INVESTIGATIONS
09/15/94	24	AUUA	.: 8240	240	10.0	10	259		SOUTH BEID, CHOLANA
				 !		 1.		i	SOUTH PETAL, HAITANA
									* 1
						,			t'a'gleason!
						1			associates
									Environmental and Gentechnical Services
									annumental services services services

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		\$15	\$15	S15	S15	\$15
	DATE		03/21/97	06/05/97	09/24/97	09/24/97	12/08/97
·	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Duplicate	Primary
Benzene		5	< 5	< 5	< 5.0	< 5.0	< 5.0
Chloroethene		2	[18]	1301	[31]	[32]	1251
Chloroform		100	< 5	< 5	< 5.0	< 5.0	< 5.0
1,1-Dichloroethane			< 5	14	14	14	14
1,2-Dichloroethane		5	1241	[41]	< 5.0	< 5.0	< 5.0
1,1-Dichloroethene		7	< 5	< 5	< 5.0	< 5.0	< 5.0
trans-1,2-Dichloroethene		100	< 5	6.3	5.4	5.8	< 5.0
cis-1,2-Dichloroethene		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 Choride		2	[18]	[30]	[31]	1321	[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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				· · · · · · · · · · · · · · · · · · ·
SITE DATE RESULT TYPE	US-PMCL	S 15 06/11/98 Primary	S15 12/14/98 Primary	
	5	< 5.0	< 5.0	
	2	[15]	[29]	
	100	< 5.0	< 5.0	
		8.6	13	
	5	[12]	< 5.0	
	7	< 5.0	< 5.0	
	100	< 5.0	5.3	
	70	16	16	
	5	< 5.0	< 5.0	
	5	< 5.0	< 5.0	
	1000	< 5.0	< 5.0	
	200	< 5.0	< 5.0	
	5	< 5.0	< 5.0	
	2	[15]	[29]	
		< 100	<100	
	10000	< 10	<10	
		< 5.0	<5.0	
	DATE	DATE RESULT TYPE US-PMCL 5 2 100 5 7 100 70 5 5 1000 200 5 2	DATE RESULT TYPE US-PMCL Primary 5	DATE 06/11/98 12/14/98 RESULT TYPE US-PMCL Primary Primary 5 < 5.0

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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex

South Bend, Indiana

Page: 1A

CONSTITUENT (Units in ug/l)	SITĘ	S15	\$15	S15	S15
	DATE	03/21/97	09/24/97	09/24/97	06/11/98
	RESULT TYPE US PMCL	Primary	Primary	Duplicate	Primary
Total Phenois		< 10	< 10	< 10	<10

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells

Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex

South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S15 03/21/97 Primary	S15 09/24/97 Primary	S15 09/24/97 Duplicate	\$15 06/11/98 Primary
Cyanide		200	< 5	<5	<5	<5
Chromium, Dissolved				•••		7.2
Lead, Dissolved				***		< 2.0
Nickel, Dissolved			***	•••		< 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

Page: 1A

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

SAMPLE ID S-15 DATE COLLECTED

GROUP	PARAMETER NAME		DATE COLLECTED 13 MAR 96	05 JUN 96	04 SEP 96	10 050 04
***********	FARANCIER MANE	UNITS	AHOUNT Q	AMOUNT Q	AMOUNT Q	10 DEC 96 Amount q
A.VQA	BENZENE	40.4				••••••••••
5.	CHLOROETHANE	UG/L	5.0 บ	5.0 U	5.0 ປ	5.0 U
	CHLOROFORM	UG/L	10 U	10 U	10 U	10 U
	1,1-DICHLOROETHANE	UG/L	5.0 บ	5.0 ປ	5.0 U	
	1, 1-DICHLORUE HARE	UG/L	19	13	13	5.0 บ 15
	1,2-DICHLOROETHANE	UG/L	5.0 ປ	6.6	32	
	1,1-DICHLOROETHENE	UG/L	5.0 บ	5.0 U	5.0 U	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	3.6 J	2.9	4.9	5.0 U
•	CIS-1,2-DICHLOROETHENE	UG/L	8.2	8.2	30	4.2 J
	METHYLENE CHLORIDE	UG/L	5.0 บ	5.0 U	_	8.1
	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 ປ
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 บ	5.0 บ
	VINYL CHLORIDE	UG/L	23	5.0 U 17	5.0 บ	5.0 ບ
	ACETONE	UG/L	100 U		20	25
	XYLENE (TOTAL)	UG/L	10 U	100 U	100 U	100 U
	CARBON DISULFIDE	UG/L	5.0 U	10 U	10 U	10 U
		04/1	J.U	5.0 บ	5.0 บ	5.0 U
TOTAL VOCS:		UG/L	53.8	47.7	99.9	52.3
E.METALS	CHRONIUM	UG/L	·			JC. J
	LEAD	• -	5 U	•	5.0 U	-
	NICKEL	UG/L	2.0 U	-	2.0 ປ	-
	HIGHEL	UG/L	20 U	•	20 U	•
H.MISC	CYANIDE, TOTAL	UG/L	5 U		_	
*	PHENOLS	UG/L		-	5 u	•
	· · · · · · · · · · · · · · · · · · ·	OG/ 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-15 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 08 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	06 JUN 95 Amount Q	20 SEP 95 Anount q	06 DEC 95 AMOUNT Q
A.VOA	BENZENE		_				
		UG/L	5 U	5.0 ປ	5.0 ບ	5.0 u	F A
	CHLOROETHANE	UG/L	10 U	10 ប	10 U	10 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	11	10	10		10 U
	1,2-DICHLOROETHANE	UG/L	5 U	້ 5.0 ປ	11	8.9	13
	1,1-DICHLOROETHENE	UG/L	5 Ū	5.0 U		15	3.4 J
	TRANS-1,2-DICHLOROETHENE	UG/L	5 U		5.0 ປ	5.0 U	5.0 ບ
,	CIS-1,2-DICHLOROETHEME	UG/L	19	5.0 U	5.0 U	4.2 J	3.7 J
•	METHYLENE CHLORIDE		= =	5.0 U	21	27	8.4
	TETRACHLOROETHENE	UG/L	5 U	5.0 U	5.0 ม	5.0 U	5.0 U
	TOLUENE	UG/L	-	5.0 ປ	5.0 U	5.0 U	
		UG/L	5 บ	5.0 บ	5.0 U	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5 U	5.0 บ	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	5.0 บ	5.0 ບ
	ACETONE	UG/L	100 U	100 U	· · · · · · · · · · · · · · · · · · ·	19	26
	XYLENE (TOTAL)	UG/L	10 U		100 U	100 U	100 U
	• • •	00/ L		10 ป	10 U	10 ປ	10 U
TOTAL VOCS:		UG/L	53		*****		*****
		OU/L	23	26	63	74.1	54.5
E.METALS	LEAD	UG/L	•	_			
<u>.</u>	•	•		_	•	2.0 ບ	-
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 U			
	NICKEL (DISSOLVED)	UG/L	_		•	•	•
	- · · · · · · · · · · · · · · · · · · ·	00, L	_	20 U	-	•	-
H.MISC	CYANIDE, TOTAL	UG/L		-			
1 1	PHENOLS		-	5 U	-	5 ย	-
	. 11911-2-4	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.

goupe,				I, I-UI- CILORO- ETIME	I, d-UI- DE.ORO- ETHAKE		IHANY-I, Z DICHLORD- EIIENE	CHEOUIDE AINAF	ADC OINTU	SUH	110TE\$	HUIES,
DATE	SAMPLE		HCL	IPL	3	P-70	P-100				<u> </u>	OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WAITTEN REPORTS
SAMPLED	NO.	LAB	HETHOD	UG/L	UG/L	UG/L	UGAL	UG/L	DE/L	UG/L		i I
11/06/85	53	AQUA		10	1.2	10	1.5	140	HO	3		NO - NOT DETECTED AT DETECTION
15/18/05	55	AUUA		Ho VOC D	tected		I———I			<u> </u>	ļ	LABORATORY. SEE LAB REPORT.
06/05/87	6	AUUA		No VOC De	lected					- ·		-[
09/03/87	- 6	AUUA		10	140	10	10	76	140	76		MPL - NO U.S EPA PUBLISHED LEVEL
69/63/87	3	AQUA		No VOC De	tected	·						P - PROPOSED
01/14/88	24	AUQA		22.0	110	ю	10	110	140	55		VOC RESULTS ARE A SUMMARY OF A
02/08/88	4	AUJA		19.0	140	10	10	10	140	19		GCHS SCAN FOR PRIORITY POLLUTANT
05/18/88		AUUA		No VOC D	tected							VOLATILE ONGANIC COMPOUNDS FOR
09/23/84		AUUA		5.2	140	10	10	140	110	0	 -	EACH LOCATION AND SAMPLING DATE. SEE LAB HEPONT.
12/10/88	24	AGUA		10	Ю	10	110	10.9	151	132		
65/53/69	12	AOUA		He VOC Do	tected							
06/10/09	31	AUUA	624	No VOC D	tected							
09/01/09	55	ADUA	8249	10	(8)	10	110	10.3	140	151]
15/15/69	55	ADUA	9240	110	100	240	26.6	10.5	590	665		
03/03/90	40	AUUA	8240	69.3	12)	10	14)	31.3	42.6	143		
03/03/90	41	ADUA	8240	71.0	143	to	140	35.0	46.1	150		1
05/43/90	25	AQUA	0240	37.8	140	NO.	10	22.4	140	60		
08/24/90	50	AQUA	8240	8.51	110	10	10	10	110	1)		
10/20/90	13	AUQA	0240	27.2	100	110	178	10	140	205		PARAMETER
03/01/91	15	AUUA	8240	26.6	26.8	27.4	14)	40.9	140	124		o - Date
05/01/91	25	AQUA	8240	22.5	24.5	28.6	10.7	25.2	140	112		Sampled
09/31/91	58	YOUY	8240	23.0	17.3	10	10	44.4	140			
11/12/01		AQUA	8240	NO	5.7	6.1		35.8	140	49	· -	-} }
01/25/92	34	ACIUA	8240	10	-10	7.5		- MO	140		 	.]]
54/01/92	33	ADUA	8240	40.0	110	5.9	10	55.0	110	95	l	
10/31/65	21	AQUA	8240	17.0	12.4	8.9	10	36.6	HD	4)	·	-
02/04/93	19	AUQA	8340	26.2	83.9	50.7	5.7	40.0	NO NO	200	ļ	SHALLOW MONETON WELLS
03/11/93		AINA	9240	19.1	49.4	45.1		36.6	141	119		GROUNDHATEN WALTTY ANALYSIS
08/31/93		ADUA	8240	15.4	49.4	36.0	7.0	25.2	140	133		CHRIANIC CONTRIBUS
12/03/93	25	AQUA	0240	15.0	17.6	38.9	7.9	29.0	HD	110		-
02/17/94	14	AQUA	8240	15.3	10	17.3	140	30.0	(0)	60		·
05/05/94	20	AUUA	B2 40	11.2	HO	8.0	10	22.5	110	42	-[-···	ALLIEDSIGNAL INC.
09/15/94	28	ACUA	9240	10.8	7.6	21.0	14)	23.6	100	63		GROUNDWATER INVESTIGATIONS
	l	I		1	I	I::	I	I	I		. 1	SOUTH BEND, INDIANA
						, I						TO GIOCIONI CISSOCICIOS Environmental and Geotechnical Services

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		•				하루, 역시 :	
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	\$1 <u>6</u> 03/20/97 Primary	\$16 06/03/97 Primary	S16 09/24/97 Primary	S16 12/08/97 Primary	S16 06/11/98 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	[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 Choride		2	< 10	< 2	<10	< 10	< 10
Acetone			< 100	< 100	< 100	< 100	< 100
Xγlene (Total)		10000	< 10	< 5	< 10	< 10	<10
Carbon disulfide			< 5	<5	<5.0	< 5.0	<5.0

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		\$16	• •
	DATE		12/14/98	
•	RESULT TYPE	US-PMCL	Primary	•
denzene		5	< 5.0	
Chloroethene		2	< 10	
Chloroform		100	< 5.0	
1,1-Dichloroethane			< 5.0	
1,2-Dichloroethane		5	< 5.0	
,1-Dichloroethene		7	< 5.0	
trans-1,2-Dichloroethene		100	26	
cis-1,2-Dichloroethene		70	54	
Aethylene chloride		5	[15]	
letrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	20	
Trichloroethene		5	[420]	
Vinyl Choride		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

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana Page: 1A

CONSTITUENT (Units in ug/l)	SITE	\$16	S16	S16	
1 ·	DATE	03/20/97	09/24/97	06/11/98	-
	RESULT TYPE US-PMCL	Primary	Primary	Primary	
Total Phenols		< 10	<10	<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S16	S16	S16	
	DATE		03/20/97	09/24/97	06/11/98	•
•	RESULT TYPE	US-PMCL	Primary	Primary	Primary	
Cyanide		200	< 5	< 5	<5	
Chromium, Dissolved					20	
Lead, Dissolved			•••		< 2.0	
Nickel, Dissolved			•	***	< 20	
Chromium, Total		100	< 5			
∟ead, Țotal		15	< 2			
Nickel, Total		100	< 20	•••		

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

> SAMPLE ID S-16 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE 12 M Ahoui	COLLECTED AR 96 VT Q	NUL 40 AMOUNT	96		04 SEP (96 Q	10 DI AMOUI	EC 96	
A.VOA	BENZEHE											
-	CHLOROETHANE	UG/L		25 U		25 u)				_	
	CHLOROFORM	ne\f		50 U		50 u			.0 U		5.0 U	
		UG/L		25 U		25 U			10 U		10 U	
	1,1-DICHLOROETHANE	UG/Ł		25 ປ		25 U			.0 U	3.8	J	
	1,2-DICHLOROETHANE	UG/L		25 U		25 U			.0 U		5.0 U	
	1,1-DICHLOROETHENE	UG/L	44		43	23 U			.0 ม		5.0 U	
	TRANS-1,2-DICHLOROETHENE	UG/L	29		13			15		26		
	CIS-1,2-DICHLOROETHENE	UG/L	440			J		17		16		
	METHYLENE CHLORIDE	UG/L	770	25 ປ	420			180		170		
	TETRACHLOROETHENE	UG/L		25 U		25 U		5.	.0 υ		5.0 U	
	TOLUENE	UG/L		25 U		25 U		5.	.0 U		5.0 U	
	1,1,1-TRICHLOROETHANE	UG/L	36	25 U		25 U			.O U		5.0 บ	
	TRICHLOROETHENE	UG/L	400		32			27		35		
	VINYL CHLORIDE	UG/L	210		370			360		400		
	ACETONE	UG/L	210	500 ···	50			1	0 U		10 U	
	XYLENE (TOTAL)	-		500 U		00 U		10	0 U		100 U	
	CARBON DISULFIDE	UG/L		50 U	!	50 U			0 U		10 U	
		UG/L		25 U		25 U			ŌÜ		5.0 U	
TOTAL VOCS:		110.41	***								J.U U	
		UG/L	1159		928		5	99		650.8		
E.METALS	CHRONIUM									0.0.0		
	LEAD	UG/L		5 บ		-		5 (0 U			
	NICKEL	UG/L	0.92	J		-	1	1.5			-	
	NICKEL	UG/L	8	J		-	ž	.9	1		-	
H.MISC	CYANIDE TOTAL						•		J		-	
******	CYANIDE, TOTAL	UG/L		5 U					E +1			
	PHENOLS	UG/L		10 U					5 U		-	
				- -				11	D 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

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

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 07 DEC 94 AMOUNT Q	14 MAR 95 AMOUNT Q	07 JUN 95 Amount q	19 SEP 95 Amount q	06 DEC 95 AMOUNT Q
A.VOA	BENZENE						••••••••••
n. ton	CHLOROETHANE	UG/L	10 u	25 U	25 U	25 บ	25 U
		UG/L	20 U	50 U	50 ປ	50 U	50 U
	1,1-DICHLOROETHANE	UG/L	10 U	25 บ	3.1 J	5.4	25 U
	1,2-DICHLOROETHANE	UG/L	10 U	25 U	25 U	25 U	25 U
	1,1-DICHLOROETHENE	UG/L	10 U	25 บ	5.2 J	7.4 J	13
	TRANS-1,2-DICHLOROETHENE	UG/L	12	25 U	29	15 J	16
	CIS-1,2-DICHLOROETHENE	UG/L	59	49	67	230	320
	METHYLENE CHLORIDE	UG/L	10 U	25 U	25 U	25 U	
	TETRACHLOROETHENE	UG/L	•	25 U	25 Ú	25 U	25 U
	TOLUENE	UG/L	10 U	25 U	25 U		25 U
	1,1,1-TRICHLOROETHANE	UG/L	25	25 U	18 J	25 U	25 บ
	TRICHLOROETHENE	UG/L	261	240	250	19 J 250	23
	VINYL CHLORIDE	UG/L	56	620	360	430	250
	ACETONE	UG/L	200 U	500 U	500 U		160
	XYLENE (TOTAL)	UG/L	20 U	50 U	50 U	500 U 50 U	500 บ 50 บ
TOTAL VOCS:		UG/L	413	909	732.3	956.8	782
E.HETALS	LEAD	UG/L	-	•	_	0.7 J	702
: -						• • •	_
E.METALS (DIS.)		UG/L	-	2.0 บ	-	_	
, ,	NICKEL (DISSOLVED)	UG/L	•	20 U	-	•	•
H.HISC	CYANIDE, TOTAL	UG/L	•	5 U	_	S #	
**	PHENOLS	UG/L	•	10 U	-	5 U 10 U	•
				•		in a	•

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.

SOUNCE:	S-16			C15-1, 2-	long i i		r			 • • • • • • • • • • • • • • • • •
ł				0101080-	TRUG-1, 2	1, 1, 1-1A1 CILORO-	1	1	1	NOTES:
				ETIENE	ETHENE	ETILLE:	Ellene	SUN	HOTES	
DATE	SMPLE		HCL	P-70	P-100	200	5			OUR INTERPRETATIONS OF THESE DATA
SAMPLED	NO.	LAD	HETHOD	III/L	UGA	UGAL	10/L	- <u></u>	1	ARE LIMITED TO DUR MAITIEN REPORTS
11/16/06	11	AOUA	T ====	No VOC D		<u> </u>		ne/r	ļ	HO - NOT DETECTED AT DETECTION
12/10/06	19	ACUA		NO NO	HD	22.4			 	LIMIT SPECIFIED BY
12/10/00	53	AGUA		10	10	22.5	70.1	9)	 -	LABORATORY. SEE LAB REPORT.
02/12/87	18	AOUA		10	4.4	23.3	93.0	85		NPL - NO U.S EPA PUBLISHED LEVEL
06/05/87	12	AUUA		5.6	5.6	10.0	57.0	153		
09/04/07	28	AUUA		10	10	10	65.0	65		P - PROPOSED
01/15/00	5)	AUUA		Ю	10	15.0	58.0	-;;		VOC RESULTS ARE A BLAMARY OF A
02/09/88	15	AUUA		М	10	13.5	53.0	67		GCHS SCAN FOR PRIORITY POLLUTANT
03/19/88	53	AUUA		6.0	10	10.9	0.50	70		VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE.
09/23/89	14	ADUA		110	10	20.0	76.0	96		SEE LAB REPORT.
12/10/05	29	ADUA		6.2	10	10.7	62.1	- 6, -		
02/24/89	50	AQUA		0.1		15.7	60.4		·	• •
05/09/09	15	AOUA	624	9.2	9.4	10.4	66.7	104		
09/10/69	34	AUUA	0240	9.1	6.7	20.2	50.2	96		
13/13/49	31	ACUA	8240	10.0	9.0	22.5	94.6	137		
03/03/90	44	ACUA	8240	19.0	10	17.9	73.4	111		
06/03/90	19	AUUA	8240	19.4	0.5	19,4	83.6	131		
08/23/90	16	AUOA	8240	Ho VOC De				·::		
19/29/80	30	YOUY	85 40	11.3	Ю	20.0	62.0	114		PARAMETER
03/04/91	36	AGUA	8240	110	10	110	33.0	36		
06/02/91	59	AGUA	8240	140	Ю	10.3	45.7	57		o - Data
08/31/91	33	YOUY	0240	6.1	140	110	64.5	70		Seepled
11/13/91	35	AOUA	8240	0.1	Ю	15.5	67.1	91		
01/26/92	37	AOUA	8240	15.4	10	19.4	95.5.	131		
04/02/92	- 45	AUUA	8240	26.1	140	19.9	98.7	147		
00/55/85		AUUA	85 10	37.3	5.8	1.55	141	206		
10/31/92	- 50	AQUA	0240	42.6	10	19.1	91.4	15)		
02/05/93	-24	AQUA	0240	45.3	10	20.1	155	553		SHALLOW HONTTOR WELLS
03/12/93	53	AOUA	8240	42.1	10	16.5	109	168		GROUNDHATER QUALITY ANALYSIS
09/01/93	27	AOUA	8240	28.8	<u> 140</u>	19.0	136	103		ORGANIC COMPOUNDS
12/03/93	35	YOUA	0240	10	30.1	21.4	188	549		
02/18/94	52	ADUA	8240	17.9	HD .	0.9	01.0	108		
03/06/94	27	AOUA	6540	32.3	0.7	81.8	143	506		ALLIEDSIGNAL INC.
09/15/94		YOUY .	8240	49.8	6.2	18.1	148	555		GROUNGWATER INVESTIGATIONS
										SOUTH BEID, LINDIANA
										四条点公公共
						•				\'Tagetasan
						1				associates
										Environmental and Gestechnical Services

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

					•		
CONSTITUENT (Units in ug/l)	SITE		\$17	S17	S17	\$17	S 17
·	DATE		03/20/97	06/03/97	09/24/97	12/11/97	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	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane		5	< 5	< 5	< 5.0	< 5.0	< 5.0
l,1-Dichloroethene		7	< 5	< 5	< 5.0	< 5.0	< 5.0
rans-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	34	40	51	37	26
Trichloroethene		5	[16]	[25]	[28]	[25]	[19]
Vinyl Choride		2	< 10	< 2	< 10	< 10	<10
Acetone			< 100	< 100	< 100	< 100	< 100
Xγlene (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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S17 12/14/98 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-Dichloroethene		7	< 5.0	
trans-1,2-Dichloroethene		100	< 5.0	
cis-1,2-Dichloroethene		70	< 5.0	
Methylene chloride		5	< 5.0	
Tetrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	22	
Trichloroethene		5	[18]	
Vinyl Choride		2	< 10	
Acetone			< 100	
Xylene (Total)		10000	< 10	
Carbon disulfide			<5.0	
			2.2	

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

[] = Greater than Action Level

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	S17	
in substantial as a local paper.	DATE	03/20/97	MARIE DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR DE LA CONTRACTOR D La contractor de la contractor d
	RESULT TYPE US-PMCL	Primary	
Total Phenois		<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	\$17 03/20/97 Primary	
<u>Sanda da</u>				
Cyanide		200	< 5	
Chromium, Dissolved				
Lead, Dissolved				
Nickel, Dissolved				
Chromium, Total		100	< 5	
Lead, Total		15	< 2	
Nickel, Total		100	< 20	

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

> SAMPLE ID S-17 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	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						
	CHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 u		
	CHLOROFORM	UG/L	10 U	10 U	10 U	5.0 u	
		UG/L	5.0 U	5.0 U		10 ນ	
	1,1-DICHLOROETHANE	UG/L	4.1 J	4.8 J	5.0 บ	5.0 U	
	1,2-DICHLOROETHANE	UG/L	5.0 U	5.0 U	3.2	5.0 บ	
·	1,1-DICHLOROETHENE	UG/L	8.4	J.U U	5.0 บ	5.0 ບ	
	TRANS-1,2-DICHLOROETHENE	UG/L	5.0 U	4.6	4.2 J	5.0 ປ	
	CIS-1,2-DICHLOROETHENE	UG/L		5.0 U	5.0 ບ	5.0 U	
	METHYLENE CHLORIDE		5.0 บ	5.0 บ	5.0 ປ	5.0 u	
	TETRACHLOROETHENE	UG/L	5.0 บ	5.0 U	5.0 U	5.0 U	
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U		
	1,1,1-TRICHLOROETHANE	UG/L	5.0 ປ	5.0 ປ	5.0 U	5.0 U	
		UG/L	97		74	5.0 ປ	
	TRICHLOROETHENE	UG/L	21	72 21	22	46	
	VINYL CHLORIDE	UG/L	10 ປ	10 U		21	
•	ACETONE	UG/L	100 U	100 U	10 U	10 U	
	XYLENE (TOTAL)	UG/L	10 U	-	100 U	100 ប	
	CARBON DISULFIDE	UG/L	5.0 U	10 U	10 ບ	10 U	
	•	54,6	J.U U	5.0 บ	5.0 บ	5.0 U	
TOTAL VOCS:		UG/L	130.5	102.4	103.4	4=	
E WETH O					103.4	67	
E.METALS	CHRONIUM	UG/L	5 u	_			
	LEAD	UG/L	2.0 U	-	4.1	•	
	NICKEL	UG/L		-	L 3.0	•	
		04/1	20 U	•	20 U	-	
H.MISC	CYANIDE, TOTAL	UG/L	5 U				
	PHENOLS	UG/L		-	5 u	-	
		DU/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-17 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 08 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	07 JUN 95 Amount q	19 SEP 95 AMOUNT Q	06 DEC 95 Amount q
A.VOA	BENZENE	***					
	CHLOROETHANE	UG/L	25 u	25 U	25 U	25 U	
	1,1-DICHLOROETHANE	UG/L	50 U	50 U	50 U	50 U	5.0 ບ
	1,2-DICHLOROETHANE	UG/L	88	110	39	21 J	10 U
	1,1-DICHLOROETHENE	UG/L	25 U	25 U	25 U		12
	TOANS-1 3 DIGHT OPERATOR	UG/L	65	56	24	25 U 14 J	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	25 U	25 U	25 U	-	22
	CIS-1, 2-DICHLOROETHENE	UG/L	25 U	25 U	25 U	25 U	5.0 ບ
	METHYLENE CHLORIDE	UG/L	25 U	25 U		25 U	5.0 U
	TETRACHLOROETHENE	UG/L	•	25 U	3.2	25 U	5.0 ປ
	TOLUENE	UG/L	25 U	25 U	25 U	25 U	5.0 ປ
	1,1,1-TRICHLOROETHANE	UG/L	1000	700	25 U	25 U	5.0 U
	TRICHLOROETHENE	UG/L	51	27	300	220	140
	VINYL CHLORIDE	UG/L	50 U		20 J	27	30
	ACETONE	UG/L	500 U	50 U	50 บ	50 u	10 ປ
	XYLENE (TOTAL)	UG/L	50 U	500 U	500 U	500 U	100 U
	•	04/ L		50 U	50 บ	50 U	10 U
TOTAL VOCS:		UG/L	1204	893	386.2	282	204
E.HETALS	LEAD	UG/L	•	•	_		204
E METALO 4010 .					-	2.0 U	•
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 u			
	NICKEL (DISSOLVED)	UG/L	-	20 U	-	-	•
				20 0	•	•	•
H-HISC	CYANIDE, TOTAL	UG/L	-	5 U			
* * *	PHENOLS	UG/L	-		-	5 ม	-
		,-		10 n	-	10 ປ	-

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 ERN QUALITY ASSURANCE COMPREHENSIVE REVIEW.

•	S-17		İ	1, 1-01- CILORO- ETIUME	EIIWE OLORO- 1, 3-01-	I, I-DI- CILORO- ETI€NE	CIS-1, 2- DIDECIO-	TRANS-1, 2 OTCHLORD- ETIENE	1, 1, 1-TRI CILORO- ETIME	IRI- CIE.ONO- ETIENE	SuH	unus:	1401ES:
DATE	SAMPLE		HCL	NPL	5		P-70	P-100				110189	OUR INTERPRETATIONS OF THESE DATA
SAKPLED	NO.	LAB	HETHOD	UG/L	UGA	UG/L	UG/L		500	5		. I	ARE LINITED TO DUR WITTEN REPORTS.
11/16/86	15	AQUA						nevr	UG/L	UG/L	LIG/L	!l_	160 - NOT DETECTED AT DETECTION
01/07/87		AQUA		1.3	1.5	10	- 10	140	NO.	12.0	18		LINIT SPECIFIED BY
02/12/07		AQUA		100	10	18	10	110	140	94.8	95		LABORATORY. SEE LAB REPORT.
06/03/87	13	AQUA		10		140	10	7.9	MD	115	124		NPL - NO U.S EPA PUBLISHED LEVEL
09/03/07	20	AQUA		10	10	10	3.6	14)	110	80.0	85		i .
01/14/88		AUUA		- 31	10	12)			110	85.0	86		P - PROPOSEO
02/10/08	1)	ACUA		10	- 41	10	8.8	10	140	68.0	"		VOC RESULTS ARE A SLAHARY OF A
05/19/88	26	AQUA		NO NO		10	5.8	- 10	110	75.0			GCHS SCAN FOR PRIORITY POLLUTANT
09/23/88	12	AQUA		110		10	10	10	140	60.7			VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE.
69/12/20	-;	AGUA				10	10	_!0	100 .	78.0	78	l	SEE LAB REPORT.
				140		14)			110	75.9	76		!
08/09/89		AOUA	524	10	-10	14)	14)	10	140	65.7	68		
09/06/89		AGUA	8240	10	140	10	10	10	(11)	53.6	54]
15/15/65	- 25	AGUA	8240	10	140	140	5.1	14)	(ដា	62.4	60		
03/02/90		ADUA	8240	140	140	10	6.9	(4)	110	42.4	49		
06/04/90	35	ADUA	8240	to	140	140	6.2	18)	140	42 B	49		
08/24/90	34	AUUA	8240	140	141	14)	6.9	141	140	ס.כנ	45		
08/24/90	35	YOUA	8249	NO	140	10	6.5	110	140	33.6	40		
10/20/90		YOUA	8240	NO.	10	10	10	9.6	140	40.4	50		
03/02/01	54	AQUA	8240	140	10	10	8.2	14)	140	29.6	30		PARAMETER
06/02/91	30	AQUA	8240	110	10	10	10	10	110	27.2	51		0.000
08/31/91	31	AOUA	6240	100	10	10	10	М	100	32.6	33		o - Oste Sampled
08/31/91	75	YOUA	8240	140	. 10	140	10	NO NO	110	33.0	33		
11/13/01		AQUA	8240	10	- 10		5.5	HO	100	27.6	_::		
01/26/92	39	AQUA	8240	10	10		140	-10	140	24.5	25		l—————————————————————————————————————
04/02/92	45	AGUA	8240	10			7.6		143	31.2	3g	ll	
04/02/92		AGUA	0240	10	<u> </u>	10	10.3	10	140	38.9	49		<u> </u>
08/53/85	27	AQUA	8240	10			5.7	10		27.0	33		
10/31/92	24	AGUA	8240	10		10	10	<u> </u>	140	17.3	17		SHALLOW HONITON WELLS
02/06/93	34	AOUA	8240	10	10	10	19.3	10	140	28.9	48		GROWIDWATER QUALITY ANALYSIS ORGANIC COMPORTINGS
02/05/93	35	AOUA	8540	10	<u> 10</u>	10	20.5	10	110	36.6	57		OUNTEL COM-DUIGIS
05/11/93	15	YOUY	8240	10		HO	10	10	HD	16.9	!!	11	
09/31/93		AUUA	8240	140	10	14)	[4]	!40	HO	23 7	24		
08/31/93	14	AUUA	B240	110	- 10	10	14)	14)	(m)	22.5	53]	ALL TEDSTGHAL THIC.
12/02/93	50	YOUY	8240	10	100	(8)	5.2)(i)	141	34.0	39		GRANDWATER INVESTIGATIONS
15/05/93	51	AULDA	6540	140	10	141	5.2	(4)	140	35 1	41	1	Smith Berd), fidhtana
02/19/94	40	AULIA	8240	10	143	14)	16)	10	100	51.8	24		i
03/03/94	19	AUDA	8240	12.6	10	10	10	14)	37.7	16.1	67	1	
09/15/94	25	AQUÀ	0240	135	a	44.5	in	10	637	43.2	761		(1475)************************************
	استنسا			1 - : 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	 -	I 	I		ı— - :	ı::: <u>-</u>	ı::::	11	l ta gleason
						1							Q550C Q O5 Environmental and Gentechnical Services

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Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				•			
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S20 03/20/97	\$20 06/04/97	\$20 09/23/97	\$20 12/09/97	S20 06/09/98
<u> </u>	- RESULT TIPE	US-PIVICE	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	< 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 Choride		2	<10	< 2	< 10	< 10	<10
Acetone			< 100	< 100	< 100	<100	<100
Kylene (Total)		10000	< 10	< 5	<10	<10	
Carbon disulfide			< 5	< 5	< 5.0	< 5.0	<5.0

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		\$20
	DATE		12/14/98
	RESULT TYPE	US-PMCL	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-Dichloroethene		7	< 5.0
trans-1,2-Dichloroethene		100	< 5.0
cis-1,2-Dichloroethene		70	< 5.0
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 Choride		2	< 10
Acetone			< 100
Xylene (Total)		10000	< 10
Carbon disulfide			< 5.0

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex

South Bend, Indiana

1::		ž.	•				
CONSTITUENT	(Units in ug/l)	SITE		S20	S20	S20	De la companya de la companya de la companya de la companya de la companya de la companya de la companya de la
	•	DATE		03/20/97	09/23/97	06/09/98	• • .
		RESULT TYPE	US-PMCL	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

Page: 1A

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		\$2 0	\$20	\$20	
	DATE		03/20/97	09/23/97	06/09/98	
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	
Cyanide		200	<5	< 5	< 5	
Chromium, Dissolved					<5	
Lead, Dissolved				•	< 2.0	
Nickel, Dissolved	•				< 20	
Chromium, Total		100	< 5			
Lead, Total		15	3.6			
Nickel, Total		100	< 20		<u></u>	
1 .						

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

> SAMPLE ID S-20 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 13 MAR 96 AMOUNT Q	05 JUN 96 Anount Q	05 SEP 96 Amount Q	11 DEC 96 Anount q
A.VOA	BENZENE CHLOROETHANE CHLOROFORM 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE METHYLENE CHLORIDE TETRACHLOROETHENE TOLUENE 1,1,1-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE ACETONE XYLENE (TOTAL) CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U 100 U 5.0 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 100 U
TOTAL VOCS:		UG/L	0	5.0 U O	5.0 υ	5.0 U
E.METALS	CHROMIUM LEAD NICKEL	NG\F NG\F NG\F	5 U 2.0 U 20 U	· · ·	0 5.0 U 2.0 U 5.4 J	·
H.MISC	CYANIDE, TOTAL Phenols	UG/L UG/L	5 U 10 U	•	5 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-20 DATE COLLECTED

			DATE COLLECTED				
GROUP	PARAMETER NAME	UNITS	06 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 CHLOROETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE METHYLENE CHLORIDE TETRACHLOROETHENE TOLUENE 1,1,1-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE ACETONE XYLENE (TOTAL)	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5 U 10 U 5 U 5 U 5 U 5 U 5 U 5 U 10 U 100 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U
TOTAL VOCS:		UG/L	0	0	0	0	
E.HETALS	LEAD	UG/L	-	-	-	2.0 u	0
E.METALS (DIS.)	LEAD (DISSOLVED) NICKEL (DISSOLVED)	NG/L	• •	2.0 U 20 U		- •	:
H.HISC	CYANIDE, TOTAL PHENOLS	UG/L	.	19 10 U	:	5 เร 10 ม	•

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:	9-20					•••
				j		HOTES:
				HOTES		}
DATE	SAMPLE		HCL	 		OUR INTERPRETATIONS OF THESE DATA
SAMPLED	NO.	LAB	HETHOD	1		ARE LINITED TO OUR MAITTEN REPORTS
11/07/05	30	AGUA			Ne VOC Detected	NO - NOT DETECTED AT DETECTION
02/12/07	9	ACUA			No VOC Detected	LIMIT SPECIFIED BY
08/45/87	18	YOUN			No YOC Detected	LABORATORY. SEE LAB REPORT.
09/03/87	10	AUUA			No VOC Detected :	MPL - NO U.S EPA PUBLISHED LEVEL
01/13/86	7	ADUA			No YOC Detected	P - PROPOSED
02/09/88	19	ACUA			No YOC Detected	
05/19/88	19	AUUA			No YOC Detected	VOC RESILTS ARE A SUMMARY OF A
09/25/88	\$3	ADUA			No VOC Detected	GCHS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR
09/25/88	24	AUUA			No VOC Detected	EACH LOCATION AND SAMPLING DATE.
12/03/88	5	AQUA			Ne VOC Detected	BEE LAB REPORT.
02/22/49	•	AOUA			No YOC Detected	
05/09/09	22	ADUA	824		No VOC Detected	
09/09/09	20	ADUA	0240		No YOC Detected	
12/11/89		AQUA	0240		Ne VOG Datected	
13/11/49		AOUA	8249		No VOC Datected	
03/03/90	36	AQUA	8240			
06/01/90	7	AUOA			No VOC Detected	
09/22/90	6	AOUA	8240 8240		No VOC Detected	
10/27/90		AQUA	8240		No VOC Detected	PARAMETER
05/50/91		AQUA	8240		No VOC Detected No VOC Detected	- ANAPORE
06/01/01	13	ADUA	0240		No VOC Detected	o - Date
00/20/01		AQUA	0240		No YOC Detected .	Sampled
11/12/01	- ; - 	AQUA	9240		Na VOC Detected	
21/25/10	31	AQUA	8240		No YOC Detected	
3/31/92	17	AQUA	8240		Ne VOC Detected	<u> </u>
00/22/02	13	AOJA	8240		No VOC Detected	
10/30/92	-	AOUA	8240		No YOC Detected	
2/04/93	•	ADUA	8240		No YDC Betasted	SHALLOW HONITOR WELLS
3/11/93		ACUA	8240		Ne VDC Detected	GROUNDWATER QUALITY ANALYSIS
00/31/03	1	YOUA	8240		No YOC Detected	ORDANIC COMPOUNDS
12/01/93	5	AOUA	8240		No YOC Detected	
2/17/94	1	ACUA	0240		No VDC Detected	
3/03/94		ACUA	8240		Ne YOC Detected	ALL TERRITORIES
9/14/94	1111	, AUUA	8240		Ne VDG Detected	ALLIEDSTOHAL INC.
				لتــــــــــــــــــــــــــــــــــــ	- 100 BESSESS	GROUNDWATER INVESTIGATIONS
						BOUTH BEND, THOTANA
					:	Litratalegisant
					1	LINE SHANNI
					•	associates
						Environmental and Gestschatcal Marvices

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

							•	
CONSTITUENT (Units in ug/l)	SITE		S21	S21	S21	S21	S21	
	DATE		03/20/97	06/04/97	09/26/97	12/10/97	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	< 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	16	29	20	18	24	
cis-1,2-Dichloroethene		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 Choride		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	

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	0.75			
CONSTITUENT (Units in ug/l)	SITE		S21	
	DATE		12/14/98	
· .	RESULT TYPE	US-PMCL	Primary	
enzene		5	< 5.0	
hloroethene		2	< 10	
hloroform		100	< 5.0	
, 1 - Dichloroethane			< 5.0	
,2-Dichloroethane		5	< 5.0	
, 1 - Dichloroethene		7	< 5.0	
ans-1,2-Dichloroethene		100	13	
s-1,2-Dichloroethene		70	22	
lethylene chloride		5	< 5.0	
eträchloroethene		5	< 5.0	
oluene		1000	< 5.0	
,1,1-Trichloroethane		200	<5.0	
richloroethene		5	[25]	
inyl Choride		2	<10	
cetone			<100	
ylene (Total)		10000	<10	
arbon 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 Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Page: 1A

CONSTITUENT (Units in ug/l)	SIŢĘ	S21	\$21	§21	
	DATE	03/20/97	09/26/97	06/10/98	
	RESULT TYPE US-PMCL	Primary	Primary	Primary	
Total Phenols		< 10	< 10	<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		S21 03/20/97	\$21 09/26/97	S21
	RESULT TYPE	US-PMCL	Primary	Primary	06/10/98 Primary
Cyanide		200	<5	< 5	<5
Chromium, Dissolved					8.8
Lead, Dissolved			•••	•••	<2.0
Nickel, Dissolved					< 20
Chromium, Total		100	5.6	•••	
Lead, Total		15	3	*	
Nickel, Total		100	< 20		

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

SAMPLE ID S-21 DATE COLLECT

GROUP	PARAMETER NAME	UNITS	DATÉ COLLECȚEI 13 MAR 96 AMOUNT Q	04 JUN 96 Amount q	05 SEP 96 Amount q	11 DEC 96 AMOUNT Q
A.VOA	DENTENC					
n. ton	BENZENE	UG/L	5.0 บ	5.0 U	F 0	
	CHLOROETHANE	UG/L	10 บ	10 U	5.0 U	5.0 U
	CHLOROFORM	UG/L	5.0 U	5.0 U	10 U	10 ປ
	1,1-DICHLORGETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 บ
	1,2-DICHLOROETHANE	UG/L	5.0 U		5.0 U	5.0 u
	1,1-DICHLOROETHENE	UG/L	5.0 บ	5.0 U	5.0 u	5.0 U
	TRANS-1,2-DICHLOROETHENE	UG/L	18	5.0 U	5.0 ປ	5.0 U
	CIS-1,2-DICHLOROETHERE	UG/L	25	18	17	9.3
	METHYLENE CHLORIDE	•		25	25	15
	TETRACHLOROETHENE	UG/L	5.0 u	5.0 ບ	5.0 U	5.0 u
	TOLUENE	UG/L	5.0 U	5.0 ບ	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 U	5.0 U	5.0 U
		UG/L	5.0 ບ	5.0 ປ	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	20	21	21	19
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	• •
	ACETONE	UG/L	100 U	100 U	• –	10 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	100 U	100 U
	CARBON DISULFIDE	UG/L	5.0 U	5.0 U	10 U	10 ប
			7.0 0	5.0 0	5.0 บ	43
TOTAL VOCS:		UG/L	63	64	63	86.3
E.METALS	CHOCALLA					88.3
E.REIALS	CHRONIUM	UG/L	5 U	•	5.0 U	
	LEAD	UG/L	23	•	0.7 J	-
	NICKEL	UG/L	10 J	_		•
		•	•		20 U	•
H.MISC	CYANIDE, TOTAL	UG/L	5 U	-	•	
•	PHENOLS	UG/L	10 Ŭ	-	5 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

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

SAMPLE ID S-21 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	06 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 บ	5.0 u	5.0 U	5 0	
	CHLOROETHANE	UG/L	10 U	10 U	10 U	5.0 u	5.0 บ
	1,1-DICHLOROETHANE	UG/L	5 บ	5.0 U		10 U .	10 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 Ū	5.0 U	5.0 บ	5.0 U	5.0 ປ
	TRANS-1,2-DICHLOROETHENE	UG/L	7.9		5.0 U	5.0 ປ	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	14	18 25	33	15 21	15
	METHYLENE CHLORIDE	•			38	21	15 21
	TETRACHLOROETHENE	UG/L	5 U	5.0 U	5.0 บ	5.0 บ	
	TOLUENE	UG/L	•	5.0 บ	5.0 บ	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5 ช	5.0 ບ	5.0 U	5.0 U	5.0 u
		UG/L	5 U	5.0 ບ	5.0 U		5.0 u
	TRICHLOROETHENE	UG/L	16	21	11	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U		15	16
	ACETONE	UG/L	100 U	100 U	10 U	10 U	10 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	100 U	160 U	100 U
		,-		10 0	ำ10 บ	10 ປ	10 U
TOTAL YOCS:		UG/L	37.9	64	82	******* E4	
					UL.	51	52
E.METALS	LEAD	UG/L	-	_			
		•			•	2.0 ti	-
E.HETALS (DIS.)	LEAD (DISSOLVED)	UG/L	_	3.0			
• • • • • • • • • • • • • • • • • • • •	NICKEL (DISSOLVED)	UG/L	-	2.0 U	•	-	-
	,	Ou/L	•	20 U	•	•	_
H.MISC	CYANIDE, TOTAL	110.71					
	PHENOLS	UG/L	-	5 U	-	5 U	
		UG/L	•	10 U	•	10 U	

QUALIFIER CODES (Q):

U: THIS AMALYTE 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			C18-1, 2-					
				DICHE DRO-	irag-1, 2 Dicilord-	TRI- CILORO-			IMTES:
				ETIENE	ETHENE	EHERE	SUM .	KOTES	<u> </u>
DATE	SAMPLE	Γ	HCL	P-70	P-100	5			OUR INTERPRETATIONS OF THESE DATA
SAMPLED	NO.	LAD	HETHOO	UG/L	UQ/L	10/	UG/L		ARE LIMITED TO OUR MRITTEN REPORTS.
11/06/85	17	AQUA		10					NOT DETECTED AT DETECTION
12/17/68		AGUA		100	49.3	10	116		LINIT SPECIFIED BY
02/11/07		AQUA		- 10	88.5	10	69		LABORATORY. SEE LAB REPORT.
05/05/87	17	AQUA		5.0	30.0	10	35		NPL - NO U.S EPA PUBLISHED LEVEL
06/03/87	18	ACUA		5.6	34.0	10	45		: P = PROPOSED
09/03/67	14	AQUA		50.0	13.0	10	63		
01/14/65	11	ACUA		53.2	20.4	-10	74		VOC RESULTS ARE A SUMMARY OF A
02/09/05	55	AOUA		60.0	33.0	10	93		GCHS SCAN FOR PRIORITY POLLUTANT VOLATILE ORBANIC COMPOUNDS FOR
03/18/88	13	ACEJA	 	137	11.1	10	148		EACH LOCATION AND SAMPLING DATE.
09/23/88	13	AUUA		50.0	49.0	10	107		SEE LAB REPORT.
12/09/08	10	AOUA		68.0	32.0	10	99		_
02/23/89	10	AGUA		64.1	32.7		97		·
05/09/89	24	AUQA	624	48.3	21.0		72		
09/10/89	41	ADUA	0240	72.5	41.5	10	114		}
12/11/89	9	AUUA	8240	9.3	160		-:-		
03/02/90	33	AQUA	8240	90.6	45.0	6.0	131		
06/02/90	15	ADUA	8240	87.3	52.5	10	140		İ
08/23/90	10	ACUA	8249	40.4	28.0	5.7	82		
19/20/90	19	AQUA	0240	110	50.7	110	169		PARAMETER
10/20/90	50	ACUA	8240	107	86.1	10	163		
03/03/91	20	AQUA	8240	69.3	36.2	10	105		o - Date
05/01/91	10	AUUA	0240	31.1	151	10	155		Seepted
08/26/91	3	AUUA	8240	33.5	\$1.6	5.1	61		1 1 1
11/12/91	,	ACLIA	8240	33.7	19.7	6.7	60		
01/21/92	2	AGUA	8240	20.2	14.0	18D	43		
03/30/02		AUUA	8240	28.6	14.0	7.5	51		
09/20/92	3	AQUA	8240	1.05	14.3	0.4	51		
10/30/92	13	AQUA	8240	47.8	28.0	8.6	84		SHALLON KONTTON WELLS
02/03/93	3	AUUA	8240	78.1	51.7	5.8	135		GROUNDHATER QUALITY ANALYSIS
05/11/93	-3-	AQUA	8240	70.3	85.0	10	125	ļ	ORGANIC COMPOUNDS
00/31/93	15	AUUA	8240	41.4	33.6	3.1	80		
12/01/93		ACUA	8240	79.5	67.8	5.3	153		
02/16/94	,	ACUA	0240	30.9	27.5	3.9	70		ALLIEDSIGNAL INC.
05/04/94	,	AUUA	0540	28.1	18.7	5.4	50		GROUNDWATER THRESTORS
09/13/8 4	. 3	ACKIA .	8340	11.3	6.1	0.5	26	<u> </u>	SOUTH BENE), THOLANA
						,			t a déason associates
						l			Environmental and Gentechnical Services

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	,				A THE STATE OF THE		Tipper general states
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S22 03/22/97 Primary	S22 06/04/97 Primary	S22 09/23/97 Primary	S22 12/10/97 Primary	\$22 06/09/98 Primary
		5	<5	<5	<5.0		
Chloroethene		2	< 10	< 2	< 10	< 5.0 < 10	< 5.0 < 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 < 5.0
1,1-Dichloroethene		7	< 5	<5	<5.0	< 5.0	< 5.0
rans-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 Choride		2	<10	< 2	<10	< 10	<10
Acetone			< 100	< 100	< 100	< 100	< 100
Kylene (Total)		10000	< 10	< 5	< 10	< 10	. <10
Carbon disulfide			<5	<5	< 5.0	< 5.0	< 5.0

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

•	* **		
CONSTITUENT (Units in ug/l)	SITE		S22
1.75	DATE		12/14/98
:	RESULT TYPE	US-PMCL	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-Dichloroethene		7	< 5.0
trans-1,2-Dichloroethene		100	86
cis-1,2-Dichloroethene		70	59
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 Choride		2	< 10
Acetone			< 100
Xylene (Total)		10000	<10
Carbon disulfide			< 5.0

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE	S22	\$22	S22
	DATE	03/22/97	09/23/97	06/09/98
	RESULT TYPE US PMCL	Primary	Primary	Primary
Total Phenols		< 10	< 10	<10

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S22	\$22	S22	
	DATE		03/22/97	09/23/97	06/09/98	
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	
Cyanide		200	< 5	< 5	<5	
Chromium, Dissolved				*	< 5	
Lead, Dissolved			••-	•••	< 2.0	
Nickel, Dissolved			•	•••	< 20	
Chromium, Total		100	7.4			
Lead, Total		15	< 2			
Nickel, Total		100	< 20			

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

> SAMPLE ID S-22 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 13 MAR 96 AMOUNT Q	05 JUN 96 Amount Q	04 SEP 96 Anount q	11 DEC 96 AMOUNT O
A.VOA	BENZENE CHLOROETHANE CHLOROFORM 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE METHYLENE CHLORIDE TETRACHLOROETHENE TOLUENE 1,1,1-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE ACETONE XYLENE (TOTAL) CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 73 55 5.0 U 5.0 U 5.0 U 5.0 U 10 U 100 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 77 57 5.0 U 5.0 U 5.0 U 10 U 100 U 5.0 U	5.0 u 10 u 5.0 u 5.0 u 5.0 u 5.0 u 70 55 5.0 u 5.0 u 5.0 u 5.0 u 10 u 100 u
TOTAL VOCS:		UG/L	158	128	134	
E.METALS	CHROMIUM LEAD NICKEL	UG/L UG/L UG/L	5 U 2.0 U 20 U	· · · · · · · · · · · · · · · · · · ·	5.0 U 1.6 J	125 -
H.HISC	CYANIDE, TOTAL PHENOLS	ng/f ng/r	5 บ 10 บ	:	20 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

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 COLLECTE

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 08 DEC 94 AMOUNT Q	13 MAR 95 ANOUNT Q	06 JUN 95 Amount q	20 SEP 95 AMOUNT Q	05 DEC 95 Amount q
A 1004						••••••••••	
A.VOA	BENZENE	UG/L	5 U	5.0 u	5.0 น	5.0 ย	
	CHLOROETHANE	UG/L	10 ປ	10 U	10 U	10 U	5.0 U
	1,1-DICHLOROETHANE	UG/L	´5 u	5.0 U	5.0 U	5.0 U	10 U
	1,2-DICHLOROETHARE	UG/L	5 U	5.0 U	5.0 U	5.0 U	5.0 U
	1,1-DICHLORGETHENE	UG/L	5 U	5.0 U	5.0 U	5.0 บ 5.0 บ	5.0 บ
	TRANS-1,2-DICHLOROETHENE	UG/L	66		79	66	5.0 U
	CIS-1,2-DICHLOROETHERE	UG/L	54	78 57	5.0 u	47	77
	METHYLENE CHLORIDE	UG/L	5 U	5.0 U	5.0 U		53
	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 ປ
	1,1,1-TRICHLOROETHANE	UG/L	5 U	5.0 U	5.0 บ 5.0 บ	5.0 U	5.0 u
	TRICHLOROETHENE	UG/L	5 Ū	5.0 U	5.0 U	5.0 U	5.0 ม
	VINYL CHLORIDE	UG/L	10 U	10 U	10 U	5.0 U	5.0 บ
	ACETONE	UG/L	100 U	100 U		10 U	10 U
	XYLENE (TOTAL)	UG/L	10 U	10 U	100 U 10 U	100 ປ 10 ປ	100 U
TOTAL MOCC.							10 U
TOTAL VOCS:		UG/L	120	135	79	113	130
E-METALS	LEAD	UG/L	-	•	-	2.0 บ	
						2.00	-
E.METALS (DIS.)		UG/L	-	2.0 U	-	_	
	MICKEL (DISSOLVED)	UG/L	•	20 U	•	•	•
H.MISC	CYANIDE, TOTAL			_			_
,	PHENOLS	UG/L	-	5 u	-	5 U	•
	FILENCE	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			C18-1, 8- DICHLORD- ETHENE	IRANS-1, 2 OICHLORO- ETHENE	SIM.	NGTES	NOTES:
DATE	SAMPLE		HOL	P-70	P-100			OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO DUM MRITTEN REPORTS
SAKPLED	140.	LAB	KETHOD	UG/L	WA	UG/L		
11/05/86	10	AOUA		NO	154	151		NO - NOT DETECTED AT DETECTION
01/07/87		AQUA		50	75.8	159		LIMIY SPECIFIED BY LABORATORY. SEE LAB REPORT.
01/07/87	,	AUUA		50	73.6	124		1
02/12/87	-	AOUA		10	135	135		NPL - NO U.S EPA PUBLISHED LEVEL
02/12/87	-,-	AUQA		10	109	109		P - PROPOSEO
05/05/07	28	AUOA		41	69	110		
09/03/87	12	AQUA		57	41	98		VOC RESILTS ARE A SUMMARY OF A
01/13/88		ADUA		41.5	NO	42		GCMS GCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR
02/09/88	23	AQUA		48	61	109		EACH LOCATION AND SAMPLING DATE.
03/18/88	15	AQUA		77.5	27.7	105		SEE LAB REPORT.
								NO REGULTS FOR 10/92 SAMPLING
05/10/48	16	AOUA		93	25.2	107		EPISODE DUE TO LAB ENTINI.
09/25/68	55	ADUA		51	45			A - METING FUE COM DOLOG 10 2 10 4
69/22/20		AQUA		43.1	38.0	85		A - HETITYLENE CHI.ORTOE 18.3 UG/L
05/55/89		. YOUY		35.7	37.5			
06/09/89	19	ADUA	524	33	40.7	71		
06/09/89	20	AOUA	624	37.9	42.1	80		
09/09/89	28	AUUA	8249	38.4	45.0	84		
12/11/69	6	AQUA	8240	37.7	68.0	95		PARAMETER
03/01/90	21	ACUA	9240	59.0	74.4	134		(AMARIEN
06/01/90	11	AQUA	8240	45.1	71.9	117		o - Oato
08/22/80	7	AQUA	8240	39.9	60.1	100		Sampled
08/55/80		AUUA	6240	40.7	61.4	105		'
10/27/80	- 6	AUUA	8240	59.3	0.50	145		
02/20/91		AUUA	8240	35.9	49.4	84		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
06/81/91	16	AOUA	8240	52.5	160.0	221		
16/92/80	5	AOUA	0240	34.1	61.5	95		
11/13/91	15	AQUA	8240	45.8	78.5	155		
01/25/92	33	AOUA	8240	50.8	85.8	137		SHALLOM MONITOR WELLS GROUNDMATER QUALITY ANALYSIS
03/31/92	14	AQUA	8240	41.3	64.5	106 .		ORGANIC COMPOUNDS
08/25/85	15	AUUA	8240	61.7	100.0	165		
00/55/85	10	ACUA	8240	53.9	91.3	145		
02/04/93	11	ACUA	8540	56.7	91.6	140		
02/04/93	15	AUUA	8240	63.7	95.0	160		ALLIEDSIONAL INC.
02/10/93	5	YOUA	8240	54.7	80.0	135		GROLDEDWATER INVESTIGATIONS
05/11/93	9	ACUDA	8240	57.0	90.0	147		SOUTH BEND, INDIANA
08/31/93	-,-	ADJA	8240	45.6	78.6	124	A	
12/01/93		AUDA	8240	65.1	113.0	178	l	
02/19/94	23	AULA	8240	45.0	79.1	126		
05/04/94		AUUA	8240	30.3	62.1	1100	 	
09/14/94		YOY	1		69.7	144		associates .
42\14\A4:	:=:7:==		:: B340 -::	1::44.4::	1 = 5414	7137		Environmental and Geotechnical Sarvice

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		S23 03/22/97	S23 06/04/97	S23 09/23/97	S23 12/10/97	S23 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	< 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	< 5.0	< 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	[5.1]	[5.2]
Vinyl Choride		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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S23 12/14/98 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-Dichloroethene		7	< 5.0	
trans-1,2-Dichloroethene		100	< 5.0	
cis-1,2-Dichloroethene		70	< 5.0	
Methylene chloride		5	< 5.0	
Tetrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	
Trichloroethene		5	[9.8]	
Vinyl Choride		2	<10	
Acetone			< 100	
Xylene (Total)		10000	<10	
Carbon disulfide			< 5.0	

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Page: 1A

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE U	S23 03/22/97 JS-PMCL Primary	S23 09/23/97 Primary	S23 06/10/98 Primary	
Total Phenols		<10	<10	<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

RESULT TYPE US-PMCL Primary Primary Primary Cyanide 200 <5 <5 11 Chromium, Dissolved <5 Lead, Dissolved <2.0 Nickel, Dissolved <20 Chromium, Total 100 <5 Lead, Total 15 <2	CONSTITUENT (Units in ug/l)	SITE		\$23 03/22/97	\$23	\$23	
Chromium, Dissolved < 5 Lead, Dissolved < 2.0 Nickel, Dissolved < 20 Chromium, Total 100 < 5 Lead, Total 15 < 2		· •	US-PMCL			•	
Lead, Dissolved < 2.0			200	<5	<5	11	
Nickel, Dissolved <20 Chromium, Total 100 <5 Lead, Total 15 <2	Chromium, Dissolved					< 5	
Chromium, Total 100 <5 Lead, Total 15 <2	Lead, Dissolved					< 2.0	
Chromium, Total 100 <5	Nickel, Dissolved					< 20	
APPLIED TO A	Chromium, Total		100	<5			
AP-1-1 To a	Lead, Total		15	< 2			
	Nickel, Total		100	< 20		•	

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

SAMPLE ID S-23 DATE COLLECT

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 13 MAR 96 AMOUNT Q	05 JUN 96 AMOUNT Q	05 SEP 96 AMOUNT Q	11 DEC 96 AMOUNT Q
A 100A						•••••••••••••••••••••••••••••••••••••••
A.VOA	BENZENE	UG/L	5.0 U	5.0 ປ		
	CHLOROETHANE	UG/L	10 U	10 U	5.0 U	5.0 ບ
	CHLOROFORM	UG/L	5.0 U		_10 U	10 ປ
	1,1-DICHLORGETHANE	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 ປ
,	1,1-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 ປ	5.0 ບ
	TRANS-1,2-DICHLOROETHENE	UG/L		5.0 U	5.0 บ	5.0 บ
	CIS-1,2-DICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 ປ	5.0 U
	METHYLENE CHLORIDE	-	5.0 U	5.0 ม	5.0 ປ	5.0 U
	TETRACHLOROETHENE	UG/L	5.0 U	5.D U	5.0 ປ	5.0 ม
	TOLUENE	UG/L	5.0 U	5.0 น	5.0 U	5.0 U
	1,1,1-TRICHLOROETHANE	UG/L	5.0 U	5.0 ບ	5.0 ນ	5.0 U
	TRICHLOROETHENE	UG/L	5.0 U	5.0 น	5.0 U	5.0 U
	VINYL CHLORIDE	UG/L	5.0 บ	5.0 ບ	5.0 U	5.0 บ
	ACETONE	UG/L	10 U	10 U	10 U	
		UG/L	100 ປ	100 ប	100 U	10 U
	XYLENE (TOTAL)	UG/L	10 U	10 ປ	10 U	100 U
	CARBON DISULFIDE	UG/L	5.0 บ	5.0 U	5.0 U	10 U
TOTAL VOCS:				_	J.0 B	5.0 ບ
ייייי יייייייייייייייייייייייייייייייי		UG/L	0	0	0	0
E.METALS	CHRONIUM	110.41	.			_
	LEAD	UG/L	5 U	-	5.0 บ	
	NICKEL	NC/F	2.0 บ	•	2.0 U	_
	HICKEL	UG/L	7 J	-	20 U	- -
H.MISC	CYANIDE, TOTAL	116.41	.		_	
	PHENOLS	UG/L	5 U	-	5 U	•
		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	DATE COLLECTED 08 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	06 JUN 95 Amount q	20 SEP 95 Amount q	05 DEC 95 Amount Q
A.VOA /	BENZENE CHLOROETHANE 1,1-DICHLOROETHANE 1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE METHYLENE CHLORIDE TETRACHLOROETHENE 1,1,1-TRICHLOROETHANE TRICHLOROETHENE VINYL CHLORIDE ACETONE XYLENE (TOTAL)	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5 U 10 U 5 U 5 U 5 U 5 U 5 U 5 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 100 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U	5.0 U 10 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U
TOTAL VOCS:		UG/L	0	0	0	10 U	10 U
E.HETALS	LEAD	UG/L	•	•		0 2.0 y	0
E.METALS (DIS.)	NICKEL (DISSOLVED)	UG/L UG/L	•	2.0 U 20 U	•	-	•
H.MISC	CYANIDE, TOTAL PHENOLS	UG/L UG/L	•	5 U 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.

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SOURCE:	S-23			T			Γ	
				C18-1, 2-	TRANS-1, 2 DICILORD-		i	INTES:
ł				ETIENE	ETIENE	SLIM	MOTES	
DATE	SAMPLE		HCL	P-78	P-100			OUR INTERPRETATIONS OF THESE DATA
SMPLED	NO.	LAB	KETHOD	Ug/L	UGAL	UG/L		ARE LIMITED TO OUR WAITTEN REPORTS.
11/05/85	19	ACCUA		+=				NO - NOT DETECTED AT DETECTION
01/07/07		AUUA	 	10	4.5	5		LINIT SPECIFIED BY
02/11/07	-	AQUA	 	No VOC D				LABORATORY. SEE LAB REPORT.
04/05/87	51	ADUA		No VOC D				NPL - NO U.S EPA PUBLISHED LEVEL
09/03/07	13	AQUA		No VOC D				P - PROPOSED
01/13/88	•	AUUA		No YOU D				r - rwrustu
02/09/05	24	AOUA		No YOU D		 -		VOC RESULTS ARE A SUMMARY OF A
03/19/08	17	AGUA	 	6.4	140			GCHS SCAN FOR PRIORITY POLLUTANT VOLATILE CREANIC COMPOUNDS FOR
09/24/88	17	AGUA		No VOC D		-		EACH LOCATION AND SAMPLING DATE.
12/08/88	- ; - 	AGUA		******				SEE LAD REPORT.
02/22/69		AGUA		No VOC D				A - BIS (S-ETHYLIENYL) PHTHALATE
08/09/89	17	AGUA	824	No VOC D				REPONTED 3.4 UGA
09/09/89	27	ACUA	8540	No VOC D				ACLA MOT COMP.
12/11/89	-;- -	ACUA	8249	No VOC D				MELL HOT BAMPLED 01/92.
03/63/90	23	AUDA	0249	No YOU D				NO RESULTS FOR 10/92 SAMPLING
06/01/90	10	AGUA	0240	Ho VOC D				EP1500E DUE TO LAB ERICH.
08/22/90		AGUA	8240	No VOC D				
10/27/90		AUUA	0240	Ho VOC D				
02/20/91		ADUA	0249	No VOC D				PARAHETER
05/01/01	. 17	ADUA	0240	No VOC D	tected			
08/28/91	4	ACUA	8240	No YOU D	tested			• - Date
11/13/91	19	ACCUA	8240	No YOC D	tected			Seepled
03/31/92	15	AUUA	8240	No VOC D	tected			
08/22/92	17	YOUA	8540	No YOU D	tested			
02/04/93	13	ADUA	8240	No YOC D	tected			
02/10/03	3	AOUA	8249	No VOC D	tected			
03/11/03	_•_	YOUY	8240	No VOC D	tected			
09/31/93		YOUN	8240	No YOC D				SHALLON MONTTON WELLS
15/01/93	8	YOU	6249	No VOC D				GROUNDMATER GUALITY ANALYSIS
03/29/94	47	YOUY	0540	No VOC D		 -		ORGANIC COMPOUNDS
03/04/94	<u> </u>	AQUA	8540	No YOC D				
09/14/94		=: YOUY E	: 0749==	HO ADC D	lected			
1								ALL TEDSTGHAL INC.
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Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

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CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S25 03/20/97 Primary	\$25 06/04/97 Primary	S25 09/23/97 Primary	S25 12/10/97 Primary	\$25 06/09/98 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-Dichloroethane			< 5	< 5	< 5.0	< 5.0	< 5.0
,2-Dichloroethane		5	< 5	< 5	<5.0	< 5.0	< 5.0
,1-Dichloroethene		7	< 5	< 5	<5.0	< 5.0	< 5.0
rans-1,2-Dichloroethene		100	< 5	< 5	< 5.0	< 5.0	< 5.0
is-1,2-Dichloroethene		70	< 5	< 5	<5.0	< 5.0	< 5.0
Nethylene chloride		5	< 5	< 5	< 5.0	< 5.0	< 5.0
etrachloroethene		5	< 5	< 5	<5.0	< 5.0	< 5.0
Coluene Coluene		1000	< 5	<5	< 5.0	< 5.0	< 5.0
,1,1-Trichloroethane		200	< 5	< 5	< 5.0	< 5.0	< 5.0
richloroethene		5	< 5	<5	<5.0	< 5.0	< 5.0
/inyl Choride		2	< 10	<2	<10	< 10	< 10
cetone			< 100	< 100	< 100	< 100	< 100
(ylene (Total)		10000	< 10	<5	<10	< 10	<100
Carbon disulfide			< 5	<5	< 5.0	< 5.0	< 5.0

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				·	
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	\$25 12/14/98 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-Dichloroethene		7	< 5.0		
trans-1,2-Dichloroethene		100	< 5.0		
cis-1,2-Dichloroethene		70	5.2		
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 Choride		2	<10		
Acetone			< 100		
Xylene (Total)		10000	< 10		
Carbon disulfide			< 5.0		

Analytical Summary - Phenols In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT	(Units in ug/l)	SITE STE DATE RESULT TYPE	US-PMCL	\$25 03/20/97 Primary	S25 09/23/97 Primary	S25 06/09/98 Primary	
Total Phenols				< 10	< 10	<10	

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		\$25	S25 09/23/97 Primary	\$25	
	DATE		03/20/97		06/09/98	
	RESULT TYPE	US-PMCL	Primary		Primary	
Cyanide		200	< 5	< 5	<5	
Chromium, Dissolved					<5	
Lead, Dissolved					< 2.0	
Nickel, Dissolved				•••	< 20	
Chromium, Total		100	7.3	•••		
Lead, Total		15	1301			
Nickel, Total		100	< 20		•••	

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

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 13 MAR 96 AMOUNT Q	05 JUN 96 Amount Q	05 SEP 96 Amount q	11 DEC 96 Anount q	
A.VOA	BENZENE	110.41					
	CHLOROETHANE	UG/L	5.0 U	5.0 ບ	5.0 ປ	5.0 u	
	CHLOROFORM	UG/L	10 U	10 U	10 U	ט 10 ט	
	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 ປ	5.0 U		
7	1,1-DICHLOROETHENE	UG/L	5.0 บ	5.0 ປ	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	
	METUVIEUE CHI COLOG	UG/L	3.1 J	3.0	2.3	5.0 U	
	METHYLENE CHLORIDE	UG/L	5.0 ม	5.0 บ		3.2 J	
	TETRACHLOROETHENE	UG/L	5.0 บ	5.0 U	5.0 U	5.0 u	
	TOLUENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 ນ	
	1,1,1-TRICHLOROETHANE	UG/L	5.0 Ū	5.0 บ	5.0 U	5.0 U	
	TRICHLOROETHENE	UG/L	5.0 U	5.0 U	5.0 U	5.0 ປ	
	VINYL CHLORIDE	UG/L	10 U	10 U	5.0 U	5.0 ບ	
	ACETONE	UG/L	100 U		10 U	10 U	
	XYLENE (TOTAL)	UG/L	10 U	100 U	100 U	100 U	
	CARBON DISULFIDE	UG/L	5.0 U	10 U	10 U	10 U	
		, -	J.0 0	5.0 ບ	5.0 U	5.0 U	
TOTAL VOCS:		UG/L	3.1	3			
F 45544.5		.,		•	2.3	3.2	
E.METALS	CHRONIUM	UG/L	5 U				
	LEAD	UG/L	6.5	•	5.0 ປ	-	
	NICKEL	UG/L	20 U	-	0.9	•	
		04/ 5	20 U	-	20 U	-	
H.MISC	CYANIDE, TOTAL	UG/L	5 U				
,	PHENOLS	UG/L	10	-	5 U	-	
		Od/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 ARALYTICAL 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	Q8 DEC 94 AMOUNT Q	13 MAR 95 AMOUNT Q	06 JUN 95 Anount q	20 SEP 95 Amount q	05 DEC 95 Anount q
A.VOA	BENZENE		_				••••••••
		UG/L	5 บ	5.0 ບ	5.0 u	5.0 บ	5.0 u
	CHLOROETHANE	UG/L	10 ປ	10 U	10 U	10 U	
	1,1-DICHLOROETHANE	UG/L	5 U	5.0 ປ	5.0 U	5.0 U	10 U
	1,2-DICHLOROETHANE	UG/L	5 υ	5.0 U	5.0 U	5.0 U	5.0 u
	1,1-DICHLOROETHENE	UG/L	5 ม	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	3.8	5.0 U	5.0 ບ
	METHYLENE CHLORIDE	UG/L	5 U	5.0 U	-	2.6 J	3.9 J
	TETRACHLOROETHENE	UG/L		5.0 U	5.0 U	5.0 U	5.0 ປ
	TOLUENE	UG/L	5 U	5.0 U	5.0 U	5.0 ປ	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 ບ	5.0 บ
	VINYL CHLORIDE	UG/L	1Ó Ú		5.0 U	5.0 U	5.0 บ
	ACETONE	UG/L	100 U	10 U	10 U	10 ປ	10 U
	XYLENE (TOTAL)	UG/L		100 U	100 U	100 U	100 U
	William (10)		10 U	10 U	10 U	10 U	10 U
TOTAL VOCS:		UG/L	0	0	3.8	2.6	3.9
E.METALS	LEAR						3.7
C.HEIALS	LEAD	UG/L	-	•	-	5.3	-
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	_	2011			
1	NICKEL (DISSOLVED)	UG/L	•	2.0 U	-	-	•
		OU/L	•	20 U	•	-	•
H.MISC	CYANIDE, TOTAL	UG/L	_	E			
	PHENOLS	UG/L	-	5 U	-	5 U	•
		OOYE	•	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			γ			·		·				
June 1	3-23			1, 1-0[- CILORO-	1, 3-01-	C13-1, 2-	IRANS-1, 2		TRI-	ŀ	ł		NOTES:
1				ETIME	ETHANE	E INEKE	EILEIE	CHLORO- ETHANE	CHLORO- ETHENE	SUN			
DATE	SAMPLE		HCL	NPL	5	P-70					HOTES		OUR INTERPRETATIONS OF THESE DATA
SAMPLED	140.	LAB	HETHOD	UGA	UGAL	UG/L	P-100	P-100	UG/L				ARE LINITED TO OUR WRITTEN REPORTS.
07/10/07		ACUA	 	No VOC D			!			UG/L			NO - NOT DETECTED AT DETECTION
09/03/07	11	AQUA		No VOC De									LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.
01/15/00	32	ADUA		No VOC DO			·			 -	I		l i
02/09/00	50	AUUA		No VOC D							l		NPL - NO U.S EPA PUBLISHED LEVEL
05/10/80	10	AQUA		10	NO	7.3	10	140	HO	,			P - PROPOSED
09/25/88	25	AQUA		No VOC D	tected		— <u>:</u>						
12/09/89	•	AQUA	8240	25.2	38.0	79.0	5.9	6.5	9.6	164			VOC RESILTS ARE A SUMMARY OF A GCMS SCAM FOR PRIORITY POLLUTANT
02/22/69		AQUA		No VOC D				I—					VOLATILE ORGANIC COMPOUNDS FOR
02/25/89	32	AQUA		No VOC O									EACH LOCATION AND SAMPLING DATE.
08/09/69	51	AQUA	624	Ho VOC De					 -		J		SEE LAB REPORT.
09/09/89	20	AUDA	8240		tocted .			·					
12/11/69	5	AQUA	B2 40	No VOC DA									
03/03/90	39	AQUA	6240	No VOC D					·				
06/01/90	9	AUJA	8240	No VOC De	tected						·		· .
00/55/80	6	AQUA	8240	No VOC D							·		
12/27/90	5	AQUA	0240	No VOC D							·	•	1
02/28/91	6	AUUA	8240	No VOC De									
05/01/91	15	AUUA	8240	No VOC D	tected		·········	·					
08/29/91	,	AQUA	8240	No VOC De	tecte4								PARAMETER
11/13/91	13	AUUA	8240	No VOC D	tected								
01/25/92	32	AUUA	8240	No VOC D	tected								e - Date Sampled
03/31/92	15	AUUA	8540	No VOC D	tected								
08/22/92	14	ADUA	0240	No VOC D	lected								
10/30/92	4	AOUA	8240	NO YOU DA	tected								
02/04/93	10	AUGA	8240	No VOC D	tected								
05/11/93	7	AUUA	8240	110	110	5.3	140	10	ta)	\$			
08/31/93	5	YOUY	6240	180	Ю	6.0	110	110	140	6			
12/01/93	4	AQUA	8249	10	140	10.7	10	14)	(4)	11			SHALLOW HONTTON WELLS
02/17/94	3	ADUA	8240	1:0	140	7.3	14)	180	140	,			GROUNDHATER WALLTY ANALYSIS
05/04/94	7	AUUA	8240	10	10	5.5	180	100	100	6			OHGANIC COMPOUNDS
99/14/94	15	ADUA	9540	No voc p	etected .				 		.l	j	
													ALLIEDSIGNAL INC. GROWWHATER INVESTIGATIONS SOUTH BEND, INDIANA
·						; 							TICIONOSON associates Environmental and Geotechnical Services

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Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

						•	•
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	S27 03/20/97 Primary	S27 06/05/97 Primary	S27 09/23/97 Primary	\$27 12/09/97 Primary	S27 06/10/98 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-Dichloroethene		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 Choride		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

Page: 1B

Analytical Summary - VOCs In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	•			
CONSTITUENT (Units in ug/l)	SITE DATE		\$27 12/14/98	
	RESULT TYPE	US-PMCL	Primary	
Benzene		5	<5.0	
Chloroethene		2	< 10	
Chloroform		100	< 5.0	
1,1-Dichloroethane			50	
1,2-Dichloroethane		5	< 5.0	
1,1-Dichloroethene		7	[9.9]	
trans-1,2-Dichloroethene		100	16	
cis-1,2-Dichloroethene		70	29	
Methylene chloride		5	< 5.0	
Tetrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	
Trichloroethene		5	[32]	
Vinyl Choride		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 Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		\$27	\$27	\$27
	DATE		03/20/97	09/23/97	06/10/98
	RESULT TYPE	US-PMCL	Primary	Primary	Primary
Total Phenols			< 10	< 10	< 10

Analytical Summary - Inorganics In Groundwater Shallow Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		S27	S 27	\$27	
	DATE RESULT TYPE	US-PMCL	03/20/97 Primary	09/23/97 Primary	06/10/98 Primary	
Cyanide		200	7	<5	<5	
Chromium, Dissolved					< 5	
Lead, Dissolved				•••	< 2.0	
Nickel, Dissolved				***	< 20	
Chromium, Total		100	19	•-•		
Lead, Total		15	[52]			
Nickel, Total		100	< 20			

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

SAMPLE ID S-27 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE (13 MAI AMOUNT		04 JUN AMOUNT	96 Q	05 se Amoun		11 (AMOL	PEC 96	
A.VOA	BENZENE					•			•		
		UG/L		5.0 u		i.0 u					
	CHLOROETHANE	UG/L		10 U	•	10 U		5.0 U		5.0 ม	
	CHLOROFORM	UG/L		5.0 U		i.0 U		10 U		10 U	
	1, 1-DICHLOROETHANE	UG/L		5.0 บ				5.0 U		5.0 U	
	1,2-DICHLOROETHANE	UG/L		5.0 u		.0 U		5.0 U		5.0 U	
	1,1-DICHLOROETHERE	UG/L		5.0 U		.0 U		5.0 U		5.0 บ	
	TRANS-1,2-DICHLOROETHENE	UG/L	21	J.U U		.0 บ		5.0 บ		5.0 U	
	CTS-1,2-DICHLOROETHERE	UG/L	27		15		14		15	0	
	METHYLENE CHLORIDE	UG/L		.	23		21		25		
	TETRACHLOROETHENE	UG/L		5.0 U		.0 u		5.0 บ		5.0 u	
	TOLUENE	UG/L		5.0 U		.0 U		5.0 U		5.0 U	
	1,1,1-TRICHLOROETHANE	-		5.0 U	5	.0 Ա		5.0 U		5.0 U	
	TRICHLOROETHENE	UG/L		5.0 U		.0 U		5.0 U		5.0 U	
	VINYL CHLORIDE	UG/L	39		32		27		27	J.U U	
	ACETONE	UG/L		10 U		10 U		10 ປ		40	
	XYLENE (TOTAL)	UG/L		100 U	1	00 U		100 U		10 U	
	CARBON DISULFIDE	UG/L		10 U		10 U		10 U		100 U	
	The state of the s	UG/L	:	5.0 ม	5	.0 U		5.0 U	11	10 U	
TOTAL VOCS:								2.0 0	**		
•		UG/L	87		70		62		78		
E.METALS	CHRONIUM						-		70		
,	LEAD	UG/L		5 U				5.0 บ			
	NICKEL	UG/L	3.8			-	5.4	J.U U		-	
	MICKEL	UG/L		20 U			6.0			-	
H.MISC	CVANIDE TOTAL						0.0	J		•	
11.01.00	CYANIDE, TOTAL	UG/L		5 บ				<i>5</i>			
	PHENOLS	UG/L		10 U		_		5 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

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

SAMPLE ID S-27 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 08 DEC 94 AMOUNT Q	14 MAR 95 AMOUNT Q	06 JUN 95 AMOUNT Q	20 SEP 95 AMOUNT Q	05 DEC 95 Amount Q
A.VOA	DENTENE						
A. TOA	BENZENE	UG/L	5 U	5.0 U	5.0 บ		
	CHLOROETHANE	UG/L	10 U	10 U		5.0 U	5.0 ບ
	1,1-DICHLOROETHANE	UG/L	5 U	5.0 y	10 U	10 ປ	10 ປ
	1,2-DICHLOROETHANE	UG/L	5 Ū	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 ປ
	TRANS-1,2-DICHLOROETHENE	UG/L	15		5.0 น	5.0 ບ	5.0 U
	CIS-1,2-DICHLOROETHENE	UG/L	22	17	21	16 22	20
	METHYLENE CHLORIDE	UG/L		25	24	22	20 24
	TETRACHLOROETHENE		5 U	5.0 ม	5.0 ม	5.0 U	5.0 U
	TOLUENE	UG/L	<u>-</u>	5.0 บ	5.0 ປ	5.0 ນ	
	1,1,1-TRICHLOROETHANE	UG/L	5 U	5.0 ປ	5.0 ປ	5.0 U	5.0 U
	TRICHLOROETHENE	UG/L	5 U	5.0 ບ	5.0 U	5.0 U	5.0 U
		UG/L	52	52	41	41	5.0 U
	VINYL CHLORIDE	UG/L	10 U	10 U	10 ປ		37
	ACETONE	UG/L	100 U	100 U	100 U	10 U	10 U
	XYLEHE (TOTAL)	UG/L	10 U	10 U		100 U	100 U
			•••••	10 0	10 ປ	10 ປ	10 U
TOTAL VOCS:		UG/L	89	94	86	79	******
E.METALS	LEAD					**	81
t	LEAD	UG/L	•	-		9.8	
E METALC (DIC)	1515 4515551					7.0	-
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	•	2.0 U	_		
	NICKEL (DISSOLVED)	UG/L	-	20 U	-	-	-
		•		20 0	•	-	•
H.MISC	CYANIDE, TOTAL	UG/L	-	E		-	
9 • .	PHEROLS	UG/L		5 U	-	5 U	-
		00, 2	-	10 U	•	10 ປ	· -

QUALIFIER CODES (Q):

U: THIS AMALYTE 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, Z- DICHLORO- ETHERE	TRAIG-1, 2 DICHLORD- ETIENE	TAI- CHLORO- ETHERE	SUM	MOJES		MITES:
DATE	SAKPLE		KCL	P-70	P-100	5				RE LIMITED TO OUR MAITTEN REPORTS.
SAMPLED	NO.	LAB	HETHOO	UG/L	UG/L	UG/L	UG/L			O - NOT BETECTED AT DETECTION
07/10/87		ACULA		9.4	10	90	109			LIMIT SPECIFIED BY
09/84/87	28	AUUA		7.5		100	116		•	LABORATORY. SEE LAB REPORT.
01/15/08	33	YOUN		9.8	19	95	125		l n	PL - NO U.S EPA PUBLISHED LEVEL
02/19/08	32	ACLIA		12	15	01	109			
03/19/68	27	AQUA		24.5	18.4	74.6	110		[*	- PROPOSEO
09/25/88	27	AQUA		11	26	85	155			OC RESILTS ARE A SLAMARY OF A
12/00/80	2	AUUA	l	13.3	21	80	114			COMS SCAN FOR PRIORITY POLLUTANT
02/23/03	12	AUUA	<u> </u>	11.1	17	97.1	125			EACH LOCATION AND SAMPLING DATE.
05/09/89	25	AQUA	624	10.5	12.3	86	109		• • • • • • • • • • • • • • • • • • •	SEE LAB REPORT.
09/08/89	10	AOUA	8240	14.0	19.5	78.9	113		١,	NO RESULTS FOR 10/82 SAMPLING
12/11/09	11	AQUA	8240	14.6	20.4	100	135			EPISODE DUE TO LAB ERROH.
02/28/90	11	AGUA	9240	20.4	22.3	83.1	126			į
02/28/90	15	AUUA	8240	20	20.8	84.6	126			•
06/55/80	177	AUUA	8240	17.4	21.6	84.5	124			
08/24/90	23	AQUA	8240	17.5	17.9	78.0	113			
10/20/90	17	AOUA	8240	20.0	20.9	91.4	132		1	
02/20/91	-	AQUA	6249	10.1	12.4	76.4	107	.		
05/01/91	22	AOUA	8240	22.5	60.0	66.7	151			PARAMETER
09/29/91	•	YOUT	8240	14.0	21.0	56.0	93	.	ł l	
11/13/91	18	ADMA	0240	20.0	23.1	54.1	97	.		o - Date Seepled
01/25/02	38	YOU	8240	17.1	18.9	57.0	91	-		
03/31/95	10	AOUA	8240	15.5	16.0	50.0	92	-	1	
09/23/92	25	AUUA	8249	23.5	19.0	75.3	119	-	1	
02/04/93	 	AOUA	8240	28.4	24.2	90.2	143]	
05/11/93		ADUA	8240	21.4	21.0	50.2	101		1_	
09/31/93		AOUA	8240	21.1	21.7	45.5	89]	SHALLOW HONITOR WELLS
12/01/03		ADUA	9240	59.2	49.3	59.2	159	_	-1	GROUNDMAIER QUALITY ANALYSIS
02/17/94		ACLIA	8240	27.3	83.6	NO NO	51	_	-	ORGANIC COMPOUNDS
05/05/94	_	YOUA	8240	21.1	19.0	34.8	75	_\	_	
09/14/94	13	AUUA	8240	29,7	18.7	44,0	61	_l	_	
			<u> </u>							ALLIEDSIGNAL THE. GROUNDMATER INVESTIGATIONS SOUTH BEND, INDIANA
						; 1				TOPOSON associates Environmental and Gentechnical Bervices

INTERMEDIATE MONITORING WELLS

Analytical Summary - VOCs In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

						•
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	7-50 07/18/97 Primary	7-50 06/09/98 Primary	7-50 12/12/98 Primary	
Benzene		5	<5	< 5.0	<5.0	<u></u>
Chloroethene		2	< 2	< 10	<10	
Chloroform		100	< 5	< 5.0	< 5.0	
1,1-Dichloroethane			< 5	< 5.0	< 5.0	
1,2-Dichloroethane		5	<5	< 5.0	< 5.0	
1,1-Dichloroethene		7	< 5	< 5.0	< 5.0	
trans-1,2-Dichloroethene		100	< 5	< 5.0	< 5.0	
cis-1,2-Dichloroethene		70	<5	< 5.0	< 5.0	
Methylene chloride		5	<5	< 5.0	<5.0	
Tetrachloroethene		5	<5	< 5.0	< 5.0	
Toluene		1000	< 5	< 5.0	<5.0	
1,1,1-Trichloroethane		200	<5	< 5.0	< 5.0	
Trichloroethene		5	< 5	< 5.0	<5.0	
Vinyl Choride		2	< 2	< 10	<10	
Acetone			< 100	< 100	<100	
Xylene (Total)		10000	<5	< 10	<10	
Carbon disulfide		.,	< 5	< 5.0	<5.0	
i e						

Analytical Summary - Phenols In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Page: 1A

CONSTITUENT	(Units in ug/l)	SITE		7-50	
		DATE		06/09/98	
·		RESULT TYPE	US-PMCL	Primary	
Total Phenols				<10	

Analytical Summary - Inorganics In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				·	:
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	7-50 06/09/98 Primary		
Cyanide		200	<5		
Chromium, Dissolved			< 5		
Lead, Dissolved			< 2.0		
Nickel, Dissolved			< 20		
Chromium, Total		100			
Lead, Total		15			
Nickel, Total		100			

25-Oct-88			Ĭ.			• • • • • • • • •			• • • • • • • • •			•••••								
, oct-00				Į.		*******	PRIORIT	T POLLUTANI	S VOLATI	LE ORGAN	IC COMPOL	JNDS (VOC)		!	OTKER	ORGANIC	COMPOUND	· · · · · · · · · · · · · · · · · · ·	·!
				C E	NLORO- THANE	CHLORO-	CHLORO-	TRANS-1,2 DI- CHLORO- E[ETHYLENE	TRI- CHLORO- FTHAME	IRI- CHLORO-	-1,2 DI -CHLORO	VINAF	 CHLORO-	i I	CIS-1, 2- DICHLORO-	i I		 	- 	MOTES:
••••••	•••••	•••••																		LINITED TO OUR WRITTEN REPORTS.
ÆLL MO.	DATE	SAMPLE	# LAE	ì			:		1	1	1		1		l 		·		··	MD = NOT DETECTED. SEE LAB REPORT FOR DETECTION LIMITS.
7-50	11/07/8	32	AQL	M I	ND	MD.	MD	 	KD	*====== ND] ND		******** [ND	MD	HD	 	 ********	 		VOC RESULTS ARE A SUMMARY OF A GCMS SCAN
			1		اا] [-	······ 	 	 !	 				ļ	-	- 	FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING
	!	ļ	1	 	اا		 	 	 	 				· · · · · ·	••••••	 	! 	-	 -	DATE. SEE LAB REPORT.
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İ	••••••	j I	· j · · · · ·	··[··		····			······	ا ا				j	i		 			TABLE 5
į	•••••		ļ	·-			••••••	 	 -] 		! 	j	i						GROUNDWATER QUALITY ANALYSIS
į			ļ	-		······ .			····	1	l		i	j.	······	 				ORNANIC COMPOUNDS PAGE 10 OF 43
į	•••	 	ļ	-		·····	l	······	 			i	j.	 	۱ 			ļ	! !	HONITOR WELLS
 - -		••••••	ļ	-	· - 	.	l				i i.			- - 				! !	! !	GROUNDWATER INVESTIGATIONS ALLIED CORPORATION
ŀ	 	······	 	-	····· .	 				i	j.	i	1.	- 					 	SOUTH BEND, INDIANA PROJECT # ALCMPX SBIN 013
- -		• • • • • • •	 	-		. 		····-	j.	i	i.	i							- 	T A GLEASON ASSOCIATES
********	 *******	========	 	 :====		 		İ	i	i	i	i	i	1		·-···· /·	·······	 		Environmental and Geotechnical Services

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Analytical Summary - VOCs In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

						4, 9 - 1 	
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	8D 03/21/97 Primary	8D 06/03/97 Primary	8D 09/24/97 Primary	8D 12/08/97 Primary	8D 06/11/98 Primary
enzene		5	<5	< 5	< 5.0	< 5.0	<5.0
hloroethene		2	< 10	< 2	< 10	<10	< 10
hloroform		100	< 5	< 5	< 5.0	< 5.0	< 5.0
,1-Dichloroethane			< 5	< 5	< 5.0	< 5.0	< 5.0
,2-Dichloroethane		5	< 5	< 5	< 5.0	< 5.0	< 5.0
,1-Dichloroethene		7	< 5	< 5	< 5.0	< 5.0	< 5.0
ans-1,2-Dichloroethene		100	27	35	23	21	29
s-1,2-Dichloroethene		70	[230]	[310]	[240]	[220]	[260]
ethylene chloride		5	< 5	<5	< 5.0	< 5.0	< 5.0
etrachloroethene		5	< 5	<5	< 5.0	<5.0	< 5.0
oluene		1000	< 5	<5	< 5.0	< 5.0	< 5.0
,1,1-Trichloroethane		200	<5	<5	< 5.0	< 5.0	< 5.0
richloroethene		5	<5	<5	< 5.0	< 5.0	< 5.0
inyl Choride		2	<10	<2	<10	<10	<10
cetone			< 100	< 100	< 100	< 100	< 100
ylene (Total)		10000	< 10	<5	<10	< 10	< 100
arbon disulfide			<5	<5	< 5.0	< 5.0	< 5.0

Page: 1B

Analytical Summary - VOCs In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		8D	
• · ·	DATE		12/12/98	
	RESULT TYPE	US-PMCL	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-Dichloroethene		7	< 5.0	
trans-1,2-Dichloroethene		100	32	
cis-1,2-Dichloroethene		70	[220]	
Methylene chloride		5	[7.2] B	
Tetrachloroethene		5	< 5.0	
Toluene		1000	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	
Trichloroethene		5	< 5.0	
Vinyl Choride		2	<10	
Acetone			< 100	
Xylene (Total)		10000	<10	
Carbon disulfide			< 5.0	

Analytical Summary - Phenols In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		8D	. 8 D	8D	
	DATE		03/21/97	09/24/97	06/11/98	
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	
Total Phenois			< 10	< 10	<10	

Analytical Summary - Inorganics In Groundwater Intermediate Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		8D	8D	8D
	DATE		03/21/97	09/24/97	06/11/98
	RESULT TYPE	US-PMCL	Primary	Primary	Primary
Cyanide		200	161	90	110
Chromium, Dissolved			•		13
Lead, Dissolved			•••	***	< 2.0
Nickel, Dissolved					< 20
Chromium, Total		100	11		•
Lead, Total		15	< 2		
Nickel, Total		100	< 20	***	

Intermediate Monitoring Well

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

> SAMPLE ID 8-D

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 12 MAR 96 AMOUNT Q	05 JUN 96 AMOUNT Q	04 SEP 96 Amount q	12 DEC 96 Amount q
A.VOA	1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TOLUENE TRICHLOROETHENE VINYL CHLORIDE CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	10 U 10 U 6.9 J 97 10 U 10 U 20 U	25 U 25 U 30 270 25 U 25 U 50 U 25 U	5.0 U 5.0 U 23 240 5.0 U 5.0 U 10 U 5.0 U	5.0 u 5.0 v 21 200 5.0 u 5.0 u 10 u 5.0 u
TOTAL VOCS:		UG/L	103.9	300	263	221
E.METALS	NICKET FEWD	UG/L UG/L	2.0 U 20 U		1.6 J 5.8 J	-
H.HISC	CYANIDE, TOTAL PHENOLS	UG/L UG/L	220 10 U	:	180 10 U	Ī

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

SAMPLE ID 8-D

GROUP	PARAMETER NAME	UNITS	8-D DATE COLLECTED 07 DEC 94 AMOUNT Q	14 MAR 95 ANOUNT Q	07 JUN 95 Anguny Q	19 SEP 95 AMOUNT Q	06 DEC 95 ANDUNT Q
A.VOA	1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRICHLOROETHENE VINYL CHLORIDE	UG/L UG/L UG/L UG/L UG/L UG/L	5 U 5 U 33 244 5 U 10 U	5.0 U 5.0 U 18 200 5.0 U 10 U	10 U 2.6 J 34 270 10 U 6.9 J	10 U 10 U 9.6 J 89 10 U 20 U	10 U / 10 U 19 180 10 U 20 U
TOTAL VOCS:		UG/L	277	218	313.5	98.6	199
E.METALS	LEAD	UG/L	-	-	-	1.8	-
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.

Environmentel and deptechairel Services					,						
casociales)						
					:	•					•
	ļ:	;;	1— <u></u>	1	1	1	1		 ; ; -		1
SOUTH UEID, TROTAIN			(PI	U1	5.50		01	. 0>28	AUDA	55	16/51/60
GROUNDHATEH THYESTERATIONS			- (21	(2)	S.25.	210	01	85 10	AUDA	58	18/90/60
	ļ	6¢€	(31	<u> </u>	1.20	351	01	8540	AUGA	55	18/81/20
ALL TEDSTGHÁL THE,		cts		(34	8.15	115	DH	8540	AUGA	15	05/18/31
		60)	(11)	UI	2.65	744	0.8	8540	AUDA	53	15/05/93
!	l	330	Ut	01	0.54	568	OH	0540	YOUY	35	16/20/60
ECHICANIC CONFOUNDS		ESE	Ott	Dί	2.01	Ses	01	9540	AUGA	16	18/20/60
GROURIDHATER GUALITY ANALYSIS		453	CEI	01	UU	P(C	014	B5 40	AUGA	12	16/21/50
Intermediate Monitoring Well		0/6	U1	(31)	89.9	310	01	8540	ALIDA	CC.	05/02/83
	1	3 (3	(2)	UI	6.16	910	ON	8540	AUDA	65	28/11/01
		9()	() I	01	1.21	430	OH.	8540	AUDA	6	26/12/00
		£9>	(D)	014	9. EC	EOP	ON	9540	ALIOA	11,	26/20/10
		364	(34	01	3.60	754	04	0>20	AUGA	9€	01/56/93
		<u>>\$£</u>	01	(DA	8.00	353	OH	9540	AUOA	32	16/+1/11
petdeeg	 	340	(71	UI	0.66	308	8.8	95 (0	AUDA	16	16/16/80
9180 - o		000	. (1)	D1	8.18	333	ON	8540	AUGA	13	16/10/90
			URI		0.53	322	0:1	8540	AUDA	11	16/10/90
PARAMETER			5.51	01	5.16	916	애	0>50	AUDA	15	16/10/60
	ļ 	E19	9.91	04	E.S.	611	1.8	9540	AUDA	16	10/53/80
		_ -	- ₁		- <u></u>	polosi	HP ADC D*	8540	AUGA	51	08/53/60
		99>	()11	(7)	3.25	430	0.1	8540	AUDA	33	06/60/90
		E. E. O	9 11	- 01	2.15	087	(3)	8540	AUDA	12	03/05/80
. 1		a9>	LP#	ON	8.15	910	ON	05 40	AUGA	100	59/E1/21
		69>	(9)	01	2.15	0++	(7)	05.40	AUDA	((60/61/21
		619	1.11	D)	9. CC	960	1.2	0540	AUGA	St.	69/01/60
		959	£.61	Q1	5.10	009	01	129	AUDA		69/80/90
ł		859	24.5	(III	1.66	0/2	ON	 	AUDA		
EACH LOCATION AND SAMMLING DATE.		-	- '	ل			NO ADC DS	<u> </u>		32	68/52/20
AUCATILE ORGANIC COMPOUNDS FOR		2()	(31)	20	SC	450	04	<u> </u>	AUDA	35	12/10/00
ECHS SCAN FOR PRIORITY POLLUTANT		5691	6.18	01	;	0091		 	ALIOA	61	88/+5/60
VOC RESILTS ARE A SUMMARY OF A		0[9	01	01	01	·	OH		4004		99/61/50
032090A9 ~ 9		- 011		01		019	ON	 	AUGA	11	05/09/80
		550	01	01	01	011	<u> </u>	<u> </u>	AUDA	El	00/60/20
NPL - NO U.S EPA PUBLISHED LEVEL		0>0	OH OH	01	DH	200 200	04		AUDA	65	88/51/10
LANGAATONY, SEE LAB REPORT.		008	01	- ON	ON ON	940	- 	 	AUDA	98	88/51/10
CINIL CHECILIED BA		- Inc	01	01	12	008	OH		AUDA	30	18/10/60
NO - NOT DETECTED AT DETECTION		= ====		 	-	05(OH.	<u></u> _	4004	9	£8/01/£0
PRE CINITED TO OUR WALTTEN REPORTS	1	7/90	7/91	7/90	1/90	1/9n	רפ/ד	DONTEN	841	.ON	DETENTS
OUR INTERPRETATIONS OF THESE DATA		_		200	P-100	6-30	~	HCT"		3 THINYS	3170
	2310	Mana	301 WO THO	∌MII3	313113	303113	3H3U3				
NO1ES:		1	ATHAL	-04074)	1000-1, 2 -0101-010	-010310310					
							-10-1 1				

DEEP MONITORING WELLS

Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		2D 03/22/97	2D 06/03/97	2D 09/23/97	2D 12/08/97	2D 06/11/98
	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	< 5.0	< 5.0	< 5.0
1,2-Dichloroethane		5	[12]	[16]	1141	[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 Choride		2	< 10	< 2	<10	< 10	<10
Acetone			< 100	< 100	< 100	< 100	< 100
Xylenė (Ţotal)		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

Page: 1B

Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

	·			·· ,	
CONSTITUENT (Units in ug/l)	SITE		2D		
	DATE		12/12/98		
	RESULT TYPE	US-PMCL	Primary		
Benzene		5	< 5.0		
Chloroethene		2	< 10		
Chloroform		100	< 5.0		
1,1-Dichloroethane			< 5.0		
1,2-Dichloroethane		5	[7.8]		
1,1-Dichloroethene		7	< 5.0		
trans-1,2-Dichloroethene		100	< 5.0		
cis-1,2-Dichloroethene		70	18		
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 Choride		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

₹ ¥77. × .

Analytical Summary - Phenols In Groundwater
Deep Monitoring Wells
Quarterly Monitoring Program - 12/98

AlliedSignal Industrial Complex

South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	2D 03/22/97 Primary	2D 09/23/97 Primary	2D 06/11/98 Primary	
Total Phenols			· <u>-</u>	< 10	< 10	<10	

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

For RCL PHENOLS

Page: 1A

Analytical Summary - Inorganics In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		2D	2D	2D
	DATE		03/22/97	09/23/97	06/11/98
	RESULT TYPE	US-PMCL	Primary	Primary	Primary
Cyanide		200	< 5	< 5	<5
Chromium, Dissolved			***		7.6
Lead, Dissolved			•••		< 2.0
Nickel, Dissolved					< 20
Chromium, Total		100	9.4		
Lead, Total		15	< 2		· · ·
Nickel, Total		100	< 20		

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

> SAMPLE ID 2-D

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 14 MAR 95 AMOUNT Q	07 JUN 95 Amount q	19 SEP 95 AMOUNT ' Q	06 DEC 95 ANOUNT Q
A.VOA	1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRICHLOROETHENE VINYL CHLORIDE	UG/L UG/L UG/L UG/L UG/L	18 5.0 U 5.0 U 17 24 10 U	16 5.0 U 5.0 U 14 5.0 U	5.0 U 5.0 U 5.0 U 11 5.0 U	16 5.0 U 5.0 U 14 5.0 U
TOTAL VOCS:		UG/L	59	30	11	10 U
E.METALS	LEAD	UG/L	-	•	2.0 U	30
H.HISC	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 ERN 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

SAMPLE ĮD 2-D

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 12 MAR 96 AMOUNT Q	04 JUN 96 Anount q	05 SEP 96 AMOUNT ' Q	12 DEC 96 AMOUNT Q
7	1,2-DICHLORGETHANE 1,1-DICHLORGETHENE TRANS-1,2-DICHLORGETHENE CIS-1,2-DICHLORGETHENE TOLUENE TRICHLORGETHENE VINYL CHLORIDE CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	16 5.0 U 5.0 U 17 5.0 U 5.0 U 10 U 5.0 U	15 5.0 U 5.0 U 15 5.0 U 5.0 U 10 U 5.0 U	14 5.0 U 5.0 U 11 5.0 U 5.0 U 10 U 5.0 U	15 5.0 U 5.0 U 13 5.0 U 5.0 U 10 U 5.0 U
TOTAL VOCS:		UG/L	33	30	25	28
E.METALS	MICKET FEAD	UG/L UG/L	9.4 20 U	•	2.0 U 20 U	- -
H.MISC	CYANIDE, TOTAL PHENOLS	UG/L UG/L	5 U 10	•	5 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.
- NOTE: THESE SAMPLES HAVE NOT UNDERGONE ERM'S COMPREHENSIVE QUALITY ASSURANCE DATA VALIDATION. ALL RESULTS PRESENTED ARE AS RECEIVED FROM THE LABORATORY.

	NOTES:	ĺ		NOTES	SLM	TAI- CILORO- ETIEKE	C18-1, 2- DICHLORD- ETHENE	1, 2-01- CILORD- ETHAKE			5-0	SOURCE:
OF THESE DAT	OLIA INTERPRETATIONS OF THESE					5	P-70	5	HCL		SMPLE	DATE
RITIEN REPOR	ARE LINITED TO OUR WRITTEN F	[ł	UG/L	us/L	UG/L	US/L	HETHOD	LAB	NO.	SAIPLED
DETECTION	NO - NOT DETECTED AT DETECT			 		110	100	20.4		ADUA	2	12/10/06
BY	LIMIT SPECIFIED BY				20 25	ID	100	25	 	AQUA	11	05/05/87
	LABORATORY. SEE LAB RE				24	10	10	24		AQUA	19	09/83/87
LISIÆD LEVEL	NPL - NO U.S EPA PUBLISHED L	İ			34	10	140	34		AOUA	34	01/13/08
	P - PROPOSED	1			25	NO NO	10	25		AOUL	11	02/09/88
	'				34	10	10	34.2		AUUA	24	05/19/88
HARY OF A	VOC RESULTS ARE A SUMMARY OF GCMS SCAN FOR PRIORITY POLLU			l	26		10	26	·	AQUA	50	09/24/88
TY POLLUTANT POUNDS FOR	VOLATILE ORGANIC COMPOUNDS F				55	10	10	55		AQUA	27	12/10/88
HPLING DATE.	EACH LOCATION AND SAMPLING D				- 51	10	10	21.4		AGUA	28	12/10/48
	SEE LAB REPORT.		•		38	10	13.4	21.0		AUUA	19	02/24/69
		į				10	22.4	26.6	824	AUDA	18	06/46/89
		·	•		49				8240	ACLIA	31	09/09/89
					47	NO	24.6	22.5	8240		30	12/13/89
	•				36		14.6	51		ACUA		
		ł			66	10	31.8	\$3.0	0240	AQUA	50	03/01/90
		Į.			47	140	26.3	20.0	0240	AQUA	50	
		1			34	10	17.7	15.0	8340	AGUA	19	08/23/90
	•	İ			47	10	26.8	8.05	8240	AOUA	27	10/29/80
:A	PARAHETER				45	100	13.7	10.4	8240 8240	AUUA	26	03/02/91
$\overline{}$		1			26	10	5.1	14.7	8240	AGUA		03/30/91
. 1	o - Date	•	•		30		14.6	15.0	8240	AQUA	35	00/31/91
104	Sampled				20		12.7	15.0	0240	AQUA	41	11/14/91
	1 1	i			26	HO	9.3	18.2	0240	AQUA	25	01/24/92
	l L	1			30	10	15.5	17.4	8240	AQUA	45	04/02/92
		L.			37	140	13.1	23.6	6240	AUUA	,	00/51/85
		T .			25	15.0	9.4	10	0240	AQUA	33	10/31/92
=		 			44	10	21.3	82.8	9240	ACUA	31	02/05/93
WELLS	DEEP HONITOR WELLS				29	10	11.1	17.6	8240	ACLIA	37	05/12/03
IY AHALYSIS	GROUNDHATER QUALITY ANALY]		· · · · · ·	31	HD	11.1	20.0	6240	ACULA	28	09/02/93
POUNDS	ORGANIC COMPOUNDS				37	HO.	15.7	21.2	0240	AUUA	31	12/03/03
	1	1			32	10	12.6	19.1	8240	AUUA	20	02/18/94
	<u> </u>]-	1		25	140	10.8	13.9	8240	ACUA	30	05/05/84
_ INC.	ALLIEDSTONAL INC.	j			20	100	E11.3		0240	, ADJA	3	09/13/94
	GROUNDWATER INVESTIGATIO	į	•	 -	!— 	·	•=====================================					
) FILL LEFT	BOWNERS BEST STREET											
estra.	CASCHEDIT CERTIFICATION	ſ				,						
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es	associates	t				ı						
Chalcal Bervic	Environmental and Gestechnical	ļ				•						
	SOUTH BEAD, TH	t			····	, -	·					

Analytical Summary - VOCs In Groundwater **Deep Monitoring Wells Quarterly Monitoring Program - 12/98** AlliedSignal Industrial Complex South Bend, Indiana

				- ··· · · · · · · · · · · · · · · · · ·
CONSTITUENT (Units in ug/l)	SITE		4D	
	DATE		06/10/98	
	RESULT TYPE	US-PMCL	Primary	<u> </u>
Benzene		5	< 5.0	
Chloroethene		2	< 10	
Chloroform		100	< 5.0	
1,1-Dichloroethane		•	< 5.0	
1,2-Dichloroethane		5	< 5.0	
1,1-Dichloroethene		7	<5.0	
trans-1,2-Dichloroethene		100	< 5.0	
cis-1,2-Dichloroethene		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 Choride		2	<10	
Acetone			< 100	
Xylene (Total)		10000	<10	•
Carbon disulfide			< 5.0	
į.				

Analytical Summary - Phenols In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE Street	4D	4D	en en en en en en en en en en en en en e	
	DATE	06/10/98	06/10/98		
	RESULT TYPE US-PMCL	Primary	Duplicate		
Total Phenois		< 10	< 10		<u> </u>

Analytical Summary - Inorganics In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 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
Cyanide		200	<5 UJ	19
Chromium, Dissolved			< 5	<5
Lead, Dissolved			< 2.0	< 2.0
Nickel, Dissolved			< 20	< 20
Chromium, Total		100		•••
Lead, Total		15		
Nickel, Total		100		
11. 38 to 3				

25-0ct-8	58				i		00100		• • • • • • •	• • • • • • • •	• • • • • • • •	·		•••••						
						*=====	11301344 *******	Y POLLUTAN	IS VOLATI	LE ORGAN	IC COMPOL	JNDS (VOC)		1	OIN	 P 00cau		•••••••••••••••••••••••••••••••••••••••	1
					11	1	1	TRANS-1,	2 1,1,1-		**=====:	:====== 	*******		********	******	RESESSES	TERRETERS	WDS ========	
					ETHANE	ETHANE	FINALOSO-	CHLORO-	JCHLORO-	CHLORO-	CHLORO-	VINTL	CHLORO	- 1	ICIS-1,2-		į	Ī	i	
••••••			••••			1.000	ļ			 EINTLENE	PROPANE	CHLORIDE	FORM	TOLUEN				 	 	OUR INTERPRETATIONS OF THESE DATA ARE LIMITED TO OUR WRITTEN REPORTS.
VELL NO.	. DATE	[SAMPI	E #]			•	,			1		_			1 00,5					
4-D	110/14/8	AI TI							********	*********			•	•	•	1		ſ		
	01/07/8	- 7 5	· · · [·	AOUA	 ND	 ND	j			MD	MD 	MD	ND 	ND		!	!			ND * NOT DETECTED. SEE LAB REPORT FOR DETECTION LIMITS. **NOTE: TOLUENE WAS NOT DETECTED IN A PREVIOUS SAMPLINGS. A RESAMPLING
	[02/11/8	71 2	- 1	ADIIA I	l wn :					• • • • • • • • • • • • • • • • • • • •					:	•	1	1	- 1	1 ON DESCRIPTION NO POCUENE. BAS
	106/05/87	71 16									1					1	1	1	3	THE ETYPOS SAMPLING
	109/04/87	1 21									1				0.0	ł	1	1	1	i
	01/14/88	1 21	1.7	LOUIA E	wo i				-	· • • • • • • • • • • • • • • • • • • •					~ U	1	1	1	1	COMPANIES AND THE ORGANIC
																				DATE. SEE LAB REPORT.
	103/14/88	1 1		~ i					••••••						0.0		Į.	1	1	•
1	05/18/88	12	i a	~:. i		ŗ						i .		~~ !	10.0		j	1	1	******************************
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	777677001	10	, A1	ALLA I	wa I			•									•	•		GROUNDWATER QUALITY ANALYSIS
!	 	•••••	·1	- 	······j.	j.				·····	мD ···-i	CN	ND	ND -	12.2		•	!	· j · · · · · · · j 	ORGANIC COMPOUNDS PAGE 4 OF 43
. !	 	••••••	·		·j	·····j.	······	·	····			 		i	·····i	 			·[] - !	MONITOR WELLS
1· 	<u> </u> -	•••••	-1 1	 	·j I	·····j	······					 	·····	j	······	 	•	 	<u> </u>	GROUNDWATER INVESTIGATIONS ALLIED CORPORATION
 -	. 	•••••	· [· · ·	 	·····j	j		·¦	•••••	·····	 	<u> </u>		j	·····i	,] 	SOUTH BEND, INDIANA
 -	·········]·		ļ	···I··	·····[··	·····j-·	·····j			·	.		!	I	i	i				**************************************
	********	202223			EE:52882:		, *********	 =======	 			ı	1	Ī	i	i	1			Environmental and Geotechnical Services

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Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	5D 03/20/97 Primary	5D 06/04/97 Primary	5D 09/24/97 Primary	5D 12/10/97 Primary	5D 06/10/98 Primary
Benzene		5	< 5	<5	<5.0 E	< 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	<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 Choride		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

Page: 1B

Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

E TE GULT TYPE	US-PMCL 5 2	5D 06/10/98 Duplicate < 5.0	5D 12/13/98 Primary	
SULT TYPE	5		·	
		< 5.0		
	2		< 5.0	
		< 10	< 10	
	100	< 5.0	< 5.0	
		< 5.0	< 5.0	
	5	< 5.0	< 5.0	
	7	< 5.0	< 5.0	
	100	< 5.0	< 5.0	
	70	< 5.0	< 5.0	
	5	< 5.0	< 5.0	
	5			
	1000	< 5.0		
	200	< 5.0		
	5			
	2			
	10000			
		< 5.0	<5.0	
		7 100 70 5 5 1000 200	5 < 5.0	5 <5.0

Analytical Summary - Phenols In Groundwater Deep Monitoring Wells

Quarterly Monitoring Program - 12/98

AlliedSignal Industrial Complex South Bend, Indiana

Page: 1A

		· · · · · · · · · · · · · · · · · · ·					- 5
CONSTITUENT (Units in ug/l)	SITE DATE		5D 03/20/97	5D 09/24/97	5D 06/10/98	5D 06/10/98	
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Duplicate	,
Total Phenois			<10	< 10	<10	< 10	

Analytical Summary - Inorganics In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

SITE		5D 03/20/97	5D 09/24/97	5D 06/10/98 Primary	5D 06/10/98
RESULT TYPE	US-PMCL	•	Primary		Duplicate
	200	< 5	< 5	<5	<5
		•••		< 5	< 5
		•		< 2.0	< 2.0
			***	< 20	< 20
	100	< 5	-4-		
	15	< 2			
	100	< 20	•••		
	DATE	DATE RESULT TYPE US-PMCL 200 100 15	DATE 03/20/97 RESULT TYPE US-PMCL Primary 200 <5 100 <5 15 <2	DATE RESULT TYPE US-PMCL Primary Primary 200 <5	DATE 03/20/97 09/24/97 06/10/98 RESULT TYPE US-PMCL Primary Primary Primary Primary 200 <5

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	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 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TOLUENE TRICHLOROETHENE VINYL CHLORIDE CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5.0 U 5.0 U 5.0 U 3.3 J 5.0 U 5.0 U 10 U 5.0 U	5.0 U 5.0 U 5.0 U 3.2 J 5.0 U 5.0 U 10 U 5.0 U	5.0 U 5.0 U 5.0 U 3.0 J 5.0 U 5.0 U 10 U 5.0 U	5.0 U 5.0 U 5.0 U 3.0 J 5.0 U 5.0 U 10 U 5.0 U
TOTAL VOCS:		UG/L	3.3	3.2	3.0	3.0
E.METALS	NICKEL NICKEL	UG/L UG/L	2.0 U 20 U	•	0.8 J 20 U	· ·
H.MISC	CYANIDE, TOTAL PHENOLS	UG/L UG/L	5 U 10 U		5 U 10 U	-

10 U

SAMPLE ID

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

SAMPLE ID 5-D

GROUP	PARAMETER NAME	UNITS	O7 DEC 94 AMOUNT Q	13 MAR 95 AMOUNT Q	06 JUN 95 Amount Q	20 SEP 95 Amount Q	05 DEC 95
A.VOA	1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRICHLOROETHENE VINYL CHLORIDE	UG/L UG/L UG/L UG/L UG/L	5 U 5 U 5 U 5 U 5 U 10 U	5.0 u 5.0 u 5.0 u 5.0 u 16	5.0 u 5.0 u 5.0 u 3.4 J 5.0 u 10 u	5.0 U 5.0 U 5.0 U 2.8 J 5.0 U 10 U	5.0 U 5.0 U 5.0 U 5.0 U 3.0 J 5.0 U
TOTAL VOCS:		UG/L	0	16	3.4	2.8	7.0
E.METALS	LEAD	ne\r	-	-	-	2.0 U	3.0 -
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			C15-1, 2-				NOTES:
				DICILORD-	l			iwits.
				ETIENE	TOLLENE	SUM	HOTES	CLER INTERPRETATIONS OF THESE DA
DATE	SAMPLE		HCL	P-70	P-2000			ARE LIMITED TO OUR WAITTEN REPO
SAMPLED	10.	LAD	HETHOD	ug/L	myr_	ne/r ·	l	NO - NOT DETECTED AT DETECTION
12/18/85	4	AOUA		10	NO	10		LIMIT SPECIFIED BY
12/10/05	- 5	YOUY		10	10	10		LABORATORY. SEE LAB REPORT
02/11/07	4	AQUA		No VOC D				MPL - NO U.S EPA PUBLISHED LEVEL
05/03/87	19	AQUA		No VOC D				A - MANAGES
09/03/07	15	AOUA		No VOC D				P - PROPOSED
	15	AGUA		No VOC D				VOC RESILTS ARE A SIMHARY OF A
02/09/AB 03/14/88	- 21	AOUA		10	8.7			GCMS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC COMPOUNDS FOR
	- 3	AOUA	<u> </u>	6.1	10	6	l	EACH LOCATION AND SAMELING DATE.
05/18/88		ADUA		19.4	140	10	 -	SEE LAB REPORT.
09/23/88	15	YOY	 	No VOC D				A - TOLLENE WAS NOT DETECTED IN
12/08/88	9	ACUA		No VOC D			 	5 PREVIOUS SAMPLING EPISODES.
02/25/89	31	AGUA		5.4	110		 	A RESAMPLING ON 03/14/88
06/09/09	53	AGUA	624	No VOC D			ļ	DETECTED NO TOLUENE. BASED ON PREVIOUS DATA & THE RETEST.
09/10/89	36	AGUA	8240	6.5	NO			ME CONCLUMED THAT THE 02/09/88
15/11/49		ADUA	8240	7.5	10		ļ	SAMPLING DATA ARE ANCHALDUS.
05/50/90		AUUA	8240	6.2	HO			
06/02/90	14	ACUA	8240	6.4	HO.	6	ļ	
08/24/90	50	AQUA	0240	No VOC D	,			PARAMETER
10/28/90	21	ACUA	9240 9240	5.7	NO	-		
03/30/91		AGUA	8240	No VOC D			ļ	o - Date
08/28/91		AGUA	8240	No VOC D				Sampled
11/12/91	2	AQUA	8249	No VOC D			 	
01/21/92		AQUA	.8540	No VOC D				
03/30/92	7	ACLIA	8240	No YOU D	etected			
08/20/92	2	AQUA	8240	No VOC D	elected			
10/30/92	15	ACUA	8240	No VOC D	elected			
02/03/93	5	ACUA	8240	No YOC D	etected			DEEP HONTTON WELLS
03/11/93	1	AQUA	8240	He VOC D	etected			GROUNDWATER QUALITY ANALYSIS
08/31/93	11	ADUA	8240	No YOC D	etected		<u> </u>	ORGANIC COMPOUNDS
12/01/03	<u>'</u>	ACUA	6540	Ho VOC D	etected		<u> </u>	
02/16/84	2	AQUA	8240	No VOC D	elected		<u> </u>	
05/04/34	5	AUUA	8240	No VOC D			.	ALLIEDSTONAL INC.
09/12/84		Your	8240	No voc D	etecled			CHOITEDVITE RETANDMENTORD
				-				SOUTH BEND, INDIANA
						,		Control of the Contro
	•					ı		G330Clates
								Environmental and Geotechnical Barvi

Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	D5 06/11/98 Primary	D5 12/12/98 Primary	D5 12/12/98 Duplicate	
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 Choride		2	< 10	< 10	<10	
Acetone			< 100	< 100	<100	
Xylene (Ţotal)		10000	< 10	< 10	<10	
Carbon disulfide			<5.0	< 5.0	<5.0	

Analytical Summary - Phenols In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Page: 1A

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE US-PMCL	D5 06/11/98 Primary
Total Phenols		<10

Analytical Summary - Inorganics In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		D5	
	DATE		06/11/98	•
Zo.	RESULT TYPE	US-PMCL	Primary	
Cyanide	· · · · · · · · · · · · · · · · · · ·	200	<5	
Chromium, Dissolved			< 5	
Lead, Dissolved			< 2.0	
Nickel, Dissolved			< 20	
Chromium, Total		100		
Lead, Total		15		
Nickel, Total		100		

-Oct-88		•		ļ	•••••	••••••	••••••		PRIC	RITY POL	LUTANTS								1 .
					2222222		VOLATILE	ORGANIC	COMPOUNDS	CVOCS				_	OTHER	ORGANIC COMPOUN	 DS	*********	· i 1
				1,1-DI- CHLORO- ETHANE	1,2-DI- CHLORO- ETRANE	1,1-D1- CHLORO- ETHYLENE	DI- CHLORO- LETHYLENE	TRI- CHLORO-	TRI- CHLORO- ETMYLENE	1,2 D1- CHLORO-	VINAF	 CHLORO-	 	 CIS-1,2- DICHLORO-	BASE HEUTRAL	1]]]	1	OUR INTERPRETATIONS OF THESE DAYS AND
 ELL NO.	l DATE	SAMPLE A	i LAR		ļ	ļ	ļ						 NG\r] UG/L 	UG/L	UG/L 	 	1	ND . NOT DETECTED. SEE LAB REPORT FO
0.5		*******	******	 22022222 -	 		 	 	[•=======	 •====**=:	 	 ********	 		j 1		i	1	DETECTION LIMITS. VOC RESULTS ARE A SUMMARY OF A GCMS S
•••••			AUUA		MD	j KD 	, ND	. 10D	MD 	- ND	MD ;	J NO	[MD	HD.		4.6			FOR PRIORITY POLLUTANT VOLATILE ORGAI
	1127 10700	22 	AGUA	MD															COMPOUNDS FOR EACH LOCATION AND SAMP DATE. SEE LAB REPORT.
	ļ] 	 	 	 	1			1 1		1 1				1 1
	 	 	 	 	 	 									[! !
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	† 	 	 	 						1	۱ ۱	 		•••••	 	·····i		····	
	 	j]] 	········	<u> </u>	 		 		j	·····j			
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					 	 	 	۱ ا	ا ا	······	····-i	j	i			···	•••••	 	******************************
ļ		 	 	 	1 	۱ 1	···········	·j	j	j	i	i		••••••) 	 	TABLE 5
	, [ا ا	······j	ji 1	.jj	·····i	·····i		····	[······. 			l	 	GROUNDWATER QUALITY ANALYSIS ORGANIC COMPOUNDS
[j.	·j	j	···i	······	····	······¦.		······	······	l	······	-	ا ا	·	PAGE 14 OF 43 MONITOR WELLS
l 1	 	 	jj ا	j				·].	. 		l	·····	i 11	i	GROUNDWATER INVESTIGATIONS
! !		i	·····i	i.	······································	······	·····			·····		 - 	 	 	 - 	i	i 	j	ALLIED CORPORATION SOUTH BEND, INDIANA PROJECT # ALCHPX SBIN 013
i	 	i].		1		- -	- -	······		······[·	[.		·····i. إ	j.	j	·····i	T A GLEASON ASSOCIATES
 ******	<u> </u>	1		j	i	i	i	i	1	1	. 1	1	······[·		··········· · 	······································	اا	·······	Environmental and Geotechnical Service

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Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		D7	D7	D7	D7	D 7
	DATE		03/22/97	06/03/97 Primary	09/24/97	12/11/97	06/09/98
	RESULT TYPE	US-PMCL	Primary		Primary	Primary	Primary
enzene		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-Dichloroethane			< 5	< 5	< 5.0	< 5.0	< 5.0
,2-Dichloroethane		5	[13]	[14]	[14]	[14]	< 5.0
,1-Dichloroethene		7	< 5	< 5	< 5.0	< 5.0	< 5.0
ans-1,2-Dichloroethene		100	< 5	< 5	< 5.0	< 5.0	< 5.0
s-1,2-Dichloroethene		70	< 5	< 5	< 5.0	< 5.0	< 5.0
lethylene chloride		5	< 5	<5	< 5.0	< 5.0	< 5.0
etrachloroethene		5	<5	<5	< 5.0	· ~5.0	< 5.0
oluene		1000	< 5	< 5	< 5.0	< 5.0	< 5.0
,1,1-Trichloroethane		200	<5	<5	< 5.0	<5.0	< 5.0
richloroethene		5	< 5	< 5	< 5.0	< 5.0	< 5.0
inyl Choride		2	< 10	<2	<10	<10	< 10
cetone			< 100	< 100	< 100	< 100	< 100
ylene (Total)		10000	<10	<5	<10	< 10	<100
arbon disulfide			< 5	<5	< 5.0	< 5.0	< 5.0

Page: 1B

Analytical Summary - VOCs In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

Jacobse 1 Biographics 1 Graphics				
CONSTITUENT (Units in ug/l)	SITE		D7	
	DATE		12/13/98	:
	RESULT TYPE	US-PMCL	Primary	
Benzene		5	<5.0	
Chloroethene		2	< 10	
Chloroform		100	< 5.0	
1,1-Dichloroethane			< 5.0	
1,2-Dichloroethane		5	[23]	
1,1-Dichloroethene		7	< 5.0	
rans-1,2-Dichloroethene		100	< 5.0	
cis-1,2-Dichloroethene		70	< 5.0	
Methylene chloride		5	< 5.0	
Tetrachloroethene		5	< 5.0	
Foluene		1000	< 5.0	
1,1,1-Trichloroethane		200	< 5.0	
Trichloroethene		5	< 5.0	
/inyl Choride		2	< 10	
Acetone			< 100	
(ylene (Total)		10000	< 10	
Carbon disulfide			< 5.0	

Analytical Summary - Inorganics In Groundwater
Deep Monitoring Wells
Quarterly Monitoring Program - 12/98
AlliedSignal Industrial Complex
South Bend, Indiana

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CONSTITUENT (Units in ug/l)	SITE		D7	D7	D7
	DATE		03/22/97	09/24/97 Primary	06/09/98
	RESULT TYPE	US-PMCL	Primary		Primary
Cyanide		200	<5	<5	· <5
Chromium, Dissolved					<5
Lead, Dissolved					< 2.0
Nickel, Dissolved			***	**-	< 20
Chromium, Total		100	<5		
Lead, Total		15	< 2	•••	
Nickel, Total		100	< 20		

Analytical Summary - Phenols In Groundwater Deep Monitoring Wells Quarterly Monitoring Program - 12/98

AlliedSignal Industrial Complex

South	Bend,	Indiana
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CONSTITUENT (Units in ug/l)	SITE	D7	D7	D7
	DATE	03/22/97	09/24/97	06/09/98
	RESULT TYPE US PMCL	Primary	Primary	Primary
Total Phenois		10	< 10	<10

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

Page: 1A

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

> SAMPLE ID D-7 DATE COLLECTE

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 12 MAR 96 AMOUNT Q	04 JUN 96 AMOUNT Q	04 SEP 96 AMOUNT Q	10 DEC 96 Amount Q	
A.VOA	1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TOLUENE TRICHLOROETHENE VINYL CHLORIDE CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	19 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U 5.0 U	15 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U 5.0 U	15 5.0 U 5.0 U 5.0 U 5.0 U 5.0 U 10 U 5.0 U	20 5.0 U 5.0 U 5.0 U 5.0 U 10 U 5.0 U	
TOTAL VOCS:		UG/L	19	15	15	20	
E-HETALS	NICKEL	UG/L UG/L	2.0 U 20 U	- -	0.6 J	•	
H.HISC	CYANIDE, TOTAL PHENOLS	UG/L UG/L	5 บ 10 บ		5 บ 10 บ		

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.

sounce:	0-7			1, 2-01-	C13-1, 2-	1RUG-1, 2]		NOTES:
				CILORO- ETIUNE	DICHLOAD-	OTCILORD- ETIENE	VINT. CILORIDE			
DATE	SAMPLE		NCL.	5	P-70			SLM	HOTES	OUR INTERPRETATIONS OF THESE DATA
SAMPLED	NO.	LAB	HETHOO	UG/L	UG/L	P-100	ne/r			ARE LIMITED TO OUR WILTTEN REPORTS.
10/01/05	10	AQUA			====			UG/L		NO - NOT DETECTED AT DETECTION
11/09/05	-10-	AQUA		437	10	20.2	10	709		LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.
01/07/07		AOUA		802	40	15.7	10	453 942		<u> </u>
02/12/87	14	AUQA		815	10	30	10	942		MPL - NO U.S EPA PUBLISHED LEVEL
05/03/87	9	AQUA		690	31	110	10	923		P - PROPOSEO
06/05/87	10	AQUA		900	31	10	10	931		VOC RESIATS ARE A SIMMARY OF A
09/03/07	17	YOUY		800	140	10	10	800		GCHS SCAN FOR PRIORITY POLLUTANT
09/03/07	19	ADUA		750	110	10	10	750		VOLATILE ORBANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE.
01/14/88	14	ACUA		710	30	Ю	140	740		SEE LAB REPORT.
02/03/88	10	YOUY		680	140	10	10	680		
97/18/88	38	ALLOA		1103	49.2	10	19.1	1535		· .
69/24/28	29	ADUA		789	26	140	NO	005		
12/09/00	15	ADUA		403	1.55	10)	10	513		
12/09/00	17	ADUA		435	21.9	10	10	467		
02/24/89	21	AUJA		360	10.4	10	143	396		
06/10/89	36	ADUA	624	310	15.3	Ю	14)	326		
09/09/09	30	AQUA	8240	300	14	10	10	314		
15/12/89	24	AOUA	9249	290	10.8	NO	(10)	301		PARAMETER
03/01/90	55	ADUA	8240	340	15.3	110	110	355		ranare len
05/03/90	27	AUUA	8240	340	11.0	10	HO_	325		O - Date
08/23/90	17	AQUA	8240	284	9.3	10	10	593	ļ <u> </u>	Sampled
10/27/90	10	AQUA	8240	437	15.0	10	10	450	 	
03/01/91	16	YOUY	8540	538	17.7	10	10	257	ļ	
05/01/91	19	AUUA	82 40 82 40	151	6.7	10	10	158	 	
11/13/91	14	AQUA	8240	123	0.4	10	10	131		
01/23/02	10	AUOA	8240	140	5.5	10	10	155		
04/01/92	39	AQUA	0240	78.5	10	10	100	79	l	Intermediate Monitoring Well
08/53/85	30	AQUA	8240	82.1	140	01	10	92	1	GROUNDHATER CHALTY ANALYSIS
10/30/92	14	ADUA	8240	60.8	140	10	140	61		DIGGANIC COMPOUNDS
02/03/93	8	YOUY	0240	69.4	140	110	10	69		<u> </u>
05/12/93	38	YOUA	0349	34.9	(A)	140	10	35		
08/31/93	19	AUJA	8240	20.4	Ю	140	(3)	50		ALLIEDSIGNAL INC.
12/03/03	30	AQUA	8240	11.0	Ю	10	(12)	11	-	ENDITADITES THE STANDARD CONTROL OF THE STANDARD CONTR
02/17/94	11	AQUA	8240	13.4	140	10	(8)	13	1:	SOUTH BEID), HIDTANA
02/17/94	13	AUUA	8240	13.6	10	10	10	14		
03/03/84	12	AOUA	8240	19.0	Ю	Ю	113	19		
09/14/94	15	- Lou	0240 ==	19,4		110	io	19		l ta deason
09/14/84	EE 10	. Yany	.: 8240 :-	10.0		10	18)	20		
	1ii	 		بانو د خناا	# 2/11 A 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	 				GSSOCIOIOS Environmental and Gastichaical Services
[Environmental and Geotechnical Services

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

SAMPLE ID D-7

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 07 DEC 94' AMOUNT Q	14 MAR 95 AMOUNT Q	07 JUN 95 AROUNT : a	19 SEP 95 Amount q	05 DEC 95 Amount Q
A.VOA	1,2-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE TRICHLOROETHENE VINYL CHLORIDE	UG/L UG/L UG/L UG/L UG/L UG/L	25 5 U 5 U 5 U 5 U 10 U	24 5.0 U 5.0 U 5.0 U 5.0 U 10 U	21 5.0 U 5.0 U 5.0 U 5.0 U 10 U	14 5.0 U 5.0 U 5.0 U 5.0 U	18 5.0 u 5.0 u 5.0 u 5.0 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 ປ	-

QUALIFIER CODES (Q):

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

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	E3 03/18/97 Primary	E3 03/18/97 Duplicate	E3 06/04/97 Primary	E3 09/26/97 Primary	E3 09/26/97 Duplicate
lenzene	· · · · · · · · · · · · · · · · · · ·	5	< 5	< 5	< 5	[5.0] J	< 5.0 UJ
Chloroethene		2	[17]	[18]	1241	[32]	[20]
Chloroform		100	< 5	< 5	< 5	< 5.0	< 5.0
,1-Dichloroethane			< 5	< 5	10	8.4	6.8
,2-Dichloroethane		5	< 5	< 5	< 5	< 5.0	< 5.0
,1-Dichloroethene		7	< 5	< 5	< 5	< 5.0	< 5.0
rans-1,2-Dichloroethene		100	< 5	< 5	< 5	< 5.0	< 5.0
is-1,2-Dichloroethene		70	14	15	24	15	14
lethylene chloride		5	< 5	< 5	<5	< 5.0	< 5.0
etrachloroethene		5	< 5	< 5	< 5	< 5.0	<5.0
oluene		1000	<5	< 5	< 5	< 5.0	< 5.0
,1,1-Trichloroethane		200	<5	< 5	< 5	< 5.0	< 5.0
richloroethene		5	< 5	< 5	<5	< 5.0	< 5.0
inyl Choride		2	[17]	[18]	[24]	[32]	[20]
cetone			< 100	< 100	< 100	< 100	< 100
ylene (Total)		10000	< 10	< 10	<5	< 10	< 10
arbon 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

Page: 1B

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		E3 12/10/97	E3 03/17/98	E3 06/12/98	E3 09/18/98	E3 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	1271	[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-Dichloroethene		7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
rans-1,2-Dichloroethene		100	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
is-1,2-Dichloroethene		70	< 5.0	13	18	21	19
Methylene chloride		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
etrachloroethene		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Toluene		1000	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
I,1,1-Trichloroethane		200	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
richloroethene		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
/inyl Choride		2	[27]	[17]	< 10	[24]	< 10
Acetone			< 100	< 100	< 100	< 100	< 100
(Ylene (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

Analytical Summary - Phenols In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana Page: 1A

ONSTITUENT (Units in ug/l)	SITE	E3	E3	E3	E3	E3
	DATE	03/18/97	03/18/97	09/26/97	09/26/97	03/17/98
	RESULT TYPE US-PMCL	Primary	Duplicate	Primary	Duplicate	Primary
ital Phenois		10 J	40	<10	< 10	< 10

Analytical Summary - Inorganics In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

DATE	CONSTITUENT (Units in ug/l)	SITE		E3	E3	E3	E3	E3
Cyanide 200 <5 <5 <5 <5 Chromium, Dissolved Lead, Dissolved Chromium, Total 100 <5 <5 Lead, Total 15 <2 <2	्रहरूर १००० वर्षे । १ ०० वर्षे १०० ० है -				*-	· •		03/17/98
Chromium, Dissolved <		RESULT TYPE	US-PMCL	Primary	Duplicate	Primary	Duplicate	Primary
Lead, Dissolved	Cyanide		200	< 5	< 5	< 5	< 5	<5
Nickel, Dissolved <td>Chromium, Dissolved</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Chromium, Dissolved							
Chromium, Total 100 <5	Lead, Dissolved					 -		
Lead, Total 15 <2 <2	Nickel, Dissolved					***	***	
	Chromium, Total		100	< 5	< 5	***		18
	Lead, Total		15	< 2	< 2			4.8
Nickel, Total 100 < 20 < 20	Nickel, Total		100	< 20	< 20	***	***	< 20

NAPHTHA RECOVERY WELLS SLMMARY 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 Anount Q
A.VOA	BENZENE CHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 1RANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE VINYL CHLORIDE ACETONE 2-BUTANONE CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	4.3 J 7.0 J 5.0 U 10 5.0 U 19 20 100 U 100 U 5.0 U	4.4 J 10 U 8.7 5.0 U 5.0 U 12 13 100 U 100 U 5.0 U	4.0 J 10 U 9.6 5.0 U 5.0 U 16 20 100 U 22
TOTAL VOCS:		UG/L	60.3	38.1	71.6
E.METALS	LEAD	UG/L	-	ر 6.0	•
H.MISC	CYANIDE, TOTAL	UG/L	•	5.0	

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.

5 U

- : 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 09 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	07 JUN 95 Amount Q	19 SEP 95 AMOUNT Q	05 DEC 95 AMOUNY Q
A.VQA	BENZENE CHLOROETHANE 1,1-DICHLOROETHANE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE VINYL CHLORIDE ACETONE 2-BUTANONE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5 U 10 U 8.9 5 U 38 20 100 U 215	5.0 U 10 U 9 5.0 U 24 21 100 U 100 U	4.8 J 8.2 J 7.0 5.0 U 17 14 100 U 100 U	4.9 J 10 7.2 5.0 U 18 23 100 U 100 U	5.1 12 9.2 5.0 U 18 26 100 U 100 U
TOTAL VOCS:		UG/L	281.9	54	51	63.1	70.3
E.METALS	LEAD	UG/L	-	-	-	2.0 U	
E.HETALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 ບ	-	-	-
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, 1-01- DLOHO- ETIME	1, 1-01- CHLORO- ETHERE	E THYL BEHZEIÆ	TOLUEIÆ	C18-1, 2- DICHLORD- ETHENE	TRANS-1, 2 OTCIA ONO- ETINENE	SUN	MOTES
DATE	SAMPLE								l			
SAMPLED	NO,	LAB	HE THOO	UB/L	W/L	nav.	UG/L	ne/r	UG/L	ug/L	UG/L	
03/25/87	7	AQUA		72	56	140	10	10	63	10	201	¦
01/14/88	19	AQUA		60	జ	110	9.4	9.2	48		152	
05/10/88	20	AQUA		60	26	10	11	8.5	81	70	237	
03/19/88	34		8240	43	28.6	Ю	7.6	10	86	10	163	
09/25/88	32	ACUA		Ď1	28	10	5.6	140	25	11	154	
12/09/88	51	ACUA		30.4	21.6	NO.	10	NO	64.2	10	116	
02/24/89	28	AQUA		42.7	26.6	HD	ND	NO	74	7.2	151	
06/07/89	3	AQUA	654	92.1	18.7	10	12)	H)	43.8	6.9	154	
09/07/89	8	ADLIA	B240	45.3	10.1	10	141	9.)	52.4	7 8		
12/12/99	20	AUUA	8240	77.0	21.4	160	7.4	24.1	32.5			
03/01/90	10	AGIA	8340	72.3	20.1	10	-;	25.1	59.2	;		·
06/04/90	31	AOLIA	8249	56.7	21.1	10	10	M)	30.6			
08/24/90	28	AQUA	8240	30.6	13.0			10	32.0	5.2		
08/24/80	27	ACUA	8240	30.9	13.7	180	10	10	31.0	5.1	05	
10/30/90	36	AQUA	8240	31.5	20.2	10	110	10	51.4	6 0	109	
03/04/91	34	ADUA	8240	15.8	13.5	10	14)		35.9		-;-	
06/03/91	35	AQUA	8540	15.8	12.2	110	NO	10	9.7		38	
08/30/91	20	AUUA	6240	11.7	0.7	110	10	10	20.0	10	40	
11/14/01	37	AUUA	8240	11.9	13.0	10	100	NO	30.5	10	56	
01/24/92	17	AOUA	5240	13.3	Ю	10	10	18)	21.2	140	41	l·
03/30/95	6	AQUA	6240	14.5	9.7	10	140	140	55.1	110	46	
08/24/92	34	YOUY	8240	14.3	140	HD	140	10	17.7	6.7	41	
11/02/92	44	AQUA	8240	10.7	Ю	10	10	HD	B. t	10	10	
02/09/93	41	ACUA	B2 40	0.7	140	10	tin_	IO	NO.	160	9	
06/18/83	1	AOUA	8240	0.4	10	9.1		10	21.4	5.1	44	
12/11/03	40	AGUA	8240	NO NO	10	10	10	10	MD	10	161)	
05/09/04	43	YONY	8540	10	7.0	10	IN.	10	12.4	10	20	
09/16/94	47	WON'N	8240	140	\$. \$	10	10	14)	21 4	10	50	

HOTES:

OUR INTERPRETATIONS OF THESE DATA ARE LINITED TO OUR MAITTEN REPORTS.

NO - NOT DETECTED AT DETECTION LIMIT SPECIFIED BY LABORATORY. SEE LAB REPORT.

NPL - NO U.S EPA PUBLISHED LEVEL

P - PROPOSEO

VOC RESULTS ARE A SUMMARY OF A GCHS SCAN FOR PATORITY POLLUTANT VOLATTLE ORGANIC COMPOUNDS FOR EACH LOCATION AND SAMPLING DATE. SEE LAB REPORT.

A - HETHYLENE CHLORIDE 8.5 UG/L

WELL HOT SAMPLED AUGUST, 1993 DIE TO THOPEHATIVE PUMP.

PARAMETER

o - Dete Sampled

NAPHTHA RECOVERY WELLS GROUNDMATER QUALITY ANALYSIS ORGANIC COMPOUNDS

ALL TEDSTONAL THC. GROUNDWATER INVESTIGATIONS SOUTH BEND, INDIANA

C330CICIOS
Environmental and Sectionalist Services

Environmental and Gestachnical Berwices associates SOUTH BEND, THOTANA SHOULDWAYTER THYESTEDATIONS ALL TEDSTGHAL THC. ORGANIC COMPOUNDS GROUMDHATER OUALITY ANALYSIS NYMILIT BECONERS MEFFE petdeeg 9190 - 0 PARAMETER THE TO THOUGHYTTAE PARP. WELL NOT GAWA ED AIXXIST, 1993 Y - HELINITENE CITIONIUE P'R NO/C SEE LAB REPORT. EACH LOCATION AND SAMPLING DATE. ADEVITE OBEVITE CONFORMES FOR ECHS SCAN FOR PRIDRITY POLLUTAIT AUC RESILTS ARE A SIMMARY OF A 032040A9 - 9 NAL - NO U.S EPA PUBLISHED LEVEL LABORATORY. SEE LAB REPORT. LINIT SPECIFIED BY NO - NOT DETECTED AT DETECTION

ľ		. 11	10	01	111	ÜN	ol	6510	AUDA	· · · Žÿ ·	16/11/60
ŀ		92		(21	8.01	OH	5.11	85 (0	AUDA	()	16/80/50
ŀ			UH UH	01	01	01	DN	0540	AUDA	CP	15/11/83
1				01	5.71	01	01	8540	AUGA	•	E6/81/90
ŀ			(0)	Di	01	GH	094	9340	AUDA	17	68/60/20
ŀ		Çi	UH	O1	OH	01	4.31	05.40	AUGA	**	11/05/85
ľ		51	OH	OH	5.51	CH CH	13.0	0720	YOUY	18	08\54\65
T		0	(H	71	01	머	3	9540	ALIGA	9	03/30/85
-1			DH	01	01	DI.	014	8340	ALIOA	L 1	01/51/85
ľ		0	OH	OH	ON	머	2	. 07 28	AUDA	18	10/11/11
- [,	7,1	(IN	G1	8.61	DH	ON	0540	AUGA	50	18/00/80
- [EI	UN	01	1.61	OH	(DH	0540	AUGA	32	18/60/90
I		0	(21	(31	CH	DI	ON	8540	YNDY	34	18/20/60
		103	(31	(31	9.20	ON	0.09	6340	AUDA	96	10\30\60
-1			UH	CN	0.11	UN	£.££	9510	AUDA	LZ.	08/54/80
-		49	(N	(31	1'11	ON	1.12	0540	YOUY	35	08/31/80
ı		0£9	920	£.3	1.55	UH	5.10	0310	AUGA	IE	06/10/90
ı		111	620	8.01	0.01	OH	1.15	0540	ALIDA	91	08/10/60
ı		109	0(9	0.61	(H	ᅄ	OH	0540	ALIDA	90	15/15/88
- 1		. (1)	00>	8.1	\$.85	(DN	170 1	95 10	AUDA	•	58/40/60
		150	DH	1.1	5.61	OH	601	159	ALIOA	G	60/10/90
		363	250	CP1	£.05	ON	8.95		AUDA	85	05/51/98
		155	69)	01	1.85	OH	1.11		AUDA	15	15/09/08
		6	OH.	9.2	01	04	011		ALIGA	32	89/52/60
		99	OH	51	£.81	8.55	29.6	8540		34	E6/81/CO
		0	01	01	OH	01	OH		 	58	01/01/20
		0	OH	(I)	OH	04	DH		AUGA	81	09/91/10
		£\$	10	53	OH	014	OH		AUGA	ı	44/92/60
		7/90	7/91	7/D1	7/90	1 7/00	7/80	HETHOO	GY7	, ON	CANALED
i					İ	İ		1		BANALE	3170
	\$310N	HITS	ADC DIREB	TOTAL SENEUE	CHECHIDE	-040.1d) 313.ff3	121AA- 121AA- 131A0340		(0)	(CONT.	

E-3 :30000

OLA INTERPRETATIONS OF THESE DATA. ARE LINITED TO OUR WRITTEN REPORTS.

KOTES:

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		RWB16 03/18/97	RWB16 06/04/97	RWB16 09/26/97	RWB16 12/10/97	RWB16 12/10/97
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Duplicate
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
rans-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
I,1,1-Trichloroethane		200	<5	< 5	< 5.0	< 5.0	< 5.0
Trichloroethene		5	< 5	< 5	< 5.0	< 5.0	< 5.0
/inyl Choride		2	< 10	< 2	< 10	< 10	< 10
Acetone			< 100	< 100	< 100	< 100	< 100
(ylene (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

Page: 1B

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/I)	SITE		RWB16	RWB16	RWB16	RWB16	RWB16
	DATE		03/17/98	06/12/98	09/17/98	12/14/98	12/14/98
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	Primary	Duplicate
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-Dichloroethene		7	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
rans-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 Choride		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

Analytical Summary - Phenols In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	RWB16 03/18/97 Primary	RWB16 09/26/97 Primary	RWB16 03/17/98 Primary	
Total Phenols			20	< 10	<10	

Analytical Summary - Inorganics In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		RWB16	RWB16	RWB16	
	DATE		03/18/97	09/26/97	03/17/98	
	RESULT TYPE	US-PMCL	Primary	Primary	Primary	
Cyanide		200	< 5	< 5	< 5	
Chromium, Dissolved						
Lead, Dissolved						
Nickel, Dissolved			*			
Chromium, Total		100	< 5	•	24	
Lead, Total		15	< 2		< 2.0	
Nickel, Total		100	< 20	•••	< 20	

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

> SAMPLE ID RWB-16

GROUP	PARAMETER NAME	UNITS	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 CHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE IRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE VINYL CHLORIDE ACETONE 2-BUTANONE CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	25 10 U 5.0 U 5.0 U 3.0 J 2.2 J 10 U 100 U 100 U 5.0 U	33 5.0 J 5.0 U 5.0 U 6.0 12 6.5 J 100 U 100 U 5.0 U	18 10 U 3.2 J 5.0 U 4.5 J 4.1 J 10 U 100 U 100 U 5.0 U	22 7.1 J 5.0 U 5.0 U 3.7 J 3.0 J 10 U 100 U 100 U 5.0 U
TOTAL VOCS:		UG/L	30.2	62.5	29.8	35.8
E.HETALS H.HISC	LEAD CYANIDE, TOTAL	UG/L UG/L	18		1.7 J	-
	• • • • • • • • • • • • • • • • • • • •	UU/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 AMOUNT Q	15 HAR 95 ANOUNT Q	07 JUN 95 Amount Q	19 SEP 95 AMOUNT Q	05 DEC 95 AMOUNT Q
A.VQA	BENZENE CHLOROETHANE 1,1-DICHLOROETHANE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE VINYL CHLORIDE ACETONE 2-BUTANONE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	45 10 U 5 U 5 U 5 U 10 U 100 U	10 U 5.0 U 5.0 U 5.0 U 5 10 U 100 U	37 6.9 5.0 U 5.0 U 4.1 J 10 U 100 U	24 5.4 J 6.7 3.5 J 3.7 J 5.4 J 100 U	16 6.3 3.0 3.4 3.6 J 2.6 J
TOTAL VOCS:		UG/L	45	49	48	48.7	•
E.HETALS	LEAD	UG/L	•	•	•	13	34.9
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.

ented and Sestechaical Bervices	Environm								•		-				
associates									ı						
	(D)														
										pelagi	NO ADC D	8540	Y Y Y	£Þ.	. 16/91/80
SOUTH BEICH, THOTANA	ŀ		nt.	(p)	181	(196	(31	(21	(2)	(54)	3.8£	0540	ALIOA	1)	18/10/50
INGINATER THVESTEGATORS	פווטו		05	IXI	(P)	COM	— (H	UNI	(N	13.4	1.2)	8510	YOUY	38	18/81/20
ALLIEDSTONAL THE.	ì		95	191	171		(21	(3)	(#1	1,51	43.2	9540	AUGA	18	16/61/20
			91	rpt	(7)	(H)	101	<u> </u>	01	5.61	04	8540	41104	33	15/01/83
				·	L					tected	HP ADC DP	05 40	· YOUY	55	E8/10/80
DHOVAIC COMPOUNS	Į.									501201	HP ADC DP	9540	AUDA	72	E8/10/60
MINATER QUALITY ANALYSIS	anous I			ф	CD1	CDM	(D)	ŒΙ	01	DH	1.56	8540	AUGA	PE	66/81/60
PHILLIN RECOVERY WELLS			61	CIM	(91	(DA	DI	01	01	19.2	OH	8540	ALICA	0E	E6/50/20
			101	O) I	(P)	ᅄ	01	01	OH	89.3	8.15	0540	AUGA	E)	11/05/85
			101	ON	(PI	CH	(H	O)	Ol	1.61	8.18	0540	4004	SE .	08/54/05
			59	CPI	01	CM CM	(31	(7)	01	01	5.50	8540	AUDA	•	\$6/05/50
			05	ON .		(2)4	(7)	<u> </u>	<u> </u>	0.61	머	0540	AUGA	61	26/>2/10
			- 09 - 69				D4	01	<u> </u>	0.08	01	8540	AUGA	- 01	26/>2/10
petdeeg			66			H	OH OH	- 01	- Ort	5.80	1.8	8540	AUDA	- 66	10/01/11
#1#O - o			;- -	— <u>;;;</u> ;—	 	<u> </u>		01 01	01	1.68	01	8540	AUGA	15	16/11/11
			205	0.68			- 01		- 01	011	501	0720	AUDA	15	18/60/90
PARAMETER			368	-0.16		- OH	101	(2)	OH OH	9.10	001	0>50	ALIOA	95	18/69/90
			1(1	- ar	- 01	(D)	ON	(IN	04	901	1.29	8540	YNOY	32	16/10/50
		······································	192	OH .	(2)	(1)	5.1	(19)	01	011	120	0>28	AUDA	15	06/01/01
			121		(R)	£.è	(RI	2.1	01	111	CH	8540	AUDA	98	08/34/80
		ļ	841	550		7:01	(H	(1)	9.1	300	011	0540	ALIOA	56	08/20/90
	•		115	E.10	(7)	6.0	(2)	(1)	8.01	350	130	D) ZB	AUGA	61	08/10/00
		l	/SE	oc	(31	6	(31	(7)	C.0	0)1	120	0540	AlioA	15	69/21/21
7/00 0'P ********]	ELE .	P. 58	- _(F)	1.1	(11	01	01	955	5.60	01 20	YUOY	01	69/(0/60
HALENE CIRCORIDE 9.0 NO/L	173H - A		372	5.15	(2)	5.8	01	(21	01	OLS	82.1	0) 28	AUGA		69/40/60
	8FE FYR		576	CD1	(21	£1	UI	01	- ai	0(1	to to	150	ALIOA		69/40/90
E ONGANTO CONPORRIGE DATE.	EVCII FOO		011	0) 1	01	CH	01	D1	Q1	0(1	001		AUDA	62	69/24/80
M FOR PRIORITY POLLUTANT	PCH2 PC1		091	Çī	01	1.8	aı	CIN	OH .	011	OH.	 	AUDA	- 22	89/60/21
A 30 YRAMARS A 3RA ET.A.	ADC BEST		951	O1	OH.	9	01	01	OH OH	ON ON	125	 	AUDA	- ((89/52/60
החפכת	4 - 6806		571	GN	c.ss	DN KO	UH	01	01	511	01	 	AUDA	56	09/61/60
	_		0	СH	(Int	5.0	01	01	01	04	DH		ALIGA	30	99/01/20
D N.S EPA PUBLISHED LEVEL	MPL - NO		855	OH	OH	2.0	OH	ON	OH	550	01		Ynoy	-05	99/>1/10
HORATURY. SEE LAB REPORT.	TY			,						501301	PO DOA OH		AUGA	SE	19/00/60
T DEVECTED AY DETECTION	/ T		19	777	D1	CM	91	01	91	04	22		YOUA		19/92/60
		i _	1/9n	1/90	7/90	7/90	7/90	7/91	7/90	7/91	7/90	METIND	GY7	.04	SYMAFED
STROGER NEITTEN FIND OF CETT	ARE LIM				ç	001-q	9-30	g	781	76N	6	TOM	7,,	316HYS	3140 SAMPLED
ENPRETATIONS OF THESE DATA	INI AUO	\$310M	Mins	Anc	3113113	343113	313113	3mil3	DWHT3	301110110	3H3ZH30		L	3 10/113	3110
	ipgemi			A31110	כורמוס- 181-	DICHEOND-	-0HO 1 1010	CHT OHO-	-0H0 TID	-AATST	Sustain				
	:23101	L	L	L	-101	S.1-ENART	C18-1' S-	1, 2-01-	-10-1 '8	CVERON			9	I-BMA	:30thos

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		RWB22 03/18/97	RWB22 06/04/97	RWB22 06/04/97	RWB22 12/10/97	RWB22 03/17/98
	RESULT TYPE	US-PMCL	Primary	Primary	Duplicate	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 Choride		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

Page: 1B

Analytical Summary - VOCs In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE		RWB22 06/12/98	RWB22 09/17/98	RWB22 12/14/98
· · · · · · · · · · · · · · · · · · ·	RESULT TYPE	US-PMCL	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			5.2	6.3	5.2
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	17	23	18
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 Choride		2	< 10	< 10	<10
Acetone			< 100	< 100	<100
Xylene (Total)		10000	< 10	< 10	<10
Carbon disulfide			< 5.0	< 5.0	<5.0

Analytical Summary - Phenols In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex

Sou	th	Bend,	Indiana

CONSTITUENT	(Units in ug/l)	SITÉ		RWB22	RWB22	
		DATE		03/18/97	03/17/98	
		RESULT TYPE	US-PMCL	Primary	Primary	
Total Phenois				< 10	<10	

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

Page: 1A

Analytical Summary - Inorganics In Groundwater Naphtha Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	RWB22 03/18/97 Primary	RWB22 03/17/98 Primary	
Cyanide		200	< 5	<5	
Chromium, Dissolved				•••	
.ead, Dissolved					
Nickel, Dissolved					
Chromium, Total		100	< 5	20	
Lead, Total		15	< 2	< 2.0	
Nickel, Total		100	< 20	< 20	

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

Page: 1A

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 ANOUNT Q	04 JUN 96 Amount Q	04 SEP 96 Amount q	10 DEC 96 Amount q
A.VOA	BENZENE CHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE VINYL CHLORIDE ACETONE 2-BUTANONE CARBON DISULFIDE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L UG/L	2.4 J 10 U 5.9 5.0 U 5.4 25 10 U 100 U 100 U 5.0 U	3.3 J 10 U 8.0 5.0 U 4.8 J 26 10 U 100 U 100 U 5.0 U	5.0 u 10 u 8.8 5.0 u 5.3 27 10 u 100 u 100 u 5.0 u	3.7 J 10 U 8.1 5.0 U 4.9 J 24 10 U 100 U 100 U
TOTAL VOCS:		UG/L	38.7	42.1	41.1	55.7
E.METALS H.MISC	LEAD CYANIDE, TOTAL	UG/L UG/L	2.0 u 5 u	-	2.0 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

SAMPLE ID RWB-22 DATE COLLECTED

GROUP	PARAMETER NAME	UNITS	DATE COLLECTED 09 DEC 94 AMOUNT Q	15 MAR 95 AMOUNT Q	07 JUN 95 Amount q	19 SEP 95 Amount q	05 DEC 95 Amount q
A.VOA	BENZENE CHLOROETHANE 1,1-DICHLOROETHANE TRANS-1,2-DICHLOROETHENE CIS-1,2-DICHLOROETHENE VINYL CHLORIDE ACETONE 2-BUTANONE	UG/L UG/L UG/L UG/L UG/L UG/L UG/L	5 U 10 U 8.0 5 U 27 10 U 129 385	5.0 U 10 U 8 6 30 10 U 100 U	3.5 J 10 U 8.6 5.0 U 32 10 U 100 U 100 U	3.2 J 10 U 6.4 4.4 J 25 10 U 100 U	2.1 J 10 U 5.4 4.1 J 23 10 U 100 U
TOTAL VOCS:		UG/L	549	44	44.1	39	
E.METALS	LEAD	UG/L	•	•	-	2.0 U	34.6
E.METALS (DIS.)	LEAD (DISSOLVED)	UG/L	-	2.0 บ	-	-	
H.HISC	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 ERN QUALITY ASSURANCE COMPREHENSIVE REVIEW.

SOURCE:	AWB-2	2		BENZENE	CARSON TETRA- CHLORIDE	1, 1-01- CILORO- ETIMIE	ETHYL BEHZENE	TOLUENE	TOTAL	SUM	NOTES	NOTES:
DATE	SAMPLE		HCL	5	IPL	IPL	P-700	P-2000				. OUR INTERPRETATIONS OF THESE DATA
SAMPLED	NO.	LAB	KETHOO	UG/L	ug/L	IIG/L	ne\r	h-fort	P-10000	45.6		ARE LIMITED TO OUR MAITTEN REPORTS.
03/26/87	9	AGUA		104	NO		===			IG/L		NO - NOT DETECTED AT DETECTION
09/04/87	34	AOUA		ND ND	420	154	94	NO NO	199	601		LINIT SPECIFIED BY
01/14/88		AOUA		117	70	48	- 61	NO	160	661		LABORATURY. SEE LAB REPORT.
01/14/85	18	AQUA		155		53	47	55	85	389		NPL - NO U.S EPA PUBLISHED LEVEL
02/10/88	27	ADUA		170	110	- 69	- 31		91			P - PROPOSED
02/10/88	20	AUUA		151	10	51	73		140	613		1 - Limbath
05/19/68	35	AUDA		118	33.6			140	140	552		VOC RESULTS ARE A SUMMARY OF A
03/19/00	33	AOLIA		118	35.7	46.2	103	79.5	133	518		GCHS SCAN FOR PRIORITY POLLUTANT VOLATILE ORGANIC CONFOLUDS FOR
09/23/88	30	AQUA				47.9	38.8	34.7				EACH LOCATION AND SAMPLING DATE.
12/09/80	20	AGUA			- NO	0.3	- (11)	140	HQ .			SEE LAB REPUBIT.
				63.6	10	29.7		18.4	<u> 80</u>	243		WELL MAY AND ED MICHAY
05/54/00		AOUA		110	8.53	29.9	52.9	34.4	100			MELL NOT SAMPLED AUGUST, 1991 INJE TO INDPENATIVE TUMP.
06/07/89	4	YOUA	624	150	54.0	23.4	31.9	42.1	97.1	429		
09/07/89		AGIA	8540	100	10	19.3	47.1	13.1	84.7	264	****	l .
15/15/49	19	AUUA	8510	10	10	24.2	2)	M)	36.8	(III)		
03/81/90	17	ADUA	8240	85.8	10	17.4	37.3	5 2	44.1	107		
06/04/90	29	ACKJA	8240	76.7	140	19.4	35.4	12.3	44.2	t an		
06/04/90	30	YOUX	8240	76.3	10	19.3	35.2	12.2	44	187		
08/24/90	- 58	AGUA	8240	45.7	10.1	16.7	32.0	B. 1	54.7	167		200,555
10/30/90	35	YOUN	8540	53.0	26.8	81.8	30.6	7.4	46.2	189		PARAMETER
03/04/91	25	AGLIA	8240	21.2	140	25.1	15.7	140	24.4	U6		o - Date
03/04/31	23	YOUX	9240	26.2	HO	13.0	20.0	(4)	34.8	94		Seepled
06/03/01	38	TOTIY	8240	5.6	-10	14.2		141	MD		- 	
11/14/91	36	ADUA	9240	10.8	10	<u>H0</u>	NO	140	KO	!!		
01/24/92		AGUA	8240 8240	5.9	NO NO	10.7	5.9	KO	11.9	25		' -
00/24/92	-33	AUUA	8240	6.1		16.7	-10	HO	- NO	::		
11/02/92	42	AGUA	8240	5.0	- N	9.1	10	H)	140	55	 -	
02/05/93	29	AGUA	8240	10	- 10	17.4		HO	110	15		MARATHA DECOMESON MELLO
03/12/93	33	AUUA	8240	140		12.9		HO	10			HAPHTHA RECOVERY WELLS GROUNDWATER QUALITY ANALYSIS
09/01/93	23	AGLIA	8240	10		12.5		10	- KO	13		ORGANIC COMPONOS
12/04/93	33	AUDA	8240	10	110	23.3	10					
12/04/93	34	AUDA	8240	10	10		10					
						21.1			HO			
02/19/94	36	YOU	8540	10	18)	7.9				b		ALLIEDSTONAL INC.
05/07/94	39	YOUT	8240	10	10	8.6	14)	10	kti	9		GIUNDUMATER INVESTIGATIONS
05/07/94	40	ACUA	8240	N)	NI)	8.9	180	141	HO			SOUTH BEND, INDIANA
09/18/94	38	YORIX	6540	ND	10	. 5,7	100	10	141)	6		
09/15/34	. 18	ACRIA	8540	140 TT	HD	6.0	14)	141	MI			
				-								TOPOSON associates environmental and Geotechnical Bervices

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cetalocea					•						
					1						
	1	50	UH .	tet		OH	35.4	Q2 40	AUGA	01	16/91/60
		35	UN	Ol	04	01) 'et	8340	AUDĄ		16/91/60
SOUTH BEIG), TROTANA	 -	0	191	(21	OH	04	DN .	9540	ALIDA	0>	18/10/60
DEGUNUALTER THYESTTOATTONS				UN	01	01	CH	8540	AUGA	38	18/40/50
ALL TEDSTONAL THG.			171	191	01	CN	CH	8540	AUDA	36	16/81/20
			TH (H	(31	(2)	CH	01	B340	YOUY	16	15/01/83
	ļ 			01	Ol	01	01	8540	AUDA	13	15/04/83
			— — <u>—</u>	(2)	04	(PI	01	8540	ALIDA	65	£6/10/60
ORGANIC COMPOUNDS	\ 	— -	01	01	- OH	01	CN CN	0540	ALIOA		16/21/50
GROURDMATER GUALITY ANALYSIS			(H	01	01	01	01	0540	4004	62	EB/50/20
TO THE PROPERTY OF THE PROPERT			OH .	01	04	DH	01	0540	YOUY	45	11/05/85
			CM	(0)	ON	01	OI	9510	AUDA	CC .	08/51/85
			(21	(91	01	01	01	9540	AUDA	•	56/00/00
		0	01	01	01	OI.	DH	05 40	YOUY	91	01/54/95
]]		0	(3)	01	01	OH	어	9540	AUDA	96	18/11/11
			OH OH	σŧ	ON	CH	머	9510	AUGA	38	16/60/90
pe(deeg - o	.			01	01	DN		0340	AUGA	- ((18/+0/20
	<u> </u>	<u> </u>		01	(P)	(P1	DH	8540	ALIDA	35	18/90/00
PANANETER		•	ON	01	01	DN .	01	9540	AUDA	32	08/01/01
i			UH UH	O1	01	<u> </u>	Oi -	6240	AUGA	25	08/54/80
		<u> </u>	<u></u>	01	01	04		8540	ALIDA	30	06/10/90
	i 		- - 	- D1	OH OH	DH	DH	9540	AUDA	65	05/10/50
!					-					41	
				- D1	<u> </u>		ON	8540	AUDA	61	15/15/09
	ļ			- (24	(19)		DN	BS40	AUDA		60/10/60
ONE TO THOREUATIVE FAMP.	ļ			<u></u>		01	DH	159	11101		60/10/90
WELL HOT SAHIY ED ALKALUT, 1991				01		01	01		41104	- (5	05/54/69
1110 1711 duri nas	ļ. .	•	(Pf			01	OH OH	ļ	AUDA	- 05	15/09/00
EACH LOCATION AND SAHPLING DATE. SEE LAB REPUBL.		<u> </u> -		U1	01	DI	DH	<u> </u>	TITOT	30	88/22/60
VOLATILE ONGANIC COMPOUNDS FOR	— <u>-</u>		O1	01	ON	01	OH _	 	4004	66	88/61/00
VOC RESILTS ARE A SIMMARY OF A GCHS SCAN FOR PRIORITY POLLUTANT		- <u>°</u>	OH	01	OH -	OH .	ON	 	AUDA	35	88/81/50
				01	01	04		 	ALIDA	98	88/01/20
b - Proposeo			ON	- 01	CN	OH OH		<u> </u>	ALIOA	15	05/10/09
NAC - NO N'S ENV ENBELIZITED LEVEL	ļ				01	01	머		ALIOA	91	88/11/10
		— 	- N	- G1	(7)	OH .	<u> </u>	 	AUDA	41	88/21/10
LINIT SPECIFIED BY LABORATORY, SEE LAB REPORT,		— 	OH	0;	0H	0H	0H	 	YUDY	34	28/90/50
NO - NOT DETECTED AT DETECTION		1 72			 				YOUY	•	L0/92/E0
BINITED TO OUR WRITTEN REPORTS.	į		- V91	ne\r	7/91	Von	7/00	METINDO	EYT	.04	SYKEED
ATAG BESHT NO SHOTTATS MAN HERE DAY				- 5	200	001-4	01-9	TOH		3.1991.2	3140
	33	104 1011	RB(TO	-04070	-010.013	-090.8010 343.113	313113				
:S310N			"""	-1AT		1-BMA1	-018-1, 2- 0101.060-			LCONT	******
				ــــــــــــــــــــــــــــــــــــــ	<u> </u>	L				C-RWA	:30H108

VOC RECOVERY WELLS

Analytical Summary - VOCs In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

·	·								
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	EW-1 06/03/97 Primary	EW-1 06/03/97 Duplicate	EW-1 09/24/97 Primary	EW-1 12/11/97 Primary	EW-1 12/11/97 Duplicate		
Benzene	·	5	< 5	<5	< 5.0	< 5.0	<5.0		
Chloroethene		2	< 2	< 2	[15]	<10 UJ	1201		
Chloroform		100	< 5	< 5	< 5.0	< 5.0	< 5.0		
1,1-Dichloroethane			27	27	23	< 5.0	< 5.0		
,2-Dichloroethane		5	< 5	< 5	< 5.0	< 5.0	< 5.0		
,1-Dichloroethene		7	< 5	< 5	< 5.0	< 5.0	< 5.0		
rans-1,2-Dichloroethene		100	86	90	61	56	60		
is-1,2-Dichloroethene		70	[260]	[260]	[200]	[210]	[230]		
lethylene chloride		5	<5	< 5	< 5.0	< 5.0	< 5.0		
etrachloroethene		5	<5	< 5	< 5.0	< 5.0	< 5.0		
oluene		1000	<5	< 5	< 5.0	< 5.0	< 5.0		
,1,1-Trichloroethane		200	<5	< 5	< 5.0	< 5.0	<5.0		
Trichloroethene		5	[19]	[71]	[61]	[84]	[87]		
/inyl Choride		2	< 2	< 2	[15]	< 10 UJ	[20]		
Acetone			< 100	< 100	< 100	< 100	< 100		
(ylene (Total)		10000	<5	< 5	< 10	<10	< 10		
Carbon disulfide			< 5	<5	< 5.0	<5.0	<5.0		

Page: 1B

Analytical Summary - VOCs In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

		•						
CONSTITUENT (Units in ug/l)	SITE (1.25) DATE		EW-1 03/17/98	EW-1 03/17/98	EW-1 06/16/98	EW-1 09/17/98	EW-1 12/13/98	
and the Mariana Andread Communication (Communication) Communication (Communication)	RESULT TYPE	US-PMCL	Primary	Duplicate	Primary	Primary	Primary	
Benzene		5	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	
Chloroethene		2	< 10	< 10	[15]	1271	1271	
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-Dichloroethene		7	< 5.0	< 5.0	< 5.0	< 5.0	5.8	
rans-1,2-Dichloroethene		100	52	58	57	77	69	
cis-1,2-Dichloroethene		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	
[richloroethene		5	[170]	[150]	[150]	[200]	[180]	
/inyl Choride		2	< 10	< 10	[15]	[27]	[27]	
Acetone			< 100	< 100	< 100	< 100	< 100	
(ylene (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

Analytical Summary - Phenols In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

			South Bend, Indi			
CONSTITUENT (Units in ug/l)	SITE DATE RESULT TYPE	US-PMCL	EW-1 09/24/97 Primary	EW-1 03/17/98 Primary	EW-1 03/17/98 Duplicate	
Total Phenols			< 10	< 10	<10	
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DEL CELEBOOR					er e 15 de e	
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Analytical Summary - Inorganics In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex

South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		EW-1	EW-1	EW-1	
	DATE		09/24/97	03/17/98	03/17/98	
•	RESULT TYPE	US-PMCL	Primary	Primary	Duplicate	
Cyanide		200	7	20	20	
Chromium, Dissolved			•••			
Lead, Dissolved				•		
Nickel, Dissolved				•••		
Chromium, Total		100		12	15	
Lead, Total		15		[132]	2.7	
Nickel, Total		100		< 20	< 20	

Analytical Summary - VOCs In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

				,		·	
D	ITE PATE ESULT TYPE	US-PMCL	EW-2 06/16/98 Primary	EW-2 09/17/98 Primary	EW-2 09/17/98 Duplicate	EW-2 12/13/98 Primary	metrical experiences
Benzene		5	< 5.0	<5.0	< 5.0	< 5.0	
Chloroethene		2	< 10	< 10	<10	< 10	ļ
Chloroform		100	< 5.0	< 5.0	< 5.0	< 5.0	
1,1-Dichloroethane			41	47	48	43	
1,2-Dichloroethane		5	< 5.0	< 5.0	< 5.0	< 5.0	
1,1-Dichloroethene		7	< 5.0	6.5	6.5	5.8	
trans-1,2-Dichloroethene		100	8.6	22	22	28	
cis-1,2-Dichloroethene		70	[150]	[190]	[190]	[180]	
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	39	39	40	33	
Trichloroethene		5	[59]	[82]	[83]	[68]	
Vinyl Choride		2	<10	<10	<10	< 10	
Acetone			< 100	110	< 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

II = Greater than Action Level

Analytical Summary - VOCs In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

•						•	•	
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-Dichloroethene		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 Choride		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

Analytical Summary - Phenols In Groundwater VOC Recovery Wells Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		EW-3	EW-3		
	DATE		09/24/97	03/17/98		
	RESULT TYPE	US-PMCL	Primary	Primary	e elektrik Maria di karangan	
Total Phenois			< 10	<10		

Analytical Summary - Inorganics In Groundwater VOC Recovery Wells

Quarterly Monitoring Program - 12/98 AlliedSignal Industrial Complex

South Bend, Indiana

CONSTITUENT (Units in ug/l)	SITE		EW-3	EW-3	
	DATE		09/24/97	03/17/98	
	RESULT TYPE	US-PMCL	Primary	Primary	
Cyanide		200	< 5	< 10	
Chromium, Dissolved				•••	
Lead, Dissolved					
Nickel, Dissolved				•••	
Chromium, Total		100		15	
Lėad, Total		15		5.1	
Nickel, Total		100		< 20	

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

Page: 1A

TRENDLINE PLOTS

- SHALLOW MONITORING WELLS
- DEEP MONITORING WELLS

SHALLOW MONITORING WELLS NEAR ORIGIN OF GROUNDWATER PLUME

86-10

86-15

S4A

PF Code: T

Site: 86-10

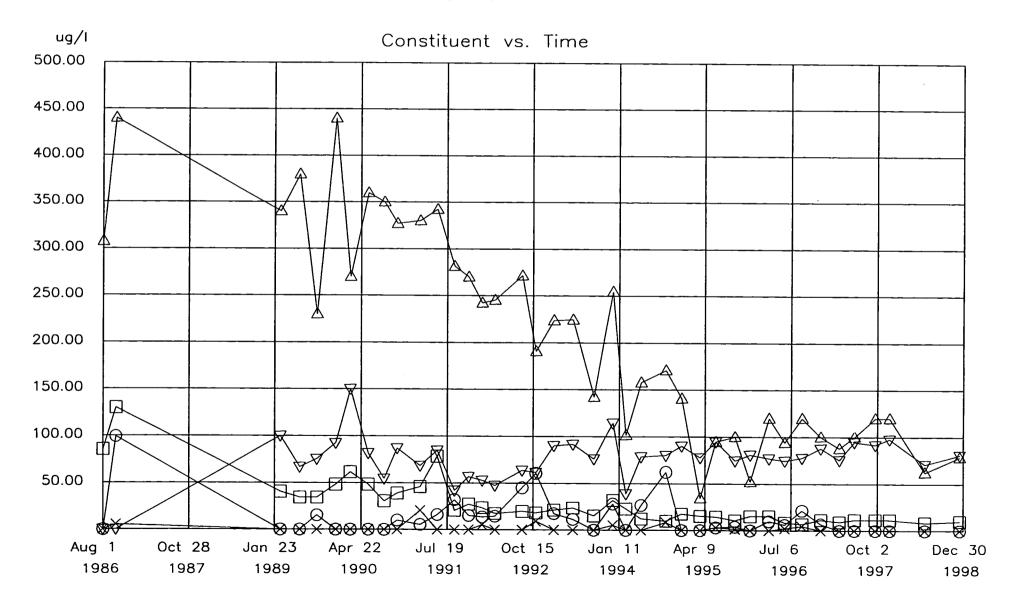
 \triangle = Trichloroethene

 $\nabla = \text{cis}-1,2-\text{Dichloroethene}$

 \Box = trans-1,2-Dichloroethene

 \bigcirc = 1,1,1-Trichloroethane

X = 1,1-Dichloroethane



PF Code: T

Site: 86-15

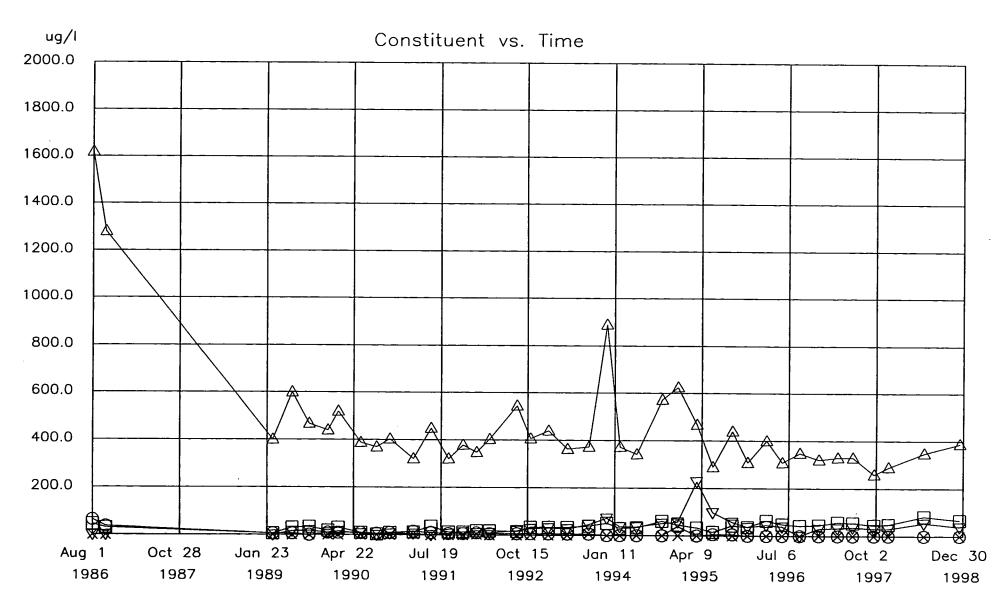
 \triangle = Trichloroethene

 $\nabla = cis-1,2-Dichloroethene$

 \Box = trans-1,2-Dichloroethene

 \bigcirc = 1,1,1-Trichloroethane

 \times = 1,1-Dichloroethane



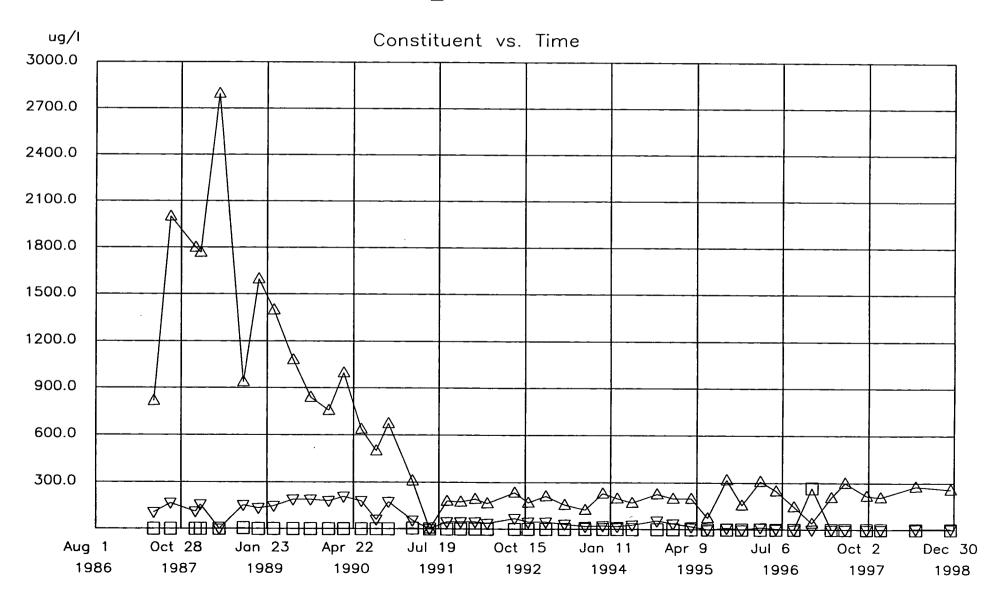
PF Code: T

Site: S4A

 $\triangle = cis-1,2-Dichloroethene$

 ∇ = trans-1,2-Dichloroethene

 \Box = 1,2-Dichloroethane



SHALLOW MONITORING WELLS IN CENTRAL PORTION OF GROUNDWATER PLUME

S9

S24

S27

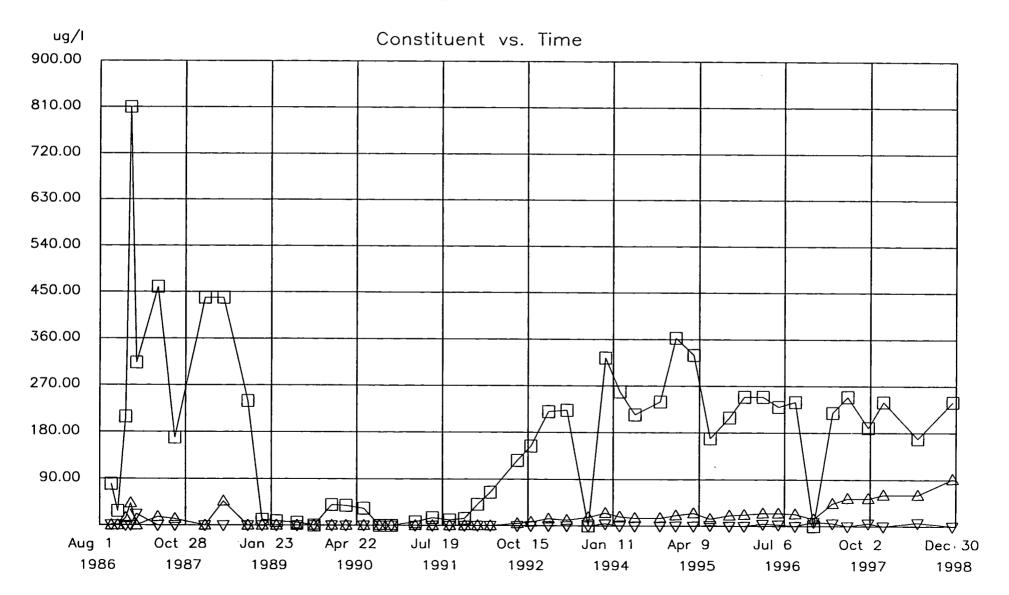
PF Code: T

Site: S9

 $\triangle = cis-1,2-Dichloroethene$

 ∇ = trans-1,2-Dichloroethene

 \Box = 1,2-Dichloroethane

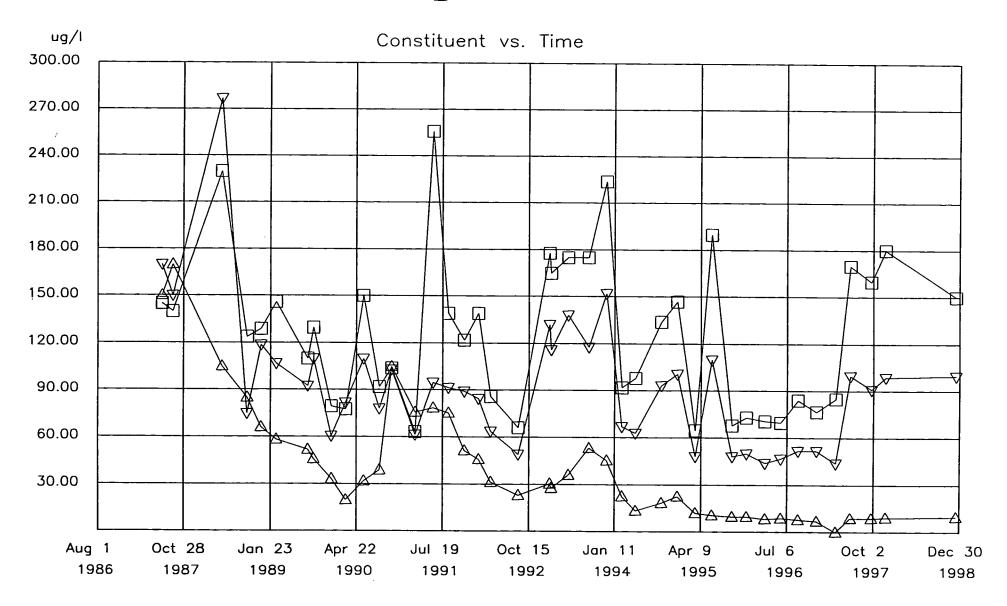


PF Code: T

Site: S24

 Δ = Trichloroethene

 $\nabla = \text{cis}-1,2-\text{Dichloroethene}$

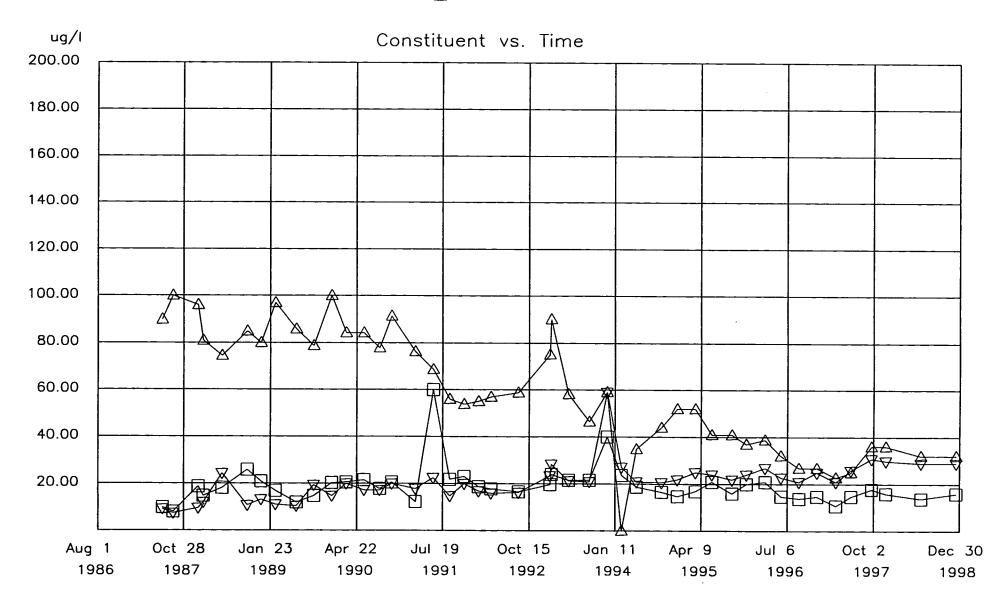


PF Code: T

Site: S27

 \triangle = Trichloroethene

 $\nabla = \text{cis}-1,2-\text{Dichloroethene}$



SHALLOW MONITORING WELLS DOWNGRADIENT BOUNDARY OF GROUNDWATER PLUME

S21

S22

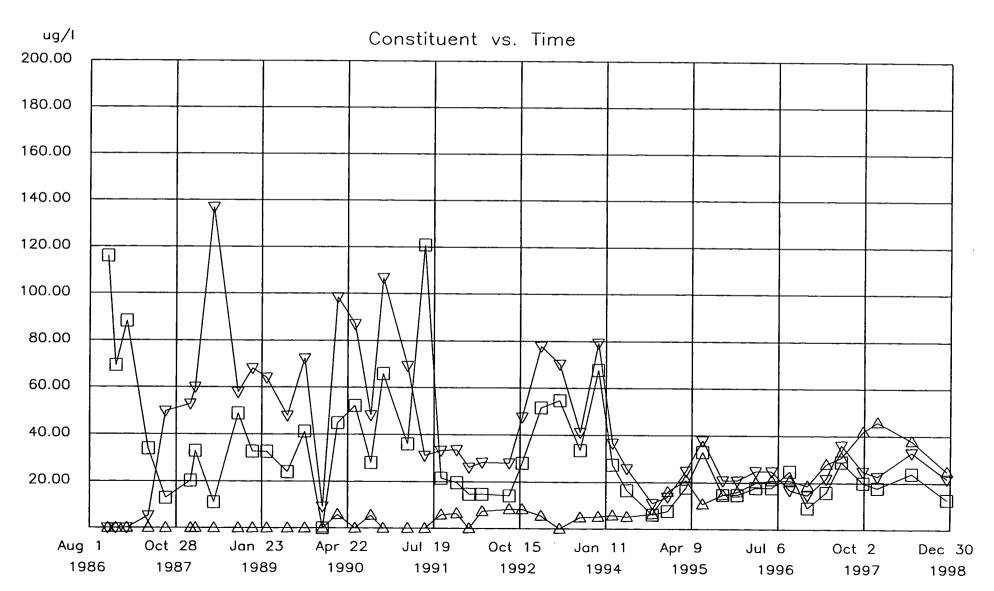
S25

PF Code: T

Site: S21

 \triangle = Trichloroethene

 $\nabla = \text{cis}-1,2-\text{Dichloroethene}$

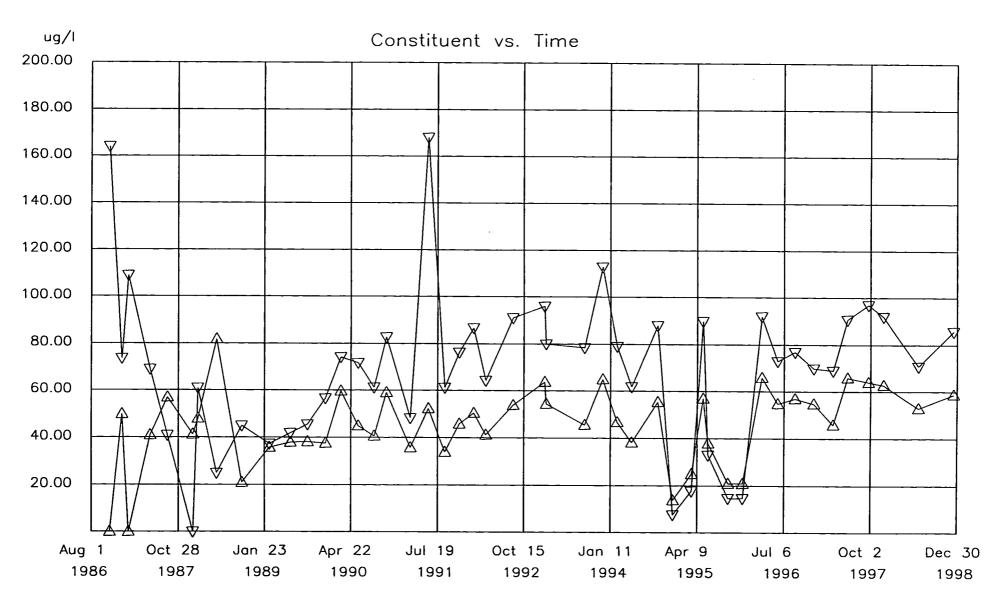


PF Code: T

 $\triangle = cis-1,2-Dichloroethene$

Site: S22

 ∇ = trans-1,2-Dichloroethene



PF Code: T

Site: S25

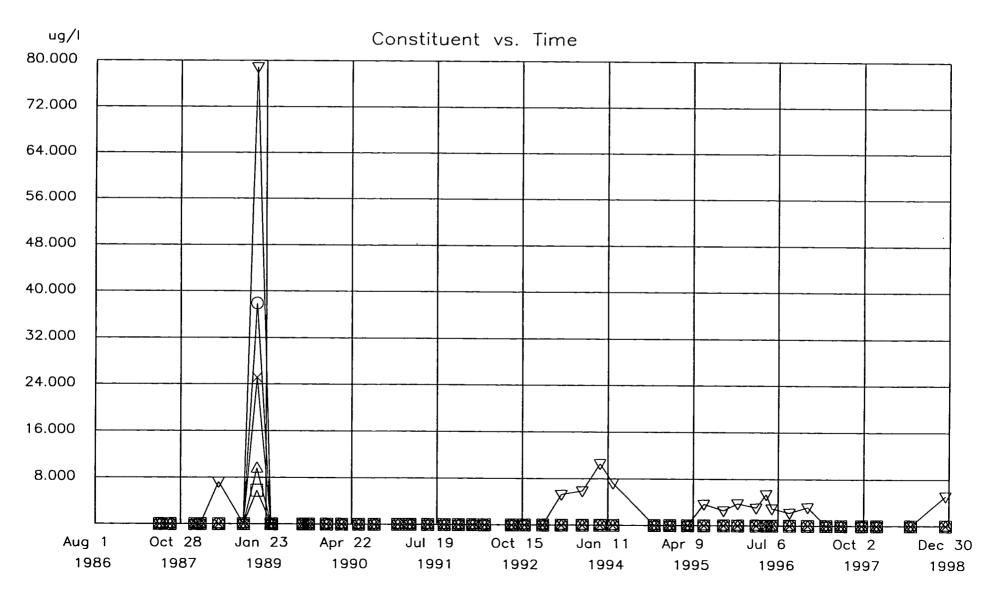
 Δ = Trichloroethene

 ∇ = cis-1,2-Dichloroethene

= trans-1,2-Dichloroethene

 \bigcirc = 1,2-Dichloroethane

 \times = 1,1-Dichloroethane



DEEP MONITORING WELLS

2D

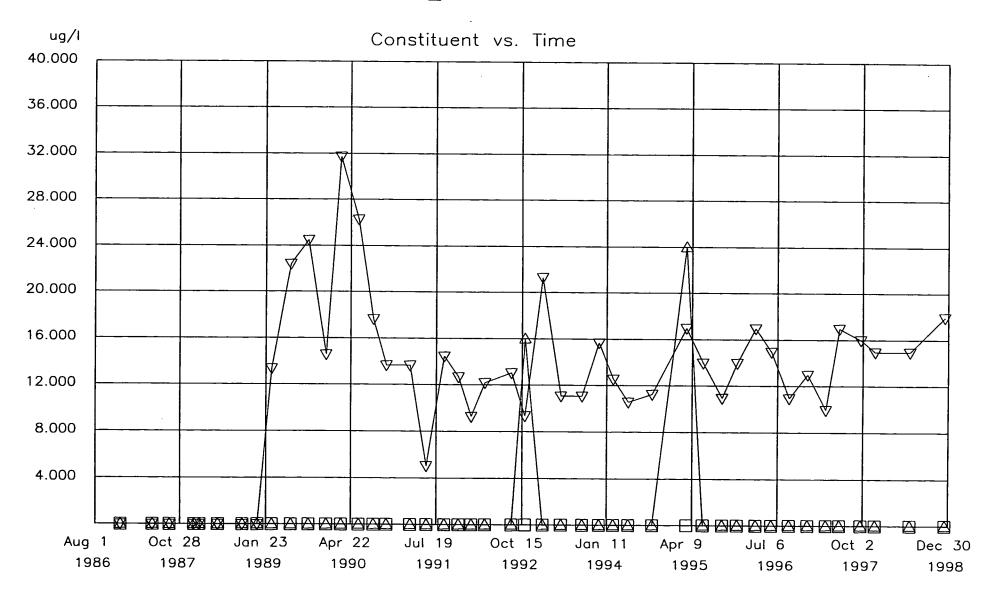
5D

PF Code: T

Site: 2D

 \triangle = Trichloroethene

 $\nabla = \text{cis}-1,2-\text{Dichloroethene}$



PF Code: T

Site: 5D

 \triangle = Trichloroethene

 $\nabla = \text{cis}-1,2-\text{Dichloroethene}$

= Toluene

